



# ANALYTICAL REPORT

## PREPARED FOR

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## JOB DESCRIPTION

RED-HILL

## JOB NUMBER

380-58477-1

# Eurofins Eaton Analytical Pomona

## Job Notes

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The test results in this report relate only to the samples as received by the laboratory and meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Eaton Analytical, 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: 380-58477-1

## 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.
α	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/Site: RED-HILL

Job ID: 380-58477-1

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## Job ID: 380-58477-1

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### Laboratory: Eurofins Eaton Analytical Pomona

#### Narrative

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#### Job Narrative 380-58477-1

#### Receipt

The samples were received on 8/10/2023 10:20 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 was 1.1° C.

#### LCMS

Method 533: Sample was re-worked for low IDAs, but analyst diluted the sample 5X prior to extraction by mistake. This results in raised MRL. 533 Data excluded due to this error, 537.1 data was reported as there were no noted QC issues

Method 533: IDA recovery failed for samples AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-58477-1) and FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-58477-3). No volume available for re-extraction. 533 Data excluded due to this QC failure, 537.1 data was reported as there were no noted QC issues

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

#### Organic Prep

Method 533: The following sample was re-extracted with a 5x dilution: AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-58477-2).

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: 380-58477-1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)  
(331-203-TP400)**

**Lab Sample ID: 380-58477-1**

No Detections.

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

**Lab Sample ID: 380-58477-2**

No Detections.

**Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260)  
(331-203-TP400)**

**Lab Sample ID: 380-58477-3**

No Detections.

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

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: 380-58477-1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)**  
**(331-203-TP400)**

**Lab Sample ID: 380-58477-1**

**Date Collected: 08/07/23 11:05**

**Matrix: Drinking Water**

**Date Received: 08/10/23 10:20**

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	112		70 - 130	08/14/23 06:59	08/15/23 15:31	1
13C2 PFHxA	115		70 - 130	08/14/23 06:59	08/15/23 15:31	1
13C2 PFDA	116		70 - 130	08/14/23 06:59	08/15/23 15:31	1
13C3-GenX	111		70 - 130	08/14/23 06:59	08/15/23 15:31	1

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

**Lab Sample ID: 380-58477-2**

**Date Collected: 08/07/23 10:37**

**Matrix: Drinking Water**

**Date Received: 08/10/23 10:20**

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1

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# Client Sample Results

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

Job ID: 380-58477-1

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

**Lab Sample ID: 380-58477-2**

**Date Collected: 08/07/23 10:37**

**Matrix: Drinking Water**

**Date Received: 08/10/23 10:20**

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 15:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	120		70 - 130			08/14/23 06:59	08/15/23 15:40	1
13C2 PFHxA	126		70 - 130			08/14/23 06:59	08/15/23 15:40	1
13C2 PFDA	128		70 - 130			08/14/23 06:59	08/15/23 15:40	1
13C3-GenX	115		70 - 130			08/14/23 06:59	08/15/23 15:40	1

**Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260)  
(331-203-TP400)**

**Lab Sample ID: 380-58477-3**

**Date Collected: 08/07/23 11:05**

**Matrix: Water**

**Date Received: 08/10/23 10:20**

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/14/23 06:59	08/15/23 16:01	1

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# Client Sample Results

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

Job ID: 380-58477-1

**Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260)  
(331-203-TP400)**

**Lab Sample ID: 380-58477-3**

**Date Collected: 08/07/23 11:05**

**Matrix: Water**

**Date Received: 08/10/23 10:20**

<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
d5-NEtFOSAA	103		70 - 130	08/14/23 06:59	08/15/23 16:01	1
13C2 PFHxA	105		70 - 130	08/14/23 06:59	08/15/23 16:01	1
13C2 PFDA	112		70 - 130	08/14/23 06:59	08/15/23 16:01	1
13C3-GenX	98		70 - 130	08/14/23 06:59	08/15/23 16:01	1

# Surrogate Summary

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

Job ID: 380-58477-1

## Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-58477-1	AIEA WELLS PUMPS 1&2 (260)	112	115	116	111
380-58477-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	120	126	128	115

**Surrogate Legend**

d5NEFOS = d5-NEtFOSAA  
 PFHxA = 13C2 PFHxA  
 PFDA = 13C2 PFDA  
 GenX = 13C3-GenX

## Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

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)
380-58477-3	FB AIEA WELLS PUMPS 1&2 (260)	103	105	112	98
380-58488-E-3-A MS	Matrix Spike	97	108	108	101
380-58488-F-3-A MSD	Matrix Spike Duplicate	97	112	110	105
LCS 380-51568/21-A	Lab Control Sample	100	107	103	105
LCSD 380-51568/22-A	Lab Control Sample Dup	99	104	102	102
MBL 380-51568/19-A	Method Blank	123	117	126	100
MRL 380-51568/20-A	Lab Control Sample	112	112	104	102

**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: 380-58477-1

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

Matrix: Drinking Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-58477-1	AIEA WELLS PUMPS 1&2 (260) (331-202-TP072)	48 *5-	81	60	64	73	80	87	92
380-58477-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	55	89	65	70	76	84	93	99

### 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)
380-58477-1	AIEA WELLS PUMPS 1&2 (260) (331-202-TP072)	61	59	94	90	92	103	103	105
380-58477-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	66	68	104	98	96	101	113	128

#### Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-58477-3	FB AIEA WELLS PUMPS 1&2 (260)	45 *5-	44 *5-	44 *5-	43 *5-	45 *5-	45 *5-	44 *5-	43 *5-
380-58624-B-1-A MS	Matrix Spike	83	84	88	90	89	90	79	82
380-58624-C-1-A MSD	Matrix Spike Duplicate	84	79	91	89	88	88	72	74
380-59712-B-1-B LMS	Matrix Spike	70	90	77	83	85	90	95	99
380-59712-C-1-B LMSD	Matrix Spike Duplicate	83	96	87	89	92	96	101	102
LCS 380-53349/23-A	Lab Control Sample	86	89	96	95	93	94	88	83
LCS 380-53966/23-A	Lab Control Sample	92	102	92	92	97	102	106	105
LCS 380-53349/24-A	Lab Control Sample Dup	91	91	99	98	95	94	89	86
LCS 380-53966/24-A	Lab Control Sample Dup	92	100	94	93	94	99	103	104
MBL 380-53349/21-A	Method Blank	77	81	86	89	89	89	80	79
MBL 380-53966/21-A	Method Blank	90	107	98	98	103	107	107	110
MRL 380-53349/22-A	Lab Control Sample	76	86	88	87	88	89	83	82
MRL 380-53966/22-A	Lab Control Sample	86	100	92	97	97	100	104	104

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# Isotope Dilution Summary

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

Job ID: 380-58477-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-58477-3	FB AIEA WELLS PUMPS 1&2 (260)	14 *5-	35 *5-	68	58	54	85	78	76
380-58624-B-1-A MS	Matrix Spike	88	90	91	89	85	97	94	86
380-58624-C-1-A MSD	Matrix Spike Duplicate	91	93	88	86	79	94	93	81
380-59712-B-1-B LMS	Matrix Spike	81	82	95	95	97	110	107	118
380-59712-C-1-B LMSD	Matrix Spike Duplicate	91	92	91	94	93	98	101	116
LCS 380-53349/23-A	Lab Control Sample	96	95	94	92	90	99	97	93
LCS 380-53966/23-A	Lab Control Sample	94	97	97	94	94	94	108	116
LCSD 380-53349/24-A	Lab Control Sample Dup	95	96	95	92	90	99	96	88
LCSD 380-53966/24-A	Lab Control Sample Dup	97	103	94	92	95	96	105	111
MBL 380-53349/21-A	Method Blank	90	91	95	87	86	98	95	90
MBL 380-53966/21-A	Method Blank	102	107	104	103	101	112	121	131
MRL 380-53349/22-A	Lab Control Sample	89	86	88	86	86	102	96	89
MRL 380-53966/22-A	Lab Control Sample	97	101	96	91	95	96	105	112

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 380-58477-1

## Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

**Lab Sample ID: MBL 380-51568/19-A**  
**Matrix: Water**  
**Analysis Batch: 51813**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 51568**

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<0.30		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/14/23 06:59	08/16/23 13:09	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	123		70 - 130	08/14/23 06:59	08/16/23 13:09	1
13C2 PFHxA	117		70 - 130	08/14/23 06:59	08/16/23 13:09	1
13C2 PFDA	126		70 - 130	08/14/23 06:59	08/16/23 13:09	1
13C3-GenX	100		70 - 130	08/14/23 06:59	08/16/23 13:09	1

**Lab Sample ID: LCS 380-51568/21-A**  
**Matrix: Water**  
**Analysis Batch: 51813**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 51568**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	24.1		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	23.2	24.6		ng/L		106	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	24.2		ng/L		97	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	25.3		ng/L		101	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	24.3		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	26.8		ng/L		107	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	23.2		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	27.1		ng/L		108	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	25.5		ng/L		102	70 - 130

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-58477-1

## Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

**Lab Sample ID: LCS 380-51568/21-A**  
**Matrix: Water**  
**Analysis Batch: 51813**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 51568**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanesulfonic acid (PFHxS)	22.9	23.3		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	22.2	22.2		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	26.1		ng/L		104	70 - 130
Perfluorononanoic acid (PFNA)	25.1	27.8		ng/L		111	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	21.6		ng/L		86	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	25.1	24.0		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	23.5	22.6		ng/L		96	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	23.7	22.9		ng/L		97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	23.7	24.8		ng/L		105	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	100		70 - 130
13C2 PFHxA	107		70 - 130
13C2 PFDA	103		70 - 130
13C3-GenX	105		70 - 130

**Lab Sample ID: LCSD 380-51568/22-A**  
**Matrix: Water**  
**Analysis Batch: 51813**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 51568**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	26.2		ng/L		105	70 - 130	8	30
Perfluorooctanesulfonic acid (PFOS)	23.2	27.0		ng/L		116	70 - 130	9	30
Perfluoroundecanoic acid (PFUnA)	25.1	25.3		ng/L		101	70 - 130	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	26.1		ng/L		104	70 - 130	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	26.6		ng/L		106	70 - 130	9	30
Perfluorohexanoic acid (PFHxA)	25.1	27.3		ng/L		109	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	25.1	24.6		ng/L		98	70 - 130	6	30
Perfluorooctanoic acid (PFOA)	25.1	27.2		ng/L		109	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	25.1	26.5		ng/L		106	70 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)	22.9	24.2		ng/L		106	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	22.2	25.0		ng/L		113	70 - 130	12	30
Perfluoroheptanoic acid (PFHpA)	25.1	26.7		ng/L		106	70 - 130	2	30
Perfluorononanoic acid (PFNA)	25.1	29.5		ng/L		118	70 - 130	6	30
Perfluorotetradecanoic acid (PFTA)	25.1	23.6		ng/L		94	70 - 130	9	30

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-58477-1

## Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

**Lab Sample ID: LCSD 380-51568/22-A**  
**Matrix: Water**  
**Analysis Batch: 51813**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 51568**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorotridecanoic acid (PFTTrDA)	25.1	24.8		ng/L		99	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	23.4	25.9		ng/L		111	70 - 130	14	30
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	23.7	24.7		ng/L		104	70 - 130	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	23.7	25.6		ng/L		108	70 - 130	3	30
<b>LCSD LCSD</b>									
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
d5-NEtFOSAA	99		70 - 130						
13C2 PFHxA	104		70 - 130						
13C2 PFDA	102		70 - 130						
13C3-GenX	102		70 - 130						

**Lab Sample ID: MRL 380-51568/20-A**  
**Matrix: Water**  
**Analysis Batch: 51813**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 51568**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.00	J	ng/L		100	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	2.12	J	ng/L		114	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.99	J	ng/L		99	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.04	J	ng/L		102	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.23	J	ng/L		111	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.34	J	ng/L		117	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.86	J	ng/L		93	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.41	J	ng/L		120	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.10	J	ng/L		105	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	2.10	J	ng/L		115	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.77	1.99	J	ng/L		112	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.41	J	ng/L		120	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.45	J	ng/L		122	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.76	J	ng/L		88	50 - 150
Perfluorotridecanoic acid (PFTTrDA)	2.00	1.93	J	ng/L		96	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.87	1.93	J	ng/L		103	50 - 150
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.89	2.02	J	ng/L		107	50 - 150

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-58477-1

## Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

**Lab Sample ID: MRL 380-51568/20-A**  
**Matrix: Water**  
**Analysis Batch: 51813**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 51568**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	2.14	J	ng/L		113	50 - 150
		<b>MRL</b>	<b>MRL</b>				
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
d5-NEtFOSAA	112		70 - 130				
13C2 PFHxA	112		70 - 130				
13C2 PFDA	104		70 - 130				
13C3-GenX	102		70 - 130				

**Lab Sample ID: 380-58488-E-3-A MS**  
**Matrix: Water**  
**Analysis Batch: 51813**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 51568**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	25.9		ng/L		103	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.3		23.2	28.3		ng/L		112	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	25.8		ng/L		103	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	26.1		ng/L		104	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	26.1		ng/L		104	70 - 130
Perfluorohexanoic acid (PFHxA)	2.5		25.1	29.2		ng/L		106	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	25.6		ng/L		102	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.1	30.4		ng/L		114	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	27.4		ng/L		109	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	2.5		22.9	26.7		ng/L		106	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		22.2	24.6		ng/L		104	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	28.2		ng/L		108	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.1	30.0		ng/L		120	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	26.1		ng/L		104	70 - 130
Perfluorotridecanoic acid (PFTDA)	<2.0		25.1	25.9		ng/L		103	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		23.5	24.6		ng/L		105	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		23.7	24.7		ng/L		104	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		23.7	27.4		ng/L		115	70 - 130
		<b>MS</b>	<b>MS</b>						
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
d5-NEtFOSAA	97		70 - 130						
13C2 PFHxA	108		70 - 130						
13C2 PFDA	108		70 - 130						



# QC Sample Results

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

Job ID: 380-58477-1

## Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

**Lab Sample ID: 380-58488-E-3-A MS**  
**Matrix: Water**  
**Analysis Batch: 51813**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 51568**

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C3-GenX	101		70 - 130

**Lab Sample ID: 380-58488-F-3-A MSD**  
**Matrix: Water**  
**Analysis Batch: 51813**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 51568**

<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>
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	25.9		ng/L		103	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	2.3		23.2	27.3		ng/L		108	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	25.3		ng/L		101	70 - 130	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	24.6		ng/L		98	70 - 130	6	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	24.0		ng/L		96	70 - 130	8	30
Perfluorohexanoic acid (PFHxA)	2.5		25.1	28.9		ng/L		106	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	24.9		ng/L		99	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		25.1	28.8		ng/L		108	70 - 130	5	30
Perfluorodecanoic acid (PFDA)	<2.0		25.1	26.3		ng/L		105	70 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)	2.5		22.9	26.1		ng/L		103	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		22.2	24.7		ng/L		105	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	28.0		ng/L		107	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		25.1	29.1		ng/L		116	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	24.4		ng/L		98	70 - 130	6	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	25.7		ng/L		103	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		23.4	24.1		ng/L		103	70 - 130	2	30
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		23.7	23.4		ng/L		99	70 - 130	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		23.7	25.7		ng/L		109	70 - 130	6	30

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
d5-NEtFOSAA	97		70 - 130
13C2 PFHxA	112		70 - 130
13C2 PFDA	110		70 - 130
13C3-GenX	105		70 - 130

# QC Association Summary

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

Job ID: 380-58477-1

## LCMS

### Prep Batch: 51568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-58477-1	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	537.1 DW	
380-58477-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-58477-3	FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP	Total/NA	Water	537.1 DW	
MBL 380-51568/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-51568/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
LCSD 380-51568/22-A	Lab Control Sample Dup	Total/NA	Water	537.1 DW	
MRL 380-51568/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-58488-E-3-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-58488-F-3-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

### Analysis Batch: 51813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-58477-1	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	537.1	51568
380-58477-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1	51568
380-58477-3	FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP	Total/NA	Water	537.1	51568
MBL 380-51568/19-A	Method Blank	Total/NA	Water	537.1	51568
LCS 380-51568/21-A	Lab Control Sample	Total/NA	Water	537.1	51568
LCSD 380-51568/22-A	Lab Control Sample Dup	Total/NA	Water	537.1	51568
MRL 380-51568/20-A	Lab Control Sample	Total/NA	Water	537.1	51568
380-58488-E-3-A MS	Matrix Spike	Total/NA	Water	537.1	51568
380-58488-F-3-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	51568



# Lab Chronicle

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

Job ID: 380-58477-1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)  
(331-203-TP400)**

**Lab Sample ID: 380-58477-1**

**Date Collected: 08/07/23 11:05**

**Matrix: Drinking Water**

**Date Received: 08/10/23 10:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			51568	US1B	EA POM	08/14/23 06:59
Total/NA	Analysis	537.1		1	51813	UKDT	EA POM	08/15/23 15:31

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

**Lab Sample ID: 380-58477-2**

**Date Collected: 08/07/23 10:37**

**Matrix: Drinking Water**

**Date Received: 08/10/23 10:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			51568	US1B	EA POM	08/14/23 06:59
Total/NA	Analysis	537.1		1	51813	UKDT	EA POM	08/15/23 15:40

**Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260)  
(331-203-TP400)**

**Lab Sample ID: 380-58477-3**

**Date Collected: 08/07/23 11:05**

**Matrix: Water**

**Date Received: 08/10/23 10:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			51568	US1B	EA POM	08/14/23 06:59
Total/NA	Analysis	537.1		1	51813	UKDT	EA POM	08/15/23 16:01

**Laboratory References:**

EA POM = Eurofins Eaton Analytical 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: 380-58477-1

## Laboratory: Eurofins Eaton Analytical Pomona

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
537.1	537.1 DW	Drinking Water	11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
537.1	537.1 DW	Drinking Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
537.1	537.1 DW	Drinking Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
537.1	537.1 DW	Drinking Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)
537.1	537.1 DW	Water	11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
537.1	537.1 DW	Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
537.1	537.1 DW	Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
537.1	537.1 DW	Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)



# Method Summary

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

Job ID: 380-58477-1

Method	Method Description	Protocol	Laboratory
537.1	Perfluorinated Alkyl Acids (LC/MS)	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 Eaton Analytical Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100



# Sample Summary

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

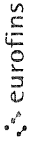
Job ID: 380-58477-1


Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-58477-1	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Drinking Water	08/07/23 11:05	08/10/23 10:20
380-58477-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	08/07/23 10:37	08/10/23 10:20
380-58477-3	FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Water	08/07/23 11:05	08/10/23 10:20

- 1
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- 3
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- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

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

### Chain of Custody Record



<b>Client Information</b> Client Contact: Dr. Ron Fenstermacher Company: City & County of Honolulu		Lab PM: Arada Rachelle E-Mail: Rachelle.Arada@et.euronissus.com		Carner Tracking No(s): 380-27941-2757.2 State of Origin: Page 2 of 2	
Address: 630 South Beretania Street, Chemistry Lab City: Honolulu State Zip: HI, 96843 Phone: 808-748-5091 (tel) Email: rfenstermacher@hbws.org Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill Site:		PWSID Due Date Requested TAT Requested (days) Compliance Project Δ No FO #: C20525101 exp 05312023 WO #: Project #: 38001111 SSOW#:		Job #: Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NH4SO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
<b>Sample Identification</b> Sample Date: 7-Aug-2023 Sample Time: 1108 G Matrix (W=water, S=solids, O=wastebottle, BT=Tissue, A=Air) Sample Type (C=Comp, G=grab) Preservation Code:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil 525 2_PREC - (MOD) 525plus PLUS TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 537 1_DW_PREC - 537 1 Full List 533 All Analytes		Total Number of containers: Special Instructions/Note:  380-58477 COC	
<b>Possible Hazard Identification</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					
Deliverable Requested 1, II, III, IV, Other (specify)					
Empty Kit Relinquished by:					
Relinquished by: BAILEY Date/Time: AUG 9, 2023 1400		Received by: G. PETER Date/Time: 08/10/2023 10 20		Method of Shipment: FEDEX Special Instructions/QC Requirements:	
Relinquished by:		Received by:		Date/Time:	
Relinquished by:		Received by:		Date/Time:	
Custody Seals Intact Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 044-022-42 (2) 15-02-11 (3) 30-02-36 (752A)		Company: HBWS Company:	



# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-58477-1

**Login Number: 58477**  
**List Number: 1**  
**Creator: Ngo, Theodore**

**List Source: Eurofins Eaton Analytical Pomona**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and 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	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

