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# ANALYTICAL REPORT

## PREPARED FOR

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## JOB DESCRIPTION

RED-HILL  
PFAS: Ka'amilo Wells P1

## JOB NUMBER

380-204750-1

# 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: 380-204750-1  
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: 380-204750-1

**Job ID: 380-204750-1**

**Eurofins Pomona**

## Job Narrative 380-204750-1

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

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

### Receipt

The samples were received on 3/25/2026 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 0.5°C.

### PFAS

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

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# Detection Summary

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: 380-204750-1**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	3.3		2.0	ng/L	1		533	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.0		2.0	ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.8		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	4.2		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.2		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	4.1		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	4.2		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)	4.2		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)	4.2		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.6		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: 380-204750-2**

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: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: 380-204750-1**

Date Collected: 03/16/26 12:23

Matrix: Water

Date Received: 03/25/26 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		03/26/26 06:03	03/26/26 19:39	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
<b>Perfluorobutanesulfonic acid (PFBS)</b>	<b>3.3</b>		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
<b>Perfluoroheptanoic acid (PFHpA)</b>	<b>2.0</b>		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>3.8</b>		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
<b>Perfluorohexanoic acid (PFHxA)</b>	<b>4.2</b>		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>5.2</b>		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
<b>Perfluorooctanoic acid (PFOA)</b>	<b>4.1</b>		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
<b>Perfluoropentanoic acid (PFPeA)</b>	<b>4.2</b>		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:39	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	101		50 - 200	03/26/26 06:03	03/26/26 19:39	1
13C6 PFDA	113		50 - 200	03/26/26 06:03	03/26/26 19:39	1
13C5 PFHxA	108		50 - 200	03/26/26 06:03	03/26/26 19:39	1
13C4 PFHpA	111		50 - 200	03/26/26 06:03	03/26/26 19:39	1
13C8 PFOA	113		50 - 200	03/26/26 06:03	03/26/26 19:39	1
13C9 PFNA	115		50 - 200	03/26/26 06:03	03/26/26 19:39	1
13C7 PFUnA	112		50 - 200	03/26/26 06:03	03/26/26 19:39	1
13C2 PFDoA	112		50 - 200	03/26/26 06:03	03/26/26 19:39	1
13C4 PFBA	111		50 - 200	03/26/26 06:03	03/26/26 19:39	1
13C5 PFPeA	114		50 - 200	03/26/26 06:03	03/26/26 19:39	1
13C3 PFBS	111		50 - 200	03/26/26 06:03	03/26/26 19:39	1

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# Client Sample Results

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: 380-204750-1**

Date Collected: 03/16/26 12:23

Matrix: Water

Date Received: 03/25/26 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	111		50 - 200	03/26/26 06:03	03/26/26 19:39	1
13C8 PFOS	111		50 - 200	03/26/26 06:03	03/26/26 19:39	1
13C2-4:2-FTS	130		50 - 200	03/26/26 06:03	03/26/26 19:39	1
13C2-6:2-FTS	127		50 - 200	03/26/26 06:03	03/26/26 19:39	1
13C2-8:2-FTS	122		50 - 200	03/26/26 06:03	03/26/26 19:39	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		03/26/26 01:54	03/26/26 16:09	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>5.8</b>		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
<b>Perfluorohexanoic acid (PFHxA)</b>	<b>4.2</b>		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
<b>Perfluorooctanoic acid (PFOA)</b>	<b>4.6</b>		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>4.2</b>		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
<b>Perfluorobutanesulfonic acid (PFBS)</b>	<b>3.6</b>		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
<b>Perfluoroheptanoic acid (PFHpA)</b>	<b>2.2</b>		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	105		70 - 130	03/26/26 01:54	03/26/26 16:09	1
13C2 PFHxA	102		70 - 130	03/26/26 01:54	03/26/26 16:09	1
13C2 PFDA	106		70 - 130	03/26/26 01:54	03/26/26 16:09	1
13C3-GenX	102		70 - 130	03/26/26 01:54	03/26/26 16:09	1

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

**Lab Sample ID: 380-204750-2**

Date Collected: 03/16/26 12:23

Matrix: Water

Date Received: 03/25/26 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		03/26/26 06:03	03/26/26 19:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1

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# Client Sample Results

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: 380-204750-2**

Date Collected: 03/16/26 12:23

Matrix: Water

Date Received: 03/25/26 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		03/26/26 06:03	03/26/26 19:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		03/26/26 06:03	03/26/26 19:49	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	96		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C6 PFDA	116		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C5 PFHxA	110		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C4 PFHpA	109		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C8 PFOA	116		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C9 PFNA	114		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C7 PFUnA	108		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C2 PFDoA	113		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C4 PFBA	118		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C5 PFPeA	121		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C3 PFBS	118		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C3 PFHxS	117		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C8 PFOS	117		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C2-4:2-FTS	127		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C2-6:2-FTS	132		50 - 200	03/26/26 06:03	03/26/26 19:49	1
13C2-8:2-FTS	127		50 - 200	03/26/26 06:03	03/26/26 19:49	1

# Client Sample Results

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: 380-204750-2**

Date Collected: 03/16/26 12:23

Matrix: Water

Date Received: 03/25/26 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		03/26/26 01:54	03/26/26 16:18	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		03/26/26 01:54	03/26/26 16:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	109		70 - 130			03/26/26 01:54	03/26/26 16:18	1
13C2 PFHxA	108		70 - 130			03/26/26 01:54	03/26/26 16:18	1
13C2 PFDA	105		70 - 130			03/26/26 01:54	03/26/26 16:18	1
13C3-GenX	105		70 - 130			03/26/26 01:54	03/26/26 16:18	1

# Action Limit Summary

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: 380-204750-1**

**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)	3.8		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>5.2</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)	4.2		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

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

**Lab Sample ID: 380-204750-2**

**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: 380-204750-1  
 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)
380-204745-B-1-A MS	Matrix Spike	106	109	114	109
380-204745-C-1-A MSD	Matrix Spike Duplicate	95	105	103	105
380-204750-1	Ka'amilo Wells P1 (331-031-WL008)	105	102	106	102
380-204750-2	FB: Ka'amilo Wells P1 (331-031-WL008)	109	108	105	105
LCS 380-215884/21-A	Lab Control Sample	97	102	108	93
MBL 380-215884/19-A	Method Blank	99	101	107	93
MRL 380-215884/20-A	Lab Control Sample	104	107	110	101

**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: 380-204750-1  
 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)
380-204674-B-1-A MS	Matrix Spike	117	118	117	121	114	119	122	120
380-204674-C-1-A MSD	Matrix Spike Duplicate	110	115	116	115	116	119	120	114
380-204750-1	Ka'amilo Wells P1 (331-031-WL008)	101	113	108	111	113	115	112	112
380-204750-2	FB: Ka'amilo Wells P1 (331-031-WL008)	96	116	110	109	116	114	108	113
LCS 380-215886/22-A	Lab Control Sample	111	120	116	118	116	119	123	121
MBL 380-215886/20-A	Method Blank	99	116	117	116	120	119	118	120
MRL 380-215886/21-A	Lab Control Sample	102	117	117	115	120	121	112	117

  

		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)
380-204674-B-1-A MS	Matrix Spike	115	119	113	116	114	123	126	128
380-204674-C-1-A MSD	Matrix Spike Duplicate	114	121	116	115	116	123	124	121
380-204750-1	Ka'amilo Wells P1 (331-031-WL008)	111	114	111	111	111	130	127	122
380-204750-2	FB: Ka'amilo Wells P1 (331-031-WL008)	118	121	118	117	117	127	132	127
LCS 380-215886/22-A	Lab Control Sample	112	118	117	114	114	118	119	123
MBL 380-215886/20-A	Method Blank	115	122	115	113	118	131	127	126
MRL 380-215886/21-A	Lab Control Sample	115	117	112	109	117	125	125	123

**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: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: MBL 380-215886/20-A**  
**Matrix: Water**  
**Analysis Batch: 216047**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 215886**

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		03/26/26 06:03	03/26/26 15:53	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		03/26/26 06:03	03/26/26 15:53	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	99		50 - 200	03/26/26 06:03	03/26/26 15:53	1
13C6 PFDA	116		50 - 200	03/26/26 06:03	03/26/26 15:53	1
13C5 PFHxA	117		50 - 200	03/26/26 06:03	03/26/26 15:53	1
13C4 PFHpA	116		50 - 200	03/26/26 06:03	03/26/26 15:53	1
13C8 PFOA	120		50 - 200	03/26/26 06:03	03/26/26 15:53	1
13C9 PFNA	119		50 - 200	03/26/26 06:03	03/26/26 15:53	1
13C7 PFUnA	118		50 - 200	03/26/26 06:03	03/26/26 15:53	1
13C2 PFDoA	120		50 - 200	03/26/26 06:03	03/26/26 15:53	1
13C4 PFBA	115		50 - 200	03/26/26 06:03	03/26/26 15:53	1
13C5 PFPeA	122		50 - 200	03/26/26 06:03	03/26/26 15:53	1
13C3 PFBS	115		50 - 200	03/26/26 06:03	03/26/26 15:53	1
13C3 PFHxS	113		50 - 200	03/26/26 06:03	03/26/26 15:53	1

Eurofins Pomona

# QC Sample Results

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: MBL 380-215886/20-A**  
**Matrix: Water**  
**Analysis Batch: 216047**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 215886**

<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	118		50 - 200	03/26/26 06:03	03/26/26 15:53	1
13C2-4:2-FTS	131		50 - 200	03/26/26 06:03	03/26/26 15:53	1
13C2-6:2-FTS	127		50 - 200	03/26/26 06:03	03/26/26 15:53	1
13C2-8:2-FTS	126		50 - 200	03/26/26 06:03	03/26/26 15:53	1

**Lab Sample ID: LCS 380-215886/22-A**  
**Matrix: Water**  
**Analysis Batch: 216047**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 215886**

<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	105		ng/L		87	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	109		ng/L		91	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	110		ng/L		91	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	108		ng/L		89	70 - 130
Perfluorodecanoic acid (PFDA)	120	106		ng/L		88	70 - 130
Perfluorododecanoic acid (PFDoA)	120	108		ng/L		90	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	108		ng/L		90	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	113		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	120	110		ng/L		91	70 - 130
Perfluorononanoic acid (PFNA)	120	107		ng/L		89	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	111		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	120	107		ng/L		89	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	108		ng/L		90	70 - 130
Perfluorobutanoic acid (PFBA)	120	109		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	111		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	109		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	110		ng/L		91	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	94.5		ng/L		78	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	106		ng/L		88	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	108		ng/L		89	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	105		ng/L		87	70 - 130
Perfluoropentanoic acid (PFPeA)	120	105		ng/L		87	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	108		ng/L		89	70 - 130

# QC Sample Results

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: LCS 380-215886/22-A**  
**Matrix: Water**  
**Analysis Batch: 216047**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 215886**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	109		ng/L		91	70 - 130
<b>LCS LCS</b>							
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
13C3 HFPO-DA	111		50 - 200				
13C6 PFDA	120		50 - 200				
13C5 PFHxA	116		50 - 200				
13C4 PFHpA	118		50 - 200				
13C8 PFOA	116		50 - 200				
13C9 PFNA	119		50 - 200				
13C7 PFUnA	123		50 - 200				
13C2 PFDoA	121		50 - 200				
13C4 PFBA	112		50 - 200				
13C5 PFPeA	118		50 - 200				
13C3 PFBS	117		50 - 200				
13C3 PFHxS	114		50 - 200				
13C8 PFOS	114		50 - 200				
13C2-4:2-FTS	118		50 - 200				
13C2-6:2-FTS	119		50 - 200				
13C2-8:2-FTS	123		50 - 200				

**Lab Sample ID: MRL 380-215886/21-A**  
**Matrix: Water**  
**Analysis Batch: 216047**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 215886**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.08	J	ng/L		104	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.18	J	ng/L		108	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.24	J	ng/L		111	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.23	J	ng/L		111	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.23	J	ng/L		111	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.35	J	ng/L		117	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.36	J	ng/L		118	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.23	J	ng/L		111	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.30	J	ng/L		115	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.19	J	ng/L		109	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.15	J	ng/L		107	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.24	J	ng/L		111	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.16	J	ng/L		108	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.31	J	ng/L		115	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.28	J	ng/L		113	50 - 150

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# QC Sample Results

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: MRL 380-215886/21-A**  
**Matrix: Water**  
**Analysis Batch: 216047**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 215886**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.45	J	ng/L		122	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.34	J	ng/L		116	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.42	J	ng/L		121	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	2.23	J	ng/L		111	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.23	J	ng/L		111	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	2.10	J	ng/L		104	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.10	J	ng/L		105	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.96	J	ng/L		97	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	2.32	J	ng/L		115	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	102		50 - 200
13C6 PFDA	117		50 - 200
13C5 PFHxA	117		50 - 200
13C4 PFHpA	115		50 - 200
13C8 PFOA	120		50 - 200
13C9 PFNA	121		50 - 200
13C7 PFUnA	112		50 - 200
13C2 PFDoA	117		50 - 200
13C4 PFBA	115		50 - 200
13C5 PFPeA	117		50 - 200
13C3 PFBS	112		50 - 200
13C3 PFHxS	109		50 - 200
13C8 PFOS	117		50 - 200
13C2-4:2-FTS	125		50 - 200
13C2-6:2-FTS	125		50 - 200
13C2-8:2-FTS	123		50 - 200

**Lab Sample ID: 380-204674-B-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 216047**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 215886**

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	102		ng/L		85	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	106		ng/L		88	70 - 130

# QC Sample Results

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: 380-204674-B-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 216047**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 215886**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		120	111		ng/L		92	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	112		ng/L		93	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		120	116		ng/L		96	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		120	106		ng/L		88	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		120	107		ng/L		89	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	109		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		120	107		ng/L		89	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		120	109		ng/L		91	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	110		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		120	112		ng/L		93	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		120	108		ng/L		90	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		120	108		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	110		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	110		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	108		ng/L		89	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	93.0		ng/L		77	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	109		ng/L		91	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	108		ng/L		90	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	106		ng/L		88	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		120	107		ng/L		89	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	105		ng/L		88	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	105		ng/L		88	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	117		50 - 200
13C6 PFDA	118		50 - 200
13C5 PFHxA	117		50 - 200
13C4 PFHpA	121		50 - 200
13C8 PFOA	114		50 - 200
13C9 PFNA	119		50 - 200
13C7 PFUnA	122		50 - 200
13C2 PFDoA	120		50 - 200
13C4 PFBA	115		50 - 200
13C5 PFPeA	119		50 - 200
13C3 PFBS	113		50 - 200
13C3 PFHxS	116		50 - 200
13C8 PFOS	114		50 - 200

# QC Sample Results

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: 380-204674-B-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 216047**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 215886**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	123		50 - 200
13C2-6:2-FTS	126		50 - 200
13C2-8:2-FTS	128		50 - 200

**Lab Sample ID: 380-204674-C-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 216047**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 215886**

<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-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		120	105		ng/L		87	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	109		ng/L		90	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	111		ng/L		92	70 - 130	5	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	109		ng/L		90	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		120	114		ng/L		95	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		120	109		ng/L		90	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		120	109		ng/L		90	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	115		ng/L		96	70 - 130	5	30
Perfluorohexanoic acid (PFHxA)	<2.0		120	109		ng/L		90	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		120	109		ng/L		91	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	112		ng/L		93	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		120	110		ng/L		91	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		120	105		ng/L		87	70 - 130	2	30
Perfluorobutanoic acid (PFBA)	<2.0		120	111		ng/L		92	70 - 130	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	111		ng/L		92	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	108		ng/L		90	70 - 130	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	108		ng/L		90	70 - 130	1	30
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	101		ng/L		84	70 - 130	8	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	106		ng/L		88	70 - 130	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	112		ng/L		93	70 - 130	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	107		ng/L		89	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		120	107		ng/L		89	70 - 130	0	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	106		ng/L		88	70 - 130	0	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	109		ng/L		90	70 - 130	3	30

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# QC Sample Results

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	110		50 - 200
13C6 PFDA	115		50 - 200
13C5 PFHxA	116		50 - 200
13C4 PFHpA	115		50 - 200
13C8 PFOA	116		50 - 200
13C9 PFNA	119		50 - 200
13C7 PFUnA	120		50 - 200
13C2 PFDoA	114		50 - 200
13C4 PFBA	114		50 - 200
13C5 PFPeA	121		50 - 200
13C3 PFBS	116		50 - 200
13C3 PFHxS	115		50 - 200
13C8 PFOS	116		50 - 200
13C2-4:2-FTS	123		50 - 200
13C2-6:2-FTS	124		50 - 200
13C2-8:2-FTS	121		50 - 200

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

**Lab Sample ID: MBL 380-215884/19-A**  
**Matrix: Water**  
**Analysis Batch: 215972**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 215884**

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		03/26/26 01:54	03/26/26 14:52	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		03/26/26 01:54	03/26/26 14:52	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	99		70 - 130			03/26/26 01:54	03/26/26 14:52	1
13C2 PFHxA	101		70 - 130			03/26/26 01:54	03/26/26 14:52	1
13C2 PFDA	107		70 - 130			03/26/26 01:54	03/26/26 14:52	1

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# QC Sample Results

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: MBL 380-215884/19-A**  
**Matrix: Water**  
**Analysis Batch: 215972**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 215884**

<i>Surrogate</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	93	Qualifier	70 - 130	03/26/26 01:54	03/26/26 14:52	1

**Lab Sample ID: LCS 380-215884/21-A**  
**Matrix: Water**  
**Analysis Batch: 215972**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 215884**

<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>Limits</i>
	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>					
Hexafluoropropylene Oxide	25.1	22.7		ng/L		91		70 - 130
Dimer Acid (HFPO-DA/GenX)								
Perfluorooctanesulfonic acid (PFOS)	25.1	26.4		ng/L		106		70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	25.8		ng/L		103		70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	24.0		ng/L		96		70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	24.0		ng/L		96		70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	24.5		ng/L		98		70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	26.0		ng/L		104		70 - 130
Perfluorooctanoic acid (PFOA)	25.1	25.8		ng/L		103		70 - 130
Perfluorodecanoic acid (PFDA)	25.1	26.0		ng/L		104		70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.1	26.8		ng/L		107		70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.1	25.3		ng/L		101		70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	25.4		ng/L		101		70 - 130
Perfluorononanoic acid (PFNA)	25.1	26.1		ng/L		104		70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	23.6		ng/L		94		70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.1	26.5		ng/L		106		70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.1	25.6		ng/L		102		70 - 130
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.1	24.8		ng/L		99		70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.1	23.9		ng/L		95		70 - 130

<i>Surrogate</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
d5-NEtFOSAA	97		70 - 130
13C2 PFHxA	102		70 - 130
13C2 PFDA	108		70 - 130
13C3-GenX	93		70 - 130

# QC Sample Results

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: MRL 380-215884/20-A**  
**Matrix: Water**  
**Analysis Batch: 215972**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 215884**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.04	J	ng/L		102	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.14	J	ng/L		107	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.13	J	ng/L		107	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.14	J	ng/L		107	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.19	J	ng/L		109	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.16	J	ng/L		108	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.06	J	ng/L		103	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.16	J	ng/L		108	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.15	J	ng/L		107	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.12	J	ng/L		106	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.07	J	ng/L		103	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.25	J	ng/L		112	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.86	J	ng/L		93	50 - 150
Perfluorotridecanoic acid (PFTTrDA)	2.00	2.16	J	ng/L		108	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.11	J	ng/L		105	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.03	J	ng/L		101	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.10	J	ng/L		105	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	104		70 - 130
13C2 PFHxA	107		70 - 130
13C2 PFDA	110		70 - 130
13C3-GenX	101		70 - 130

**Lab Sample ID: 380-204745-B-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 215972**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 215884**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	24.9		ng/L		99	70 - 130
Perfluorooctanesulfonic acid (PFOS)	4.9		25.1	31.7		ng/L		107	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	26.5		ng/L		106	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	25.1		ng/L		100	70 - 130

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# QC Sample Results

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: 380-204745-B-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 215972**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 215884**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec		
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	26.8		ng/L		107	70 - 130		
Perfluorohexanoic acid (PFHxA)	4.1		25.1	29.7		ng/L		102	70 - 130		
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	26.1		ng/L		104	70 - 130		
Perfluorooctanoic acid (PFOA)	4.3		25.1	31.3		ng/L		108	70 - 130		
Perfluorodecanoic acid (PFDA)	<2.0		25.1	27.3		ng/L		109	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)	4.1		25.1	30.7		ng/L		106	70 - 130		
Perfluorobutanesulfonic acid (PFBS)	3.3		25.1	29.8		ng/L		106	70 - 130		
Perfluoroheptanoic acid (PFHpA)	2.1		25.1	28.7		ng/L		106	70 - 130		
Perfluorononanoic acid (PFNA)	<2.0		25.1	27.4		ng/L		109	70 - 130		
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	24.3		ng/L		97	70 - 130		
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	27.8		ng/L		111	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	26.4		ng/L		105	70 - 130		
11-Chloroeicosasfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	25.8		ng/L		103	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	27.8		ng/L		111	70 - 130		
<b>MS MS</b>											
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
d5-NEtFOSAA	106		70 - 130								
13C2 PFHxA	109		70 - 130								
13C2 PFDA	114		70 - 130								
13C3-GenX	109		70 - 130								

**Lab Sample ID: 380-204745-C-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 215972**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 215884**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	25.0		ng/L		100	70 - 130	1	30	
Perfluorooctanesulfonic acid (PFOS)	4.9		25.1	29.4		ng/L		98	70 - 130	7	30	
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	25.9		ng/L		103	70 - 130	3	30	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	24.2		ng/L		97	70 - 130	3	30	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	24.5		ng/L		98	70 - 130	9	30	
Perfluorohexanoic acid (PFHxA)	4.1		25.1	28.8		ng/L		99	70 - 130	3	30	
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	25.3		ng/L		101	70 - 130	3	30	
Perfluorooctanoic acid (PFOA)	4.3		25.1	29.4		ng/L		100	70 - 130	6	30	
Perfluorodecanoic acid (PFDA)	<2.0		25.1	24.9		ng/L		99	70 - 130	9	30	

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# QC Association Summary

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

## LCMS

### Prep Batch: 215884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-204750-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	537.1 DW	
380-204750-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	537.1 DW	
MBL 380-215884/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-215884/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-215884/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-204745-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-204745-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

### Prep Batch: 215886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-204750-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	
380-204750-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	
MBL 380-215886/20-A	Method Blank	Total/NA	Water	533	
LCS 380-215886/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-215886/21-A	Lab Control Sample	Total/NA	Water	533	
380-204674-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-204674-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

### Analysis Batch: 215972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-204750-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	EPA 537.1 V2	215884
380-204750-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	EPA 537.1 V2	215884
MBL 380-215884/19-A	Method Blank	Total/NA	Water	EPA 537.1 V2	215884
LCS 380-215884/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	215884
MRL 380-215884/20-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	215884
380-204745-B-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	215884
380-204745-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	215884

### Analysis Batch: 216047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-204750-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	215886
380-204750-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	215886
MBL 380-215886/20-A	Method Blank	Total/NA	Water	533	215886
LCS 380-215886/22-A	Lab Control Sample	Total/NA	Water	533	215886
MRL 380-215886/21-A	Lab Control Sample	Total/NA	Water	533	215886
380-204674-B-1-A MS	Matrix Spike	Total/NA	Water	533	215886
380-204674-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	215886

# Lab Chronicle

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

Job ID: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: 380-204750-1**

**Date Collected: 03/16/26 12:23**

**Matrix: Water**

**Date Received: 03/25/26 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			215886	XTD8	EA POM	03/26/26 06:03
Total/NA	Analysis	533		1	216047	SZ9R	EA POM	03/26/26 19:39
Total/NA	Prep	537.1 DW			215884	G9MN	EA POM	03/26/26 01:54
Total/NA	Analysis	EPA 537.1 V2		1	215972	Y5FM	EA POM	03/26/26 16:09

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

**Lab Sample ID: 380-204750-2**

**Date Collected: 03/16/26 12:23**

**Matrix: Water**

**Date Received: 03/25/26 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			215886	XTD8	EA POM	03/26/26 06:03
Total/NA	Analysis	533		1	216047	SZ9R	EA POM	03/26/26 19:49
Total/NA	Prep	537.1 DW			215884	G9MN	EA POM	03/26/26 01:54
Total/NA	Analysis	EPA 537.1 V2		1	215972	Y5FM	EA POM	03/26/26 16:18

**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: 380-204750-1  
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 *

- 1
- 2
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- 17

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

# Method Summary

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

Job ID: 380-204750-1  
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: 380-204750-1  
SDG: PFAS: Ka'amilo Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-204750-1	Ka'amilo Wells P1 (331-031-WL008)	Water	03/16/26 12:23	03/25/26 10:00	HI0000331
380-204750-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Water	03/16/26 12:23	03/25/26 10:00	HI0000331

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Monrovia, CA (Suite 100)  
 750 Royal Oaks Drive Suite 100  
 Monrovia, CA 91016  
 Phone (626) 366-1100

### Chain of Custody Record

eurofins

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<b>Client Information</b>		Sampler bailey		Lab PIC Lopez, Mana		Carrier Tracking No(s)		COC No: 380-204750 COC	
Client Contact: lorik hramoto		Phone: +1 808 748 5840		E-Mail: Mana.Lopez@e1.eurofins.com		State of Origin:		Page:	
Company City & County of Honolulu				PWSID:		<b>Analysis Requested</b>			
Address: 630 South Beretania Street, Chemistry Lab		Due Date Requested:		SUBCONTRACT - 626 PAH Physics LL (BALL) + TICs 621BB_GRO_LL - (MOD) GRO 621BB_DRO_LL, GB - HPL Range: C10-C20/31-CHACE-018 626_2_PREG - (MOD) 626 plus PLUS TICs 637_1_DW_PREG - 637.1 Full Lit 633 - All Analytes		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)		Job #:  Special Instructions/Note:	
City Honolulu		EAT Requested (days): RUSH							
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> No							
Phone: 808-748-5840 (tel)		PO #: C20525101 exp 05312023							
E-mail: khwamto@hbws.org		WC #:							
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill		Project #: 38001111							
Site:		SSOW:							
<b>Sample Identification</b>		Sample Date	Sample Time	Sample Type (C=Comp, Grab)	Matrix (Water, Soil, Sediment, Air)	1	2	3	4
Ka'amilo Wells P1 (331-031-WL008)		16-Mar-2026	1223	G	Water			3	3
FB: Ka'amilo Wells P1 (331-031-WL008)		16-Mar-2026	1223		Water			1	1
<b>Possible Hazard Identification</b>					<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>				
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <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				
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:				
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment: <i>FEDEX 4053 1828</i>			
Relinquished by:		Date/Time: <i>26 Mar 2026 1400</i>		Company: HBWS		Received by: <i>Dust Yankel</i>		Date/Time: <i>3/25 10:00</i>	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <i>40/10.7/0.5 Gel Frozen</i>					

Ver 01/16/2019

# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-204750-1  
SDG Number: PFAS: Ka'amilo Wells P1

**Login Number: 204750**

**List Number: 1**

**Creator: Gross, Drake**

**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	

