

# ANALYTICAL REPORT

## PREPARED FOR

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## JOB DESCRIPTION

RED-HILL  
PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells Pump 2

## JOB NUMBER

380-156298-1

# Eurofins Eaton Analytical 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 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: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

## Qualifiers

### LCMS

| Qualifier | Qualifier Description                                                                                          |
|-----------|----------------------------------------------------------------------------------------------------------------|
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|-------------------------------------------------------------------------------------------------------------|
| ☼              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery                                                                                            |
| CFL            | Contains Free Liquid                                                                                        |
| CFU            | Colony Forming Unit                                                                                         |
| CNF            | Contains No Free Liquid                                                                                     |
| DER            | Duplicate Error Ratio (normalized absolute difference)                                                      |
| Dil Fac        | Dilution Factor                                                                                             |
| DL             | Detection Limit (DoD/DOE)                                                                                   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)                                                               |
| EDL            | Estimated Detection Limit (Dioxin)                                                                          |
| LOD            | Limit of Detection (DoD/DOE)                                                                                |
| LOQ            | Limit of Quantitation (DoD/DOE)                                                                             |
| MCL            | EPA recommended "Maximum Contaminant Level"                                                                 |
| MDA            | Minimum Detectable Activity (Radiochemistry)                                                                |
| MDC            | Minimum Detectable Concentration (Radiochemistry)                                                           |
| MDL            | Method Detection Limit                                                                                      |
| ML             | Minimum Level (Dioxin)                                                                                      |
| MPN            | Most Probable Number                                                                                        |
| MQL            | Method Quantitation Limit                                                                                   |
| NC             | Not Calculated                                                                                              |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)                                                |
| NEG            | Negative / Absent                                                                                           |
| POS            | Positive / Present                                                                                          |
| PQL            | Practical Quantitation Limit                                                                                |
| PRES           | Presumptive                                                                                                 |
| QC             | Quality Control                                                                                             |
| RER            | Relative Error Ratio (Radiochemistry)                                                                       |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)                                                         |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)                                                                         |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)                                                                       |
| TNTC           | Too Numerous To Count                                                                                       |

## Case Narrative

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

Job ID: 380-156298-1

**Job ID: 380-156298-1**

**Eurofins Eaton Analytical Pomona**

### **Job Narrative 380-156298-1**

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

#### **Receipt**

The samples were received on 6/19/2025 10:14 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.9°C and 4.5°C.

#### **PFAS**

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

## Detection Summary

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

### Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-156298-1

| Analyte                              | Result | Qualifier | RL  | Unit | Dil Fac | D | Method | Prep Type |
|--------------------------------------|--------|-----------|-----|------|---------|---|--------|-----------|
| Perfluorohexanesulfonic acid (PFHxS) | 3.6    |           | 2.0 | ng/L | 1       |   | 533    | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)  | 3.4    |           | 2.0 | ng/L | 1       |   | 533    | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)  | 3.5    |           | 2.0 | ng/L | 1       |   | 537.1  | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS) | 3.9    |           | 2.0 | ng/L | 1       |   | 537.1  | Total/NA  |

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

Lab Sample ID: 380-156298-2

No Detections.

### Client Sample ID: FB Halawa Shaft Viewing Pool

Lab Sample ID: 380-156298-3

No Detections.

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

Lab Sample ID: 380-156298-4

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: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-156298-1

Date Collected: 06/17/25 09:30

Matrix: Drinking Water

Date Received: 06/19/25 10:14

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

| Analyte                                                                | Result | Qualifier | RL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------------------------------------------|--------|-----------|-----|------|---|----------------|----------------|---------|
| 11-Chloroeicosafluoro-3-oxaundecan<br>e-1-sulfonic acid (11CI-PF3OUdS) | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonan<br>e-1-sulfonic acid(9CI-PF3ONS)     | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid<br>(ADONA)                         | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Hexafluoropropylene Oxide Dimer<br>Acid (HFPO-DA/GenX)                 | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                                    | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluorodecanoic acid (PFDA)                                          | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluorododecanoic acid (PFDoA)                                       | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluoroheptanoic acid (PFHpA)                                        | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluorohexanesulfonic acid<br>(PFHxS)                                | 3.6    |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluorohexanoic acid (PFHxA)                                         | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluorononanoic acid (PFNA)                                          | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluorooctanesulfonic acid<br>(PFOS)                                 | 3.4    |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluorooctanoic acid (PFOA)                                          | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluoroundecanoic acid (PFUnA)                                       | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluorobutanoic acid (PFBA)                                          | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 1H,1H,2H,2H-Perfluorodecane<br>sulfonic acid (8:2 FTS)                 | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 1H,1H,2H,2H-Perfluorohexane<br>sulfonic acid (4:2 FTS)                 | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 1H,1H,2H,2H-Perfluorooctane sulfonic<br>acid (6:2 FTS)                 | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Nonafluoro-3,6-dioxaheptanoic acid<br>(NFDHA)                          | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluoro (2-ethoxyethane) sulfonic<br>acid (PFEEESA)                  | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluoro-3-methoxypropanoic acid<br>(PFMPA)                           | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluoro-4-methoxybutanoic acid<br>(PFMBA)                            | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluoropentanoic acid (PFPeA)                                        | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluoroheptanesulfonic acid<br>(PFHpS)                               | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| Perfluoropentanesulfonic acid<br>(PFPeS)                               | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:16 | 1       |

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C3 HFPO-DA     | 76        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 13C6 PFDA        | 82        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 13C5 PFHxA       | 80        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 13C4 PFHpA       | 78        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 13C8 PFOA        | 86        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 13C9 PFNA        | 84        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 13C7 PFUnA       | 81        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 13C2 PFDoA       | 75        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 13C4 PFBA        | 80        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 13C5 PFPeA       | 76        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 13C3 PFBS        | 84        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |

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# Client Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-156298-1

Date Collected: 06/17/25 09:30

Matrix: Drinking Water

Date Received: 06/19/25 10:14

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

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C3 PFHxS       | 87        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 13C8 PFOS        | 91        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 13C2-4:2-FTS     | 82        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 13C2-6:2-FTS     | 84        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |
| 13C2-8:2-FTS     | 84        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:16 | 1       |

## 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 |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| <b>Perfluorooctanesulfonic acid (PFOS)</b>                         | <b>3.5</b> |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| Perfluoroundecanoic acid (PFUnA)                                   | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)           | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)            | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| Perfluorohexanoic acid (PFHxA)                                     | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| Perfluorododecanoic acid (PFDoA)                                   | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| Perfluorooctanoic acid (PFOA)                                      | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| Perfluorodecanoic acid (PFDA)                                      | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| <b>Perfluorohexanesulfonic acid (PFHxS)</b>                        | <b>3.9</b> |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                                | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| Perfluoroheptanoic acid (PFHpA)                                    | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| Perfluorononanoic acid (PFNA)                                      | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| Perfluorotetradecanoic acid (PFTA)                                 | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| Perfluorotridecanoic acid (PFTrDA)                                 | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)     | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                        | <2.0       |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| Surrogate                                                          | %Recovery  | Qualifier | Limits   |      |   | Prepared       | Analyzed       | Dil Fac |
| d5-NEtFOSAA                                                        | 97         |           | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| 13C2 PFHxA                                                         | 93         |           | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| 13C2 PFDA                                                          | 93         |           | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |
| 13C3-GenX                                                          | 87         |           | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 15:42 | 1       |

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-156298-2

(331-202-TP072)

Date Collected: 06/17/25 11:00

Matrix: Drinking Water

Date Received: 06/19/25 10:14

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

| Analyte                                                            | Result | Qualifier | RL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------------------------------------|--------|-----------|-----|------|---|----------------|----------------|---------|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)     | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |

Eurofins Eaton Analytical Pomona



# Client Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

**Lab Sample ID: 380-156298-2**

**Date Collected: 06/17/25 11:00**

**Matrix: Drinking Water**

**Date Received: 06/19/25 10:14**

## 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 |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX) | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                 | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluorodecanoic acid (PFDA)                       | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluorododecanoic acid (PFDoA)                    | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluoroheptanoic acid (PFHpA)                     | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluorohexanoic acid (PFHxA)                      | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluorononanoic acid (PFNA)                       | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                 | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluorooctanoic acid (PFOA)                       | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluoroundecanoic acid (PFUnA)                    | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluorobutanoic acid (PFBA)                       | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)          | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)  | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluoro-3-methoxypropanoic acid (PFMPA)           | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluoro-4-methoxybutanoic acid (PFMBA)            | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluoropentanoic acid (PFPeA)                     | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluoroheptanesulfonic acid (PFHpS)               | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| Perfluoropentanesulfonic acid (PFPeS)               | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:26 | 1       |

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C3 HFPO-DA     | 86        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 13C6 PFDA        | 91        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 13C5 PFHxA       | 94        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 13C4 PFHpA       | 88        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 13C8 PFOA        | 95        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 13C9 PFNA        | 92        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 13C7 PFUnA       | 92        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 13C2 PFDoA       | 93        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 13C4 PFBA        | 95        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 13C5 PFPeA       | 95        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 13C3 PFBS        | 107       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 13C3 PFHxS       | 106       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 13C8 PFOS        | 105       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 13C2-4:2-FTS     | 108       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |
| 13C2-6:2-FTS     | 99        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |

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# Client Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

**Lab Sample ID: 380-156298-2**

**Date Collected: 06/17/25 11:00  
Date Received: 06/19/25 10:14**

**Matrix: Drinking Water**

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

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C2-8:2-FTS     | 94        |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:26 | 1       |

## 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 |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                                | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| Perfluoroundecanoic acid (PFUnA)                                   | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)           | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)            | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| Perfluorohexanoic acid (PFHxA)                                     | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| Perfluorododecanoic acid (PFDoA)                                   | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| Perfluorooctanoic acid (PFOA)                                      | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| Perfluorodecanoic acid (PFDA)                                      | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                               | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                                | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| Perfluoroheptanoic acid (PFHpA)                                    | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| Perfluorononanoic acid (PFNA)                                      | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| Perfluorotetradecanoic acid (PFTA)                                 | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| Perfluorotridecanoic acid (PFTrDA)                                 | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)     | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                        | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
|                                                                    |           |           |          |      |   |                |                |         |
| Surrogate                                                          | %Recovery | Qualifier | Limits   |      |   | Prepared       | Analyzed       | Dil Fac |
| d5-NEtFOSAA                                                        | 96        |           | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| 13C2 PFHxA                                                         | 93        |           | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| 13C2 PFDA                                                          | 99        |           | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |
| 13C3-GenX                                                          | 88        |           | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 17:09 | 1       |

**Client Sample ID: FB Halawa Shaft Viewing Pool**

**Lab Sample ID: 380-156298-3**

**Date Collected: 06/17/25 09:30  
Date Received: 06/19/25 10:14**

**Matrix: Drinking Water**

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

| Analyte                                                            | Result | Qualifier | RL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------------------------------------|--------|-----------|-----|------|---|----------------|----------------|---------|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)     | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                        | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)                | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                                | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluorodecanoic acid (PFDA)                                      | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |

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# Client Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

Client Sample ID: FB Halawa Shaft Viewing Pool

Lab Sample ID: 380-156298-3

Date Collected: 06/17/25 09:30

Matrix: Drinking Water

Date Received: 06/19/25 10:14

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

| Analyte                                             | Result | Qualifier | RL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------------------------------|--------|-----------|-----|------|---|----------------|----------------|---------|
| Perfluorododecanoic acid (PFDoA)                    | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluoroheptanoic acid (PFHpA)                     | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluorohexanoic acid (PFHxA)                      | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluorononanoic acid (PFNA)                       | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                 | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluorooctanoic acid (PFOA)                       | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluoroundecanoic acid (PFUnA)                    | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluorobutanoic acid (PFBA)                       | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)          | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)  | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluoro-3-methoxypropanoic acid (PFMPA)           | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluoro-4-methoxybutanoic acid (PFMBA)            | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluoropentanoic acid (PFPeA)                     | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluoroheptanesulfonic acid (PFHpS)               | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| Perfluoropentanesulfonic acid (PFPeS)               | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:36 | 1       |

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C3 HFPO-DA     | 104       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C6 PFDA        | 102       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C5 PFHxA       | 116       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C4 PFHpA       | 111       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C8 PFOA        | 111       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C9 PFNA        | 112       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C7 PFUnA       | 105       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C2 PFDoA       | 104       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C4 PFBA        | 109       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C5 PFPeA       | 114       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C3 PFBS        | 112       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C3 PFHxS       | 116       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C8 PFOS        | 116       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C2-4:2-FTS     | 121       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C2-6:2-FTS     | 110       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |
| 13C2-8:2-FTS     | 102       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:36 | 1       |

## 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 |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                 | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |

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# Client Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

**Client Sample ID: FB Halawa Shaft Viewing Pool**

**Lab Sample ID: 380-156298-3**

**Date Collected: 06/17/25 09:30**

**Matrix: Drinking Water**

**Date Received: 06/19/25 10:14**

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

| Analyte                                                            | Result    | Qualifier | RL       | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------------------------------------|-----------|-----------|----------|------|---|----------------|----------------|---------|
| Perfluoroundecanoic acid (PFUnA)                                   | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)           | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)            | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| Perfluorohexanoic acid (PFHxA)                                     | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| Perfluorododecanoic acid (PFDoA)                                   | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| Perfluorooctanoic acid (PFOA)                                      | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| Perfluorodecanoic acid (PFDA)                                      | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                               | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                                | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| Perfluoroheptanoic acid (PFHpA)                                    | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| Perfluorononanoic acid (PFNA)                                      | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| Perfluorotetradecanoic acid (PFTA)                                 | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| Perfluorotridecanoic acid (PFTrDA)                                 | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)     | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                        | <2.0      |           | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| Surrogate                                                          | %Recovery | Qualifier | Limits   |      |   | Prepared       | Analyzed       | Dil Fac |
| d5-NEtFOSAA                                                        | 89        |           | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| 13C2 PFHxA                                                         | 86        |           | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| 13C2 PFDA                                                          | 93        |           | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |
| 13C3-GenX                                                          | 79        |           | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 17:19 | 1       |

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

**Lab Sample ID: 380-156298-4**

**Date Collected: 06/17/25 11:00**

**Matrix: Drinking Water**

**Date Received: 06/19/25 10:14**

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

| Analyte                                                            | Result | Qualifier | RL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------------------------------------|--------|-----------|-----|------|---|----------------|----------------|---------|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)     | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                        | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)                | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                                | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluorodecanoic acid (PFDA)                                      | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluorododecanoic acid (PFDoA)                                   | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluoroheptanoic acid (PFHpA)                                    | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                               | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluorohexanoic acid (PFHxA)                                     | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluorononanoic acid (PFNA)                                      | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                                | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |

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# Client Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

**Lab Sample ID: 380-156298-4**

**Date Collected: 06/17/25 11:00**

**Matrix: Drinking Water**

**Date Received: 06/19/25 10:14**

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

| Analyte                                             | Result | Qualifier | RL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------------------------------|--------|-----------|-----|------|---|----------------|----------------|---------|
| Perfluorooctanoic acid (PFOA)                       | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluoroundecanoic acid (PFUnA)                    | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluorobutanoic acid (PFBA)                       | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)          | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)  | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluoro-3-methoxypropanoic acid (PFMPA)           | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluoro-4-methoxybutanoic acid (PFMBA)            | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluoropentanoic acid (PFPeA)                     | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluoroheptanesulfonic acid (PFHpS)               | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| Perfluoropentanesulfonic acid (PFPeS)               | <2.0   |           | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 16:45 | 1       |

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C3 HFPO-DA     | 106       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C6 PFDA        | 105       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C5 PFHxA       | 114       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C4 PFHpA       | 108       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C8 PFOA        | 112       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C9 PFNA        | 108       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C7 PFUnA       | 108       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C2 PFDoA       | 109       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C4 PFBA        | 111       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C5 PFPeA       | 114       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C3 PFBS        | 110       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C3 PFHxS       | 110       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C8 PFOS        | 109       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C2-4:2-FTS     | 111       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C2-6:2-FTS     | 102       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |
| 13C2-8:2-FTS     | 100       |           | 50 - 200 | 06/23/25 12:45 | 06/24/25 16:45 | 1       |

## 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 |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                      | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| Perfluoroundecanoic acid (PFUnA)                         | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)  | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |

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# Client Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

**Lab Sample ID: 380-156298-4**

**Date Collected: 06/17/25 11:00**

**Matrix: Drinking Water**

**Date Received: 06/19/25 10:14**

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

| Analyte                                                            | Result | Qualifier | RL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------------------------------------|--------|-----------|-----|------|---|----------------|----------------|---------|
| Perfluorohexanoic acid (PFHxA)                                     | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| Perfluorododecanoic acid (PFDoA)                                   | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| Perfluorooctanoic acid (PFOA)                                      | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| Perfluorodecanoic acid (PFDA)                                      | 2.0    |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                               | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                                | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| Perfluoroheptanoic acid (PFHpA)                                    | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| Perfluorononanoic acid (PFNA)                                      | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| Perfluorotetradecanoic acid (PFTA)                                 | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| Perfluorotridecanoic acid (PFTrDA)                                 | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)    | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                        | <2.0   |           | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 17:28 | 1       |

| Surrogate   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------|-----------|-----------|----------|----------------|----------------|---------|
| d5-NEtFOSAA | 94        |           | 70 - 130 | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| 13C2 PFHxA  | 82        |           | 70 - 130 | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| 13C2 PFDA   | 94        |           | 70 - 130 | 06/20/25 04:09 | 06/20/25 17:28 | 1       |
| 13C3-GenX   | 80        |           | 70 - 130 | 06/20/25 04:09 | 06/20/25 17:28 | 1       |



## Action Limit Summary

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

### Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-156298-1

#### Compliance Check

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

| Analyte                                             | Result | Qualifier | Unit | EPAMCL<br>Limit | RL  | Method | Prep Type |
|-----------------------------------------------------|--------|-----------|------|-----------------|-----|--------|-----------|
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX) | <2.0   |           | ng/L | 10              | 2.0 | 533    | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS)                | 3.6    |           | ng/L | 10              | 2.0 | 533    | Total/NA  |
| Perfluorononanoic acid (PFNA)                       | <2.0   |           | ng/L | 10              | 2.0 | 533    | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)                 | 3.4    |           | ng/L | 4               | 2.0 | 533    | Total/NA  |
| Perfluorooctanoic acid (PFOA)                       | <2.0   |           | ng/L | 4               | 2.0 | 533    | Total/NA  |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX) | <2.0   |           | ng/L | 10              | 2.0 | 537.1  | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)                 | 3.5    |           | ng/L | 4               | 2.0 | 537.1  | Total/NA  |
| Perfluorooctanoic acid (PFOA)                       | <2.0   |           | ng/L | 4               | 2.0 | 537.1  | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS)                | 3.9    |           | ng/L | 10              | 2.0 | 537.1  | Total/NA  |
| Perfluorononanoic acid (PFNA)                       | <2.0   |           | ng/L | 10              | 2.0 | 537.1  | Total/NA  |

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

Lab Sample ID: 380-156298-2

#### Compliance Check

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

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

### Client Sample ID: FB Halawa Shaft Viewing Pool

Lab Sample ID: 380-156298-3

#### 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<br>Limit | RL  | Method | Prep Type |
|-----------------------------------------------------|--------|-----------|------|-----------------|-----|--------|-----------|
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX) | <2.0   |           | ng/L | 10              | 2.0 | 533    | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS)                | <2.0   |           | ng/L | 10              | 2.0 | 533    | Total/NA  |
| Perfluorononanoic acid (PFNA)                       | <2.0   |           | ng/L | 10              | 2.0 | 533    | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)                 | <2.0   |           | ng/L | 4               | 2.0 | 533    | Total/NA  |
| Perfluorooctanoic acid (PFOA)                       | <2.0   |           | ng/L | 4               | 2.0 | 533    | Total/NA  |

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## Action Limit Summary

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

### Client Sample ID: FB Halawa Shaft Viewing Pool (Continued)

Lab Sample ID: 380-156298-3

#### 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<br>Limit | RL  | Method | Prep Type |
|-----------------------------------------------------|--------|-----------|------|-----------------|-----|--------|-----------|
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX) | <2.0   |           | ng/L | 10              | 2.0 | 537.1  | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)                 | <2.0   |           | ng/L | 4               | 2.0 | 537.1  | Total/NA  |
| Perfluorooctanoic acid (PFOA)                       | <2.0   |           | ng/L | 4               | 2.0 | 537.1  | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS)                | <2.0   |           | ng/L | 10              | 2.0 | 537.1  | Total/NA  |
| Perfluorononanoic acid (PFNA)                       | <2.0   |           | ng/L | 10              | 2.0 | 537.1  | Total/NA  |

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

Lab Sample ID: 380-156298-4

#### 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<br>Limit | RL  | Method | Prep Type |
|-----------------------------------------------------|--------|-----------|------|-----------------|-----|--------|-----------|
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX) | <2.0   |           | ng/L | 10              | 2.0 | 533    | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS)                | <2.0   |           | ng/L | 10              | 2.0 | 533    | Total/NA  |
| Perfluorononanoic acid (PFNA)                       | <2.0   |           | ng/L | 10              | 2.0 | 533    | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)                 | <2.0   |           | ng/L | 4               | 2.0 | 533    | Total/NA  |
| Perfluorooctanoic acid (PFOA)                       | <2.0   |           | ng/L | 4               | 2.0 | 533    | Total/NA  |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX) | <2.0   |           | ng/L | 10              | 2.0 | 537.1  | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)                 | <2.0   |           | ng/L | 4               | 2.0 | 537.1  | Total/NA  |
| Perfluorooctanoic acid (PFOA)                       | <2.0   |           | ng/L | 4               | 2.0 | 537.1  | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS)                | <2.0   |           | ng/L | 10              | 2.0 | 537.1  | Total/NA  |
| Perfluorononanoic acid (PFNA)                       | <2.0   |           | ng/L | 10              | 2.0 | 537.1  | Total/NA  |



# Surrogate Summary

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

Matrix: Drinking Water

Prep Type: Total/NA

|                  |                                               | Percent Surrogate Recovery (Acceptance Limits) |                   |                  |                  |
|------------------|-----------------------------------------------|------------------------------------------------|-------------------|------------------|------------------|
| Lab Sample ID    | Client Sample ID                              | d5NEFOS<br>(70-130)                            | PFHxA<br>(70-130) | PFDA<br>(70-130) | GenX<br>(70-130) |
| 380-156298-1     | Halawa Shaft Viewing Pool                     | 97                                             | 93                | 93               | 87               |
| 380-156298-1 MS  | Halawa Shaft Viewing Pool                     | 96                                             | 92                | 92               | 87               |
| 380-156298-1 MSD | Halawa Shaft Viewing Pool                     | 93                                             | 86                | 88               | 82               |
| 380-156298-2     | AIEA GULCH WELLS PUMP 2<br>(331-202-TP072)    | 96                                             | 93                | 99               | 88               |
| 380-156298-3     | FB Halawa Shaft Viewing Pool                  | 89                                             | 86                | 93               | 79               |
| 380-156298-4     | FB AIEA GULCH WELLS PUMP<br>2 (331-202-TP072) | 94                                             | 82                | 94               | 80               |

### 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

|                     |                    | Percent Surrogate Recovery (Acceptance Limits) |                   |                  |                  |
|---------------------|--------------------|------------------------------------------------|-------------------|------------------|------------------|
| Lab Sample ID       | Client Sample ID   | d5NEFOS<br>(70-130)                            | PFHxA<br>(70-130) | PFDA<br>(70-130) | GenX<br>(70-130) |
| LCS 380-158985/22-A | Lab Control Sample | 87                                             | 85                | 96               | 82               |
| MBL 380-158985/20-A | Method Blank       | 98                                             | 92                | 97               | 89               |
| MRL 380-158985/21-A | Lab Control Sample | 88                                             | 87                | 92               | 82               |

### 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: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

## 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<br>(50-200) | C6PFDA<br>(50-200) | 13C5PHA<br>(50-200) | C4PFHA<br>(50-200) | C8PFOA<br>(50-200) | C9PFNA<br>(50-200) | 13C7PUA<br>(50-200) | PFDaA<br>(50-200) |
|---------------|-----------------------------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|--------------------|---------------------|-------------------|
| 380-156298-1  | Halawa Shaft Viewing Pool                     | 76                 | 82                 | 80                  | 78                 | 86                 | 84                 | 81                  | 75                |
| 380-156298-2  | AIEA GULCH WELLS PUMP 2<br>(331-202-TP072)    | 86                 | 91                 | 94                  | 88                 | 95                 | 92                 | 92                  | 93                |
| 380-156298-3  | FB Halawa Shaft Viewing Pool                  | 104                | 102                | 116                 | 111                | 111                | 112                | 105                 | 104               |
| 380-156298-4  | FB AIEA GULCH WELLS PUMP<br>2 (331-202-TP072) | 106                | 105                | 114                 | 108                | 112                | 108                | 108                 | 109               |

### Percent Isotope Dilution Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID                              | PFBA<br>(50-200) | PFPeA<br>(50-200) | C3PFBS<br>(50-200) | C3PFHS<br>(50-200) | C8PFOS<br>(50-200) | 42FTS<br>(50-200) | 62FTS<br>(50-200) | 82FTS<br>(50-200) |
|---------------|-----------------------------------------------|------------------|-------------------|--------------------|--------------------|--------------------|-------------------|-------------------|-------------------|
| 380-156298-1  | Halawa Shaft Viewing Pool                     | 80               | 76                | 84                 | 87                 | 91                 | 82                | 84                | 84                |
| 380-156298-2  | AIEA GULCH WELLS PUMP 2<br>(331-202-TP072)    | 95               | 95                | 107                | 106                | 105                | 108               | 99                | 94                |
| 380-156298-3  | FB Halawa Shaft Viewing Pool                  | 109              | 114               | 112                | 116                | 116                | 121               | 110               | 102               |
| 380-156298-4  | FB AIEA GULCH WELLS PUMP<br>2 (331-202-TP072) | 111              | 114               | 110                | 110                | 109                | 111               | 102               | 100               |

### 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

## 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<br>(50-200) | C6PFDA<br>(50-200) | 13C5PHA<br>(50-200) | C4PFHA<br>(50-200) | C8PFOA<br>(50-200) | C9PFNA<br>(50-200) | 13C7PUA<br>(50-200) | PFDaA<br>(50-200) |
|----------------------|------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|--------------------|---------------------|-------------------|
| 380-155971-E-1-A MS  | Matrix Spike           | 101                | 98                 | 103                 | 99                 | 99                 | 100                | 100                 | 99                |
| 380-155971-F-1-A MSD | Matrix Spike Duplicate | 94                 | 94                 | 96                  | 92                 | 97                 | 93                 | 96                  | 95                |
| LCS 380-159316/13-A  | Lab Control Sample     | 91                 | 95                 | 96                  | 91                 | 100                | 97                 | 96                  | 92                |
| MBL 380-159316/11-A  | Method Blank           | 103                | 101                | 113                 | 106                | 108                | 108                | 101                 | 103               |
| MRL 380-159316/12-A  | Lab Control Sample     | 102                | 101                | 112                 | 104                | 111                | 107                | 104                 | 104               |

### Percent Isotope Dilution Recovery (Acceptance Limits)

| Lab Sample ID        | Client Sample ID       | PFBA<br>(50-200) | PFPeA<br>(50-200) | C3PFBS<br>(50-200) | C3PFHS<br>(50-200) | C8PFOS<br>(50-200) | 42FTS<br>(50-200) | 62FTS<br>(50-200) | 82FTS<br>(50-200) |
|----------------------|------------------------|------------------|-------------------|--------------------|--------------------|--------------------|-------------------|-------------------|-------------------|
| 380-155971-E-1-A MS  | Matrix Spike           | 108              | 127               | 102                | 105                | 109                | 108               | 100               | 105               |
| 380-155971-F-1-A MSD | Matrix Spike Duplicate | 99               | 112               | 94                 | 99                 | 106                | 105               | 102               | 103               |

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# Isotope Dilution Summary

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

**Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)**  
**Matrix: Water** **Prep Type: Total/NA**

|                         |                    | Percent Isotope Dilution Recovery (Acceptance Limits) |                   |                    |                    |                    |                   |                   |                   |
|-------------------------|--------------------|-------------------------------------------------------|-------------------|--------------------|--------------------|--------------------|-------------------|-------------------|-------------------|
| Lab Sample ID           | Client Sample ID   | PFBA<br>(50-200)                                      | PFPeA<br>(50-200) | C3PFBS<br>(50-200) | C3PFHS<br>(50-200) | C8PFOS<br>(50-200) | 42FTS<br>(50-200) | 62FTS<br>(50-200) | 82FTS<br>(50-200) |
| LCS 380-159316/13-A     | Lab Control Sample | 97                                                    | 97                | 102                | 100                | 105                | 91                | 86                | 90                |
| MBL 380-159316/11-A     | Method Blank       | 110                                                   | 112               | 107                | 108                | 112                | 114               | 104               | 97                |
| MRL 380-159316/12-A     | Lab Control Sample | 110                                                   | 110               | 113                | 112                | 113                | 112               | 106               | 104               |
| <b>Surrogate Legend</b> |                    |                                                       |                   |                    |                    |                    |                   |                   |                   |
| 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: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

Lab Sample ID: MBL 380-159316/11-A

Matrix: Water

Analysis Batch: 159492

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 159316

| Analyte                                                                | MBL Result | MBL Qualifier | RL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------------------------------------------|------------|---------------|-----|------|---|----------------|----------------|---------|
| 11-Chloroeicosafluoro-3-oxaundecan<br>e-1-sulfonic acid (11Cl-PF3OUdS) | <0.30      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonan<br>e-1-sulfonic acid(9Cl-PF3ONS)     | <0.30      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid<br>(ADONA)                         | <0.60      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Hexafluoropropylene Oxide Dimer<br>Acid (HFPO-DA/GenX)                 | <1.0       |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                                    | <0.37      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluorodecanoic acid (PFDA)                                          | <0.31      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluorododecanoic acid (PFDoA)                                       | <0.54      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluoroheptanoic acid (PFHpA)                                        | <0.39      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                                   | <0.32      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluorohexanoic acid (PFHxA)                                         | <0.46      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluorononanoic acid (PFNA)                                          | <0.40      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                                    | <0.43      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluorooctanoic acid (PFOA)                                          | <0.38      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluoroundecanoic acid (PFUnA)                                       | <0.42      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluorobutanoic acid (PFBA)                                          | <0.69      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 1H,1H,2H,2H-Perfluorodecane<br>sulfonic acid (8:2 FTS)                 | <0.38      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 1H,1H,2H,2H-Perfluorohexane<br>sulfonic acid (4:2 FTS)                 | <0.37      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 1H,1H,2H,2H-Perfluorooctane sulfonic<br>acid (6:2 FTS)                 | <0.48      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Nonafluoro-3,6-dioxaheptanoic acid<br>(NFDHA)                          | <0.47      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluoro (2-ethoxyethane) sulfonic<br>acid (PFEEESA)                  | <0.25      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluoro-3-methoxypropanoic acid<br>(PFMPA)                           | <0.46      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluoro-4-methoxybutanoic acid<br>(PFMBA)                            | <0.15      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluoropentanoic acid (PFPeA)                                        | <0.38      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluoroheptanesulfonic acid<br>(PFHpS)                               | <0.36      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| Perfluoropentanesulfonic acid<br>(PFPeS)                               | <0.39      |               | 2.0 | ng/L |   | 06/23/25 12:45 | 06/24/25 14:48 | 1       |

| Isotope Dilution | MBL %Recovery | MBL Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|---------------|---------------|----------|----------------|----------------|---------|
| 13C3 HFPO-DA     | 103           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 13C6 PFDA        | 101           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 13C5 PFHxA       | 113           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 13C4 PFHpA       | 106           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 13C8 PFOA        | 108           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 13C9 PFNA        | 108           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 13C7 PFUnA       | 101           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 13C2 PFDoA       | 103           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 13C4 PFBA        | 110           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 13C5 PFPeA       | 112           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 13C3 PFBS        | 107           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |

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# QC Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

Lab Sample ID: MBL 380-159316/11-A

Matrix: Water

Analysis Batch: 159492

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 159316

| Isotope Dilution | MBL %Recovery | MBL Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|---------------|---------------|----------|----------------|----------------|---------|
| 13C3 PFHxS       | 108           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 13C8 PFOS        | 112           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 13C2-4:2-FTS     | 114           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 13C2-6:2-FTS     | 104           |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |
| 13C2-8:2-FTS     | 97            |               | 50 - 200 | 06/23/25 12:45 | 06/24/25 14:48 | 1       |

Lab Sample ID: LCS 380-159316/13-A

Matrix: Water

Analysis Batch: 159492

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 159316

| Analyte                                                           | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|-------------------------------------------------------------------|-------------|------------|---------------|------|---|------|-------------|
| 11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | 120         | 113        |               | ng/L |   | 94   | 70 - 130    |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)   | 120         | 119        |               | ng/L |   | 99   | 70 - 130    |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                       | 120         | 123        |               | ng/L |   | 102  | 70 - 130    |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)               | 120         | 123        |               | ng/L |   | 102  | 70 - 130    |
| Perfluorobutanesulfonic acid (PFBS)                               | 120         | 121        |               | ng/L |   | 100  | 70 - 130    |
| Perfluorodecanoic acid (PFDA)                                     | 120         | 122        |               | ng/L |   | 101  | 70 - 130    |
| Perfluorododecanoic acid (PFDoA)                                  | 120         | 121        |               | ng/L |   | 101  | 70 - 130    |
| Perfluoroheptanoic acid (PFHpA)                                   | 120         | 124        |               | ng/L |   | 103  | 70 - 130    |
| Perfluorohexanesulfonic acid (PFHxS)                              | 120         | 123        |               | ng/L |   | 102  | 70 - 130    |
| Perfluorohexanoic acid (PFHxA)                                    | 120         | 118        |               | ng/L |   | 98   | 70 - 130    |
| Perfluorononanoic acid (PFNA)                                     | 120         | 115        |               | ng/L |   | 95   | 70 - 130    |
| Perfluorooctanesulfonic acid (PFOS)                               | 120         | 116        |               | ng/L |   | 97   | 70 - 130    |
| Perfluorooctanoic acid (PFOA)                                     | 120         | 113        |               | ng/L |   | 93   | 70 - 130    |
| Perfluoroundecanoic acid (PFUnA)                                  | 120         | 119        |               | ng/L |   | 99   | 70 - 130    |
| Perfluorobutanoic acid (PFBA)                                     | 120         | 121        |               | ng/L |   | 101  | 70 - 130    |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)               | 120         | 114        |               | ng/L |   | 94   | 70 - 130    |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)               | 120         | 116        |               | ng/L |   | 96   | 70 - 130    |
| 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)               | 120         | 118        |               | ng/L |   | 98   | 70 - 130    |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)                        | 120         | 113        |               | ng/L |   | 94   | 70 - 130    |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)                 | 120         | 119        |               | ng/L |   | 99   | 70 - 130    |
| Perfluoro 3 methoxypropanoic acid (PFMPA)                         | 120         | 117        |               | ng/L |   | 97   | 70 - 130    |
| Perfluoro-4-methoxybutanoic acid (PFMBA)                          | 120         | 115        |               | ng/L |   | 95   | 70 - 130    |
| Perfluoropentanoic acid (PFPeA)                                   | 120         | 117        |               | ng/L |   | 97   | 70 - 130    |

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# QC Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

Lab Sample ID: LCS 380-159316/13-A

Matrix: Water

Analysis Batch: 159492

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 159316

| Analyte                               | Spike Added   | LCS Result    | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------------------------------------|---------------|---------------|---------------|------|---|------|-------------|
| Perfluoroheptanesulfonic acid (PFHpS) | 120           | 119           |               | ng/L |   | 99   | 70 - 130    |
| Perfluoropentanesulfonic acid (PFPeS) | 120           | 124           |               | ng/L |   | 103  | 70 - 130    |
| Isotope Dilution                      | LCS %Recovery | LCS Qualifier | Limits        |      |   |      |             |
| 13C3 HFPO-DA                          | 91            |               | 50 - 200      |      |   |      |             |
| 13C6 PFDA                             | 95            |               | 50 - 200      |      |   |      |             |
| 13C5 PFHxA                            | 96            |               | 50 - 200      |      |   |      |             |
| 13C4 PFHpA                            | 91            |               | 50 - 200      |      |   |      |             |
| 13C8 PFOA                             | 100           |               | 50 - 200      |      |   |      |             |
| 13C9 PFNA                             | 97            |               | 50 - 200      |      |   |      |             |
| 13C7 PFUnA                            | 96            |               | 50 - 200      |      |   |      |             |
| 13C2 PFDoA                            | 92            |               | 50 - 200      |      |   |      |             |
| 13C4 PFBA                             | 97            |               | 50 - 200      |      |   |      |             |
| 13C5 PFPeA                            | 97            |               | 50 - 200      |      |   |      |             |
| 13C3 PFBS                             | 102           |               | 50 - 200      |      |   |      |             |
| 13C3 PFHxS                            | 100           |               | 50 - 200      |      |   |      |             |
| 13C8 PFOS                             | 105           |               | 50 - 200      |      |   |      |             |
| 13C2-4:2-FTS                          | 91            |               | 50 - 200      |      |   |      |             |
| 13C2-6:2-FTS                          | 86            |               | 50 - 200      |      |   |      |             |
| 13C2-8:2-FTS                          | 90            |               | 50 - 200      |      |   |      |             |

Lab Sample ID: MRL 380-159316/12-A

Matrix: Water

Analysis Batch: 159492

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 159316

| Analyte                                                           | Spike Added | MRL Result | MRL Qualifier | Unit | D | %Rec | %Rec Limits |
|-------------------------------------------------------------------|-------------|------------|---------------|------|---|------|-------------|
| 11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | 2.00        | 1.98       | J             | ng/L |   | 99   | 50 - 150    |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)   | 2.00        | 1.96       | J             | ng/L |   | 98   | 50 - 150    |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                       | 2.00        | 2.17       | J             | ng/L |   | 108  | 50 - 150    |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)               | 2.00        | 2.14       | J             | ng/L |   | 107  | 50 - 150    |
| Perfluorobutanesulfonic acid (PFBS)                               | 2.00        | 2.07       | J             | ng/L |   | 103  | 50 - 150    |
| Perfluorodecanoic acid (PFDA)                                     | 2.00        | 2.14       | J             | ng/L |   | 107  | 50 - 150    |
| Perfluorododecanoic acid (PFDoA)                                  | 2.00        | 2.11       | J             | ng/L |   | 105  | 50 - 150    |
| Perfluoroheptanoic acid (PFHpA)                                   | 2.00        | 2.13       | J             | ng/L |   | 106  | 50 - 150    |
| Perfluorohexanesulfonic acid (PFHxS)                              | 2.00        | 2.17       | J             | ng/L |   | 108  | 50 - 150    |
| Perfluorohexanoic acid (PFHxA)                                    | 2.00        | 2.11       | J             | ng/L |   | 105  | 50 - 150    |
| Perfluorononanoic acid (PFNA)                                     | 2.00        | 2.06       | J             | ng/L |   | 103  | 50 - 150    |
| Perfluorooctanesulfonic acid (PFOS)                               | 2.00        | 2.18       | J             | ng/L |   | 109  | 50 - 150    |
| Perfluorooctanoic acid (PFOA)                                     | 2.00        | 2.09       | J             | ng/L |   | 104  | 50 - 150    |

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

Lab Sample ID: MRL 380-159316/12-A

Matrix: Water

Analysis Batch: 159492

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 159316

| Analyte                                             | Spike Added | MRL Result | MRL Qualifier | Unit | D | %Rec | %Rec Limits |
|-----------------------------------------------------|-------------|------------|---------------|------|---|------|-------------|
| Perfluoroundecanoic acid (PFUnA)                    | 2.00        | 2.06       | J             | ng/L |   | 103  | 50 - 150    |
| Perfluorobutanoic acid (PFBA)                       | 2.00        | 2.24       | J             | ng/L |   | 112  | 50 - 150    |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | 2.00        | 2.12       | J             | ng/L |   | 106  | 50 - 150    |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | 2.00        | 2.26       | J             | ng/L |   | 113  | 50 - 150    |
| 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) | 2.00        | 2.19       | J             | ng/L |   | 109  | 50 - 150    |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)          | 2.00        | 1.97       | J             | ng/L |   | 98   | 50 - 150    |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)   | 2.00        | 2.03       | J             | ng/L |   | 101  | 50 - 150    |
| Perfluoro-3-methoxypropanoic acid (PFMPA)           | 2.00        | 1.98       | J             | ng/L |   | 99   | 50 - 150    |
| Perfluoro-4-methoxybutanoic acid (PFMBA)            | 2.00        | 2.08       | J             | ng/L |   | 104  | 50 - 150    |
| Perfluoropentanoic acid (PFPeA)                     | 2.00        | 2.06       | J             | ng/L |   | 103  | 50 - 150    |
| Perfluoroheptanesulfonic acid (PFHpS)               | 2.00        | 2.07       | J             | ng/L |   | 103  | 50 - 150    |
| Perfluoropentanesulfonic acid (PFPeS)               | 2.00        | 2.20       | J             | ng/L |   | 110  | 50 - 150    |

| Isotope Dilution | MRL %Recovery | MRL Qualifier | Limits   |
|------------------|---------------|---------------|----------|
| 13C3 HFPO-DA     | 102           |               | 50 - 200 |
| 13C6 PFDA        | 101           |               | 50 - 200 |
| 13C5 PFHxA       | 112           |               | 50 - 200 |
| 13C4 PFHpA       | 104           |               | 50 - 200 |
| 13C8 PFOA        | 111           |               | 50 - 200 |
| 13C9 PFNA        | 107           |               | 50 - 200 |
| 13C7 PFUnA       | 104           |               | 50 - 200 |
| 13C2 PFDoA       | 104           |               | 50 - 200 |
| 13C4 PFBA        | 110           |               | 50 - 200 |
| 13C5 PFPeA       | 110           |               | 50 - 200 |
| 13C3 PFBS        | 113           |               | 50 - 200 |
| 13C3 PFHxS       | 112           |               | 50 - 200 |
| 13C8 PFOS        | 113           |               | 50 - 200 |
| 13C2-4:2-FTS     | 112           |               | 50 - 200 |
| 13C2-6:2-FTS     | 106           |               | 50 - 200 |
| 13C2-8:2-FTS     | 104           |               | 50 - 200 |

Lab Sample ID: 380-155971-E-1-A MS

Matrix: Water

Analysis Batch: 159492

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 159316

| Analyte                                                           | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|-------------------------------------------------------------------|---------------|------------------|-------------|-----------|--------------|------|---|------|-------------|
| 11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS) | <2.0          |                  | 120         | 108       |              | ng/L |   | 90   | 70 - 130    |

Eurofins Eaton Analytical Pomona



# QC Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

Lab Sample ID: 380-155971-E-1-A MS

Matrix: Water

Analysis Batch: 159492

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 159316

| Analyte                                                      | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|--------------------------------------------------------------|---------------|------------------|-------------|-----------|--------------|------|---|------|-------------|
| 9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid(9Cl-PF3ONS) | <2.0          |                  | 120         | 113       |              | ng/L |   | 94   | 70 - 130    |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                  | <2.0          |                  | 120         | 119       |              | ng/L |   | 99   | 70 - 130    |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)          | <2.0          |                  | 120         | 117       |              | ng/L |   | 98   | 70 - 130    |
| Perfluorobutanesulfonic acid (PFBS)                          | <2.0          |                  | 120         | 119       |              | ng/L |   | 97   | 70 - 130    |
| Perfluorodecanoic acid (PFDA)                                | <2.0          |                  | 120         | 118       |              | ng/L |   | 98   | 70 - 130    |
| Perfluorododecanoic acid (PFDoA)                             | <2.0          |                  | 120         | 114       |              | ng/L |   | 95   | 70 - 130    |
| Perfluoroheptanoic acid (PFHpA)                              | <2.0          |                  | 120         | 121       |              | ng/L |   | 100  | 70 - 130    |
| Perfluorohexanesulfonic acid (PFHxS)                         | <2.0          |                  | 120         | 121       |              | ng/L |   | 101  | 70 - 130    |
| Perfluorohexanoic acid (PFHxA)                               | <2.0          |                  | 120         | 117       |              | ng/L |   | 97   | 70 - 130    |
| Perfluorononanoic acid (PFNA)                                | <2.0          |                  | 120         | 114       |              | ng/L |   | 95   | 70 - 130    |
| Perfluorooctanesulfonic acid (PFOS)                          | <2.0          |                  | 120         | 116       |              | ng/L |   | 96   | 70 - 130    |
| Perfluorooctanoic acid (PFOA)                                | <2.0          |                  | 120         | 115       |              | ng/L |   | 95   | 70 - 130    |
| Perfluoroundecanoic acid (PFUnA)                             | <2.0          |                  | 120         | 114       |              | ng/L |   | 95   | 70 - 130    |
| Perfluorobutanoic acid (PFBA)                                | 2.8           |                  | 120         | 119       |              | ng/L |   | 97   | 70 - 130    |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)          | <2.0          |                  | 120         | 113       |              | ng/L |   | 94   | 70 - 130    |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)          | <2.0          |                  | 120         | 115       |              | ng/L |   | 95   | 70 - 130    |
| 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)          | <2.0          |                  | 120         | 120       |              | ng/L |   | 100  | 70 - 130    |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)                   | <2.0          |                  | 120         | 117       |              | ng/L |   | 97   | 70 - 130    |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)             | <2.0          |                  | 120         | 117       |              | ng/L |   | 97   | 70 - 130    |
| Perfluoro-3-methoxypropanoic acid (PFMPA)                    | <2.0          |                  | 120         | 126       |              | ng/L |   | 105  | 70 - 130    |
| Perfluoro-4-methoxybutanoic acid (PFMBA)                     | <2.0          |                  | 120         | 111       |              | ng/L |   | 92   | 70 - 130    |
| Perfluoropentanoic acid (PFPeA)                              | <2.0          |                  | 120         | 109       |              | ng/L |   | 90   | 70 - 130    |
| Perfluoroheptanesulfonic acid (PFHpS)                        | <2.0          |                  | 120         | 113       |              | ng/L |   | 94   | 70 - 130    |
| Perfluoropentanesulfonic acid (PFPeS)                        | <2.0          |                  | 120         | 122       |              | ng/L |   | 101  | 70 - 130    |

| Isotope Dilution | MS %Recovery | MS Qualifier | Limits   |
|------------------|--------------|--------------|----------|
| 13C3 HFPO-DA     | 101          |              | 50 - 200 |
| 13C6 PFDA        | 98           |              | 50 - 200 |
| 13C5 PFHxA       | 103          |              | 50 - 200 |
| 13C4 PFHpA       | 99           |              | 50 - 200 |
| 13C8 PFOA        | 99           |              | 50 - 200 |
| 13C9 PFNA        | 100          |              | 50 - 200 |
| 13C7 PFUnA       | 100          |              | 50 - 200 |
| 13C2 PFDoA       | 99           |              | 50 - 200 |

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# QC Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

Lab Sample ID: 380-155971-E-1-A MS

Matrix: Water

Analysis Batch: 159492

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 159316

| Isotope Dilution | MS<br>%Recovery | MS<br>Qualifier | Limits   |
|------------------|-----------------|-----------------|----------|
| 13C4 PFBA        | 108             |                 | 50 - 200 |
| 13C5 PFPeA       | 127             |                 | 50 - 200 |
| 13C3 PFBS        | 102             |                 | 50 - 200 |
| 13C3 PFHxS       | 105             |                 | 50 - 200 |
| 13C8 PFOS        | 109             |                 | 50 - 200 |
| 13C2-4:2-FTS     | 108             |                 | 50 - 200 |
| 13C2-6:2-FTS     | 100             |                 | 50 - 200 |
| 13C2-8:2-FTS     | 105             |                 | 50 - 200 |

Lab Sample ID: 380-155971-F-1-A MSD

Matrix: Water

Analysis Batch: 159492

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 159316

| Analyte                                                           | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MSD<br>Result | MSD<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits | RPD | RPD<br>Limit |
|-------------------------------------------------------------------|------------------|---------------------|----------------|---------------|------------------|------|---|------|----------------|-----|--------------|
| 11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | <2.0             |                     | 120            | 113           |                  | ng/L |   | 94   | 70 - 130       | 4   | 30           |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)   | <2.0             |                     | 120            | 114           |                  | ng/L |   | 95   | 70 - 130       | 1   | 30           |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                       | <2.0             |                     | 120            | 123           |                  | ng/L |   | 102  | 70 - 130       | 3   | 30           |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)               | <2.0             |                     | 120            | 119           |                  | ng/L |   | 99   | 70 - 130       | 1   | 30           |
| Perfluorobutanesulfonic acid (PFBS)                               | <2.0             |                     | 120            | 127           |                  | ng/L |   | 105  | 70 - 130       | 7   | 30           |
| Perfluorodecanoic acid (PFDA)                                     | <2.0             |                     | 120            | 117           |                  | ng/L |   | 98   | 70 - 130       | 1   | 30           |
| Perfluorododecanoic acid (PFDoA)                                  | <2.0             |                     | 120            | 117           |                  | ng/L |   | 98   | 70 - 130       | 3   | 30           |
| Perfluoroheptanoic acid (PFHpA)                                   | <2.0             |                     | 120            | 124           |                  | ng/L |   | 102  | 70 - 130       | 2   | 30           |
| Perfluorohexanesulfonic acid (PFHxS)                              | <2.0             |                     | 120            | 124           |                  | ng/L |   | 103  | 70 - 130       | 2   | 30           |
| Perfluorohexanoic acid (PFHxA)                                    | <2.0             |                     | 120            | 119           |                  | ng/L |   | 98   | 70 - 130       | 1   | 30           |
| Perfluorononanoic acid (PFNA)                                     | <2.0             |                     | 120            | 118           |                  | ng/L |   | 98   | 70 - 130       | 3   | 30           |
| Perfluorooctanesulfonic acid (PFOS)                               | <2.0             |                     | 120            | 119           |                  | ng/L |   | 98   | 70 - 130       | 2   | 30           |
| Perfluorooctanoic acid (PFOA)                                     | <2.0             |                     | 120            | 117           |                  | ng/L |   | 97   | 70 - 130       | 1   | 30           |
| Perfluoroundecanoic acid (PFUnA)                                  | <2.0             |                     | 120            | 117           |                  | ng/L |   | 97   | 70 - 130       | 3   | 30           |
| Perfluorobutanoic acid (PFBA)                                     | 2.8              |                     | 120            | 122           |                  | ng/L |   | 100  | 70 - 130       | 3   | 30           |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)               | <2.0             |                     | 120            | 113           |                  | ng/L |   | 94   | 70 - 130       | 1   | 30           |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)               | <2.0             |                     | 120            | 113           |                  | ng/L |   | 94   | 70 - 130       | 1   | 30           |
| 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)               | <2.0             |                     | 120            | 116           |                  | ng/L |   | 96   | 70 - 130       | 4   | 30           |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)                        | <2.0             |                     | 120            | 124           |                  | ng/L |   | 104  | 70 - 130       | 6   | 30           |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)                  | <2.0             |                     | 120            | 123           |                  | ng/L |   | 103  | 70 - 130       | 5   | 30           |
| Perfluoro-3-methoxypropanoic acid (PFMPA)                         | <2.0             |                     | 120            | 128           |                  | ng/L |   | 107  | 70 - 130       | 2   | 30           |

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# QC Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

Lab Sample ID: 380-155971-F-1-A MSD

Matrix: Water

Analysis Batch: 159492

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 159316

| Analyte                                  | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|------------------------------------------|---------------|------------------|-------------|------------|---------------|------|---|------|-------------|-----|-----------|
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <2.0          |                  | 120         | 119        |               | ng/L |   | 99   | 70 - 130    | 7   | 30        |
| Perfluoropentanoic acid (PFPeA)          | <2.0          |                  | 120         | 119        |               | ng/L |   | 98   | 70 - 130    | 8   | 30        |
| Perfluoroheptanesulfonic acid (PFHpS)    | <2.0          |                  | 120         | 114        |               | ng/L |   | 95   | 70 - 130    | 1   | 30        |
| Perfluoropentanesulfonic acid (PFPeS)    | <2.0          |                  | 120         | 123        |               | ng/L |   | 102  | 70 - 130    | 1   | 30        |
| Isotope Dilution                         | MSD %Recovery | MSD Qualifier    | Limits      |            |               |      |   |      |             |     |           |
| 13C3 HFPO-DA                             | 94            |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C6 PFDA                                | 94            |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C5 PFHxA                               | 96            |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C4 PFHpA                               | 92            |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C8 PFOA                                | 97            |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C9 PFNA                                | 93            |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C7 PFUnA                               | 96            |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C2 PFDoA                               | 95            |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C4 PFBA                                | 99            |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C5 PFPeA                               | 112           |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C3 PFBS                                | 94            |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C3 PFHxS                               | 99            |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C8 PFOS                                | 106           |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C2-4:2-FTS                             | 105           |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C2-6:2-FTS                             | 102           |                  | 50 - 200    |            |               |      |   |      |             |     |           |
| 13C2-8:2-FTS                             | 103           |                  | 50 - 200    |            |               |      |   |      |             |     |           |

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

Lab Sample ID: MBL 380-158985/20-A

Matrix: Water

Analysis Batch: 159083

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 158985

| 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 |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                      | <0.43      |               | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| Perfluoroundecanoic acid (PFUnA)                         | <0.42      |               | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | <0.58      |               | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)  | <0.42      |               | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| Perfluorohexanoic acid (PFHxA)                           | <0.46      |               | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| Perfluorododecanoic acid (PFDoA)                         | <0.54      |               | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| Perfluorooctanoic acid (PFOA)                            | <0.38      |               | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| Perfluorodecanoic acid (PFDA)                            | <0.31      |               | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                     | <0.32      |               | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                      | <0.37      |               | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| Perfluoroheptanoic acid (PFHpA)                          | <0.39      |               | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| Perfluorononanoic acid (PFNA)                            | <0.40      |               | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| Perfluorotetradecanoic acid (PFTA)                       | <0.54      |               | 2.0 | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |

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# QC Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

Lab Sample ID: MBL 380-158985/20-A

Matrix: Water

Analysis Batch: 159083

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 158985

| Analyte                                                            | MBL Result    | MBL Qualifier | RL       | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------------------------------------|---------------|---------------|----------|------|---|----------------|----------------|---------|
| Perfluorotridecanoic acid (PFTTrDA)                                | <0.36         |               | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)     | <0.30         |               | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | <0.30         |               | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                        | <0.60         |               | 2.0      | ng/L |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| Surrogate                                                          | MBL %Recovery | MBL Qualifier | Limits   |      |   | Prepared       | Analyzed       | Dil Fac |
| d5-NEtFOSAA                                                        | 98            |               | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| 13C2 PFHxA                                                         | 92            |               | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| 13C2 PFDA                                                          | 97            |               | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |
| 13C3-GenX                                                          | 89            |               | 70 - 130 |      |   | 06/20/25 04:09 | 06/20/25 15:11 | 1       |

Lab Sample ID: LCS 380-158985/22-A

Matrix: Water

Analysis Batch: 159083

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 158985

| Analyte                                                            | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|--------------------------------------------------------------------|-------------|------------|---------------|------|---|------|-------------|
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)                | 25.1        | 20.8       |               | ng/L |   | 83   | 70 - 130    |
| Perfluorooctanesulfonic acid (PFOS)                                | 25.1        | 24.9       |               | ng/L |   | 99   | 70 - 130    |
| Perfluoroundecanoic acid (PFUnA)                                   | 25.1        | 22.5       |               | ng/L |   | 90   | 70 - 130    |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)           | 25.1        | 23.5       |               | ng/L |   | 94   | 70 - 130    |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)            | 25.1        | 23.5       |               | ng/L |   | 94   | 70 - 130    |
| Perfluorohexanoic acid (PFHxA)                                     | 25.1        | 22.2       |               | ng/L |   | 88   | 70 - 130    |
| Perfluorododecanoic acid (PFDoA)                                   | 25.1        | 22.3       |               | ng/L |   | 89   | 70 - 130    |
| Perfluorooctanoic acid (PFOA)                                      | 25.1        | 24.1       |               | ng/L |   | 96   | 70 - 130    |
| Perfluorodecanoic acid (PFDA)                                      | 25.1        | 24.5       |               | ng/L |   | 98   | 70 - 130    |
| Perfluorohexanesulfonic acid (PFHxS)                               | 25.1        | 25.9       |               | ng/L |   | 103  | 70 - 130    |
| Perfluorobutanesulfonic acid (PFBS)                                | 25.1        | 24.2       |               | ng/L |   | 97   | 70 - 130    |
| Perfluoroheptanoic acid (PFHpA)                                    | 25.1        | 24.1       |               | ng/L |   | 96   | 70 - 130    |
| Perfluorononanoic acid (PFNA)                                      | 25.1        | 23.8       |               | ng/L |   | 95   | 70 - 130    |
| Perfluorotetradecanoic acid (PFTA)                                 | 25.1        | 21.9       |               | ng/L |   | 87   | 70 - 130    |
| Perfluorotridecanoic acid (PFTTrDA)                                | 25.1        | 24.7       |               | ng/L |   | 98   | 70 - 130    |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)     | 25.1        | 24.6       |               | ng/L |   | 98   | 70 - 130    |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | 25.1        | 24.3       |               | ng/L |   | 97   | 70 - 130    |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                        | 25.1        | 22.8       |               | ng/L |   | 91   | 70 - 130    |

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

| Surrogate   | LCS       |           | Limits   |
|-------------|-----------|-----------|----------|
|             | %Recovery | Qualifier |          |
| d5-NEtFOSAA | 87        |           | 70 - 130 |
| 13C2 PFHxA  | 85        |           | 70 - 130 |
| 13C2 PFDA   | 96        |           | 70 - 130 |
| 13C3-GenX   | 82        |           | 70 - 130 |

  

|                                    |  |  |  |                                      |  |  |  |
|------------------------------------|--|--|--|--------------------------------------|--|--|--|
| Lab Sample ID: MRL 380-158985/21-A |  |  |  | Client Sample ID: Lab Control Sample |  |  |  |
| Matrix: Water                      |  |  |  | Prep Type: Total/NA                  |  |  |  |
| Analysis Batch: 159083             |  |  |  | Prep Batch: 158985                   |  |  |  |

  

| Analyte                                                            | Spike Added | MRL Result | MRL Qualifier | Unit | D | %Rec | %Rec Limits |
|--------------------------------------------------------------------|-------------|------------|---------------|------|---|------|-------------|
| Hexafluoropropylene Oxide                                          | 2.00        | 1.76       | J             | ng/L |   | 88   | 50 - 150    |
| Dimer Acid (HFPO-DA/GenX)                                          |             |            |               |      |   |      |             |
| Perfluorooctanesulfonic acid (PFOS)                                | 2.00        | 2.28       | J             | ng/L |   | 114  | 50 - 150    |
| Perfluoroundecanoic acid (PFUnA)                                   | 2.00        | 1.95       | J             | ng/L |   | 97   | 50 - 150    |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)           | 2.00        | 2.03       | J             | ng/L |   | 101  | 50 - 150    |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)            | 2.00        | 2.00       | J             | ng/L |   | 100  | 50 - 150    |
| Perfluorohexanoic acid (PFHxA)                                     | 2.00        | 1.88       | J             | ng/L |   | 94   | 50 - 150    |
| Perfluorododecanoic acid (PFDoA)                                   | 2.00        | 1.88       | J             | ng/L |   | 94   | 50 - 150    |
| Perfluorooctanoic acid (PFOA)                                      | 2.00        | 2.07       | J             | ng/L |   | 103  | 50 - 150    |
| Perfluorodecanoic acid (PFDA)                                      | 2.00        | 2.00       | J             | ng/L |   | 100  | 50 - 150    |
| Perfluorohexanesulfonic acid (PFHxS)                               | 2.00        | 2.20       | J             | ng/L |   | 110  | 50 - 150    |
| Perfluorobutanesulfonic acid (PFBS)                                | 2.00        | 2.10       | J             | ng/L |   | 105  | 50 - 150    |
| Perfluoroheptanoic acid (PFHpA)                                    | 2.00        | 2.01       | J             | ng/L |   | 100  | 50 - 150    |
| Perfluorononanoic acid (PFNA)                                      | 2.00        | 2.07       | J             | ng/L |   | 103  | 50 - 150    |
| Perfluorotetradecanoic acid (PFTA)                                 | 2.00        | 1.86       | J             | ng/L |   | 93   | 50 - 150    |
| Perfluorotridecanoic acid (PFTrDA)                                 | 2.00        | 2.12       | J             | ng/L |   | 106  | 50 - 150    |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)     | 2.00        | 2.09       | J             | ng/L |   | 104  | 50 - 150    |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | 2.00        | 2.09       | J             | ng/L |   | 104  | 50 - 150    |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                        | 2.00        | 1.92       | J             | ng/L |   | 96   | 50 - 150    |

  

| Surrogate   | MRL       |           | Limits   |
|-------------|-----------|-----------|----------|
|             | %Recovery | Qualifier |          |
| d5-NEtFOSAA | 88        |           | 70 - 130 |
| 13C2 PFHxA  | 87        |           | 70 - 130 |
| 13C2 PFDA   | 92        |           | 70 - 130 |
| 13C3-GenX   | 82        |           | 70 - 130 |

# QC Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

Lab Sample ID: 380-156298-1 MS

Matrix: Drinking Water

Analysis Batch: 159083

Client Sample ID: Halawa Shaft Viewing Pool

Prep Type: Total/NA

Prep Batch: 158985

| 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        | 23.0      |              | ng/L |   | 91   | 70 - 130    |
| Perfluorooctanesulfonic acid (PFOS)                                | 3.5           |                  | 25.1        | 28.3      |              | ng/L |   | 99   | 70 - 130    |
| Perfluoroundecanoic acid (PFUnA)                                   | <2.0          |                  | 25.1        | 22.2      |              | ng/L |   | 89   | 70 - 130    |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)           | <2.0          |                  | 25.1        | 24.9      |              | ng/L |   | 99   | 70 - 130    |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)            | <2.0          |                  | 25.1        | 25.5      |              | ng/L |   | 102  | 70 - 130    |
| Perfluorohexanoic acid (PFHxA)                                     | <2.0          |                  | 25.1        | 24.7      |              | ng/L |   | 93   | 70 - 130    |
| Perfluorododecanoic acid (PFDoA)                                   | <2.0          |                  | 25.1        | 22.1      |              | ng/L |   | 88   | 70 - 130    |
| Perfluorooctanoic acid (PFOA)                                      | <2.0          |                  | 25.1        | 25.3      |              | ng/L |   | 96   | 70 - 130    |
| Perfluorodecanoic acid (PFDA)                                      | <2.0          |                  | 25.1        | 24.2      |              | ng/L |   | 97   | 70 - 130    |
| Perfluorohexanesulfonic acid (PFHxS)                               | 3.9           |                  | 25.1        | 28.7      |              | ng/L |   | 99   | 70 - 130    |
| Perfluorobutanesulfonic acid (PFBS)                                | <2.0          |                  | 25.1        | 25.0      |              | ng/L |   | 98   | 70 - 130    |
| Perfluoroheptanoic acid (PFHpA)                                    | <2.0          |                  | 25.1        | 24.8      |              | ng/L |   | 96   | 70 - 130    |
| Perfluorononanoic acid (PFNA)                                      | <2.0          |                  | 25.1        | 24.5      |              | ng/L |   | 98   | 70 - 130    |
| Perfluorotetradecanoic acid (PFTA)                                 | <2.0          |                  | 25.1        | 21.1      |              | ng/L |   | 84   | 70 - 130    |
| Perfluorotridecanoic acid (PFTrDA)                                 | <2.0          |                  | 25.1        | 24.7      |              | ng/L |   | 98   | 70 - 130    |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)     | <2.0          |                  | 25.1        | 24.2      |              | ng/L |   | 96   | 70 - 130    |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | <2.0          |                  | 25.1        | 24.5      |              | ng/L |   | 98   | 70 - 130    |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                        | <2.0          |                  | 25.1        | 24.1      |              | ng/L |   | 96   | 70 - 130    |

| Surrogate   | MS %Recovery | MS Qualifier | Limits   |
|-------------|--------------|--------------|----------|
| d5-NEtFOSAA | 96           |              | 70 - 130 |
| 13C2 PFHxA  | 92           |              | 70 - 130 |
| 13C2 PFDA   | 92           |              | 70 - 130 |
| 13C3-GenX   | 87           |              | 70 - 130 |

Lab Sample ID: 380-156298-1 MSD

Matrix: Drinking Water

Analysis Batch: 159083

Client Sample ID: Halawa Shaft Viewing Pool

Prep Type: Total/NA

Prep Batch: 158985

| Analyte                                             | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|-----------------------------------------------------|---------------|------------------|-------------|------------|---------------|------|---|------|-------------|-----|-----------|
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX) | <2.0          |                  | 25.1        | 21.9       |               | ng/L |   | 87   | 70 - 130    | 5   | 30        |
| Perfluorooctanesulfonic acid (PFOS)                 | 3.5           |                  | 25.1        | 28.2       |               | ng/L |   | 98   | 70 - 130    | 0   | 30        |
| Perfluoroundecanoic acid (PFUnA)                    | <2.0          |                  | 25.1        | 21.2       |               | ng/L |   | 84   | 70 - 130    | 5   | 30        |

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

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

Lab Sample ID: 380-156298-1 MSD

Matrix: Drinking Water

Analysis Batch: 159083

Client Sample ID: Halawa Shaft Viewing Pool

Prep Type: Total/NA

Prep Batch: 158985

| Analyte                                                            | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|--------------------------------------------------------------------|---------------|------------------|-------------|------------|---------------|------|---|------|-------------|-----|-----------|
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)           | <2.0          |                  | 25.1        | 25.2       |               | ng/L |   | 100  | 70 - 130    | 1   | 30        |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)            | <2.0          |                  | 25.1        | 25.4       |               | ng/L |   | 101  | 70 - 130    | 0   | 30        |
| Perfluorohexanoic acid (PFHxA)                                     | <2.0          |                  | 25.1        | 23.7       |               | ng/L |   | 89   | 70 - 130    | 4   | 30        |
| Perfluorododecanoic acid (PFDoA)                                   | <2.0          |                  | 25.1        | 21.9       |               | ng/L |   | 87   | 70 - 130    | 1   | 30        |
| Perfluorooctanoic acid (PFOA)                                      | <2.0          |                  | 25.1        | 25.1       |               | ng/L |   | 95   | 70 - 130    | 1   | 30        |
| Perfluorodecanoic acid (PFDA)                                      | <2.0          |                  | 25.1        | 23.8       |               | ng/L |   | 95   | 70 - 130    | 2   | 30        |
| Perfluorohexanesulfonic acid (PFHxS)                               | 3.9           |                  | 25.1        | 28.4       |               | ng/L |   | 98   | 70 - 130    | 1   | 30        |
| Perfluorobutanesulfonic acid (PFBS)                                | <2.0          |                  | 25.1        | 25.0       |               | ng/L |   | 98   | 70 - 130    | 0   | 30        |
| Perfluoroheptanoic acid (PFHpA)                                    | <2.0          |                  | 25.1        | 25.0       |               | ng/L |   | 97   | 70 - 130    | 1   | 30        |
| Perfluorononanoic acid (PFNA)                                      | <2.0          |                  | 25.1        | 24.0       |               | ng/L |   | 96   | 70 - 130    | 2   | 30        |
| Perfluorotetradecanoic acid (PFTA)                                 | <2.0          |                  | 25.1        | 20.4       |               | ng/L |   | 81   | 70 - 130    | 3   | 30        |
| Perfluorotridecanoic acid (PFTrDA)                                 | <2.0          |                  | 25.1        | 24.1       |               | ng/L |   | 96   | 70 - 130    | 3   | 30        |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)     | <2.0          |                  | 25.1        | 24.4       |               | ng/L |   | 97   | 70 - 130    | 1   | 30        |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | <2.0          |                  | 25.1        | 24.6       |               | ng/L |   | 98   | 70 - 130    | 0   | 30        |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                        | <2.0          |                  | 25.1        | 23.3       |               | ng/L |   | 93   | 70 - 130    | 3   | 30        |

| Surrogate   | MSD %Recovery | MSD Qualifier | Limits   |
|-------------|---------------|---------------|----------|
| d5-NEtFOSAA | 93            |               | 70 - 130 |
| 13C2 PFHxA  | 86            |               | 70 - 130 |
| 13C2 PFDA   | 88            |               | 70 - 130 |
| 13C3-GenX   | 82            |               | 70 - 130 |



# QC Association Summary

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

## LCMS

### Prep Batch: 158985

| Lab Sample ID       | Client Sample ID                           | Prep Type | Matrix         | Method   | Prep Batch |
|---------------------|--------------------------------------------|-----------|----------------|----------|------------|
| 380-156298-1        | Halawa Shaft Viewing Pool                  | Total/NA  | Drinking Water | 537.1 DW |            |
| 380-156298-2        | AIEA GULCH WELLS PUMP 2 (331-202-TP072)    | Total/NA  | Drinking Water | 537.1 DW |            |
| 380-156298-3        | FB Halawa Shaft Viewing Pool               | Total/NA  | Drinking Water | 537.1 DW |            |
| 380-156298-4        | FB AIEA GULCH WELLS PUMP 2 (331-202-TP072) | Total/NA  | Drinking Water | 537.1 DW |            |
| MBL 380-158985/20-A | Method Blank                               | Total/NA  | Water          | 537.1 DW |            |
| LCS 380-158985/22-A | Lab Control Sample                         | Total/NA  | Water          | 537.1 DW |            |
| MRL 380-158985/21-A | Lab Control Sample                         | Total/NA  | Water          | 537.1 DW |            |
| 380-156298-1 MS     | Halawa Shaft Viewing Pool                  | Total/NA  | Drinking Water | 537.1 DW |            |
| 380-156298-1 MSD    | Halawa Shaft Viewing Pool                  | Total/NA  | Drinking Water | 537.1 DW |            |

### Analysis Batch: 159083

| Lab Sample ID       | Client Sample ID                           | Prep Type | Matrix         | Method | Prep Batch |
|---------------------|--------------------------------------------|-----------|----------------|--------|------------|
| 380-156298-1        | Halawa Shaft Viewing Pool                  | Total/NA  | Drinking Water | 537.1  | 158985     |
| 380-156298-2        | AIEA GULCH WELLS PUMP 2 (331-202-TP072)    | Total/NA  | Drinking Water | 537.1  | 158985     |
| 380-156298-3        | FB Halawa Shaft Viewing Pool               | Total/NA  | Drinking Water | 537.1  | 158985     |
| 380-156298-4        | FB AIEA GULCH WELLS PUMP 2 (331-202-TP072) | Total/NA  | Drinking Water | 537.1  | 158985     |
| MBL 380-158985/20-A | Method Blank                               | Total/NA  | Water          | 537.1  | 158985     |
| LCS 380-158985/22-A | Lab Control Sample                         | Total/NA  | Water          | 537.1  | 158985     |
| MRL 380-158985/21-A | Lab Control Sample                         | Total/NA  | Water          | 537.1  | 158985     |
| 380-156298-1 MS     | Halawa Shaft Viewing Pool                  | Total/NA  | Drinking Water | 537.1  | 158985     |
| 380-156298-1 MSD    | Halawa Shaft Viewing Pool                  | Total/NA  | Drinking Water | 537.1  | 158985     |

### Prep Batch: 159316

| Lab Sample ID        | Client Sample ID                           | Prep Type | Matrix         | Method | Prep Batch |
|----------------------|--------------------------------------------|-----------|----------------|--------|------------|
| 380-156298-1         | Halawa Shaft Viewing Pool                  | Total/NA  | Drinking Water | 533    |            |
| 380-156298-2         | AIEA GULCH WELLS PUMP 2 (331-202-TP072)    | Total/NA  | Drinking Water | 533    |            |
| 380-156298-3         | FB Halawa Shaft Viewing Pool               | Total/NA  | Drinking Water | 533    |            |
| 380-156298-4         | FB AIEA GULCH WELLS PUMP 2 (331-202-TP072) | Total/NA  | Drinking Water | 533    |            |
| MBL 380-159316/11-A  | Method Blank                               | Total/NA  | Water          | 533    |            |
| LCS 380-159316/13-A  | Lab Control Sample                         | Total/NA  | Water          | 533    |            |
| MRL 380-159316/12-A  | Lab Control Sample                         | Total/NA  | Water          | 533    |            |
| 380-155971-E-1-A MS  | Matrix Spike                               | Total/NA  | Water          | 533    |            |
| 380-155971-F-1-A MSD | Matrix Spike Duplicate                     | Total/NA  | Water          | 533    |            |

### Analysis Batch: 159492

| Lab Sample ID        | Client Sample ID                           | Prep Type | Matrix         | Method | Prep Batch |
|----------------------|--------------------------------------------|-----------|----------------|--------|------------|
| 380-156298-1         | Halawa Shaft Viewing Pool                  | Total/NA  | Drinking Water | 533    | 159316     |
| 380-156298-2         | AIEA GULCH WELLS PUMP 2 (331-202-TP072)    | Total/NA  | Drinking Water | 533    | 159316     |
| 380-156298-3         | FB Halawa Shaft Viewing Pool               | Total/NA  | Drinking Water | 533    | 159316     |
| 380-156298-4         | FB AIEA GULCH WELLS PUMP 2 (331-202-TP072) | Total/NA  | Drinking Water | 533    | 159316     |
| MBL 380-159316/11-A  | Method Blank                               | Total/NA  | Water          | 533    | 159316     |
| LCS 380-159316/13-A  | Lab Control Sample                         | Total/NA  | Water          | 533    | 159316     |
| MRL 380-159316/12-A  | Lab Control Sample                         | Total/NA  | Water          | 533    | 159316     |
| 380-155971-E-1-A MS  | Matrix Spike                               | Total/NA  | Water          | 533    | 159316     |
| 380-155971-F-1-A MSD | Matrix Spike Duplicate                     | Total/NA  | Water          | 533    | 159316     |



# Lab Chronicle

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

## Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-156298-1

Date Collected: 06/17/25 09:30

Matrix: Drinking Water

Date Received: 06/19/25 10:14

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Prep       | 533          |     |                 | 159316       | E2HD    | EA POM | 06/23/25 12:45       |
| Total/NA  | Analysis   | 533          |     | 1               | 159492       | M7ML    | EA POM | 06/24/25 16:16       |
| Total/NA  | Prep       | 537.1 DW     |     |                 | 158985       | G9MN    | EA POM | 06/20/25 04:09       |
| Total/NA  | Analysis   | 537.1        |     | 1               | 159083       | Y5FM    | EA POM | 06/20/25 15:42       |

## Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-156298-2

(331-202-TP072)

Date Collected: 06/17/25 11:00

Matrix: Drinking Water

Date Received: 06/19/25 10:14

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Prep       | 533          |     |                 | 159316       | E2HD    | EA POM | 06/23/25 12:45       |
| Total/NA  | Analysis   | 533          |     | 1               | 159492       | M7ML    | EA POM | 06/24/25 16:26       |
| Total/NA  | Prep       | 537.1 DW     |     |                 | 158985       | G9MN    | EA POM | 06/20/25 04:09       |
| Total/NA  | Analysis   | 537.1        |     | 1               | 159083       | Y5FM    | EA POM | 06/20/25 17:09       |

## Client Sample ID: FB Halawa Shaft Viewing Pool

Lab Sample ID: 380-156298-3

Date Collected: 06/17/25 09:30

Matrix: Drinking Water

Date Received: 06/19/25 10:14

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Prep       | 533          |     |                 | 159316       | E2HD    | EA POM | 06/23/25 12:45       |
| Total/NA  | Analysis   | 533          |     | 1               | 159492       | M7ML    | EA POM | 06/24/25 16:36       |
| Total/NA  | Prep       | 537.1 DW     |     |                 | 158985       | G9MN    | EA POM | 06/20/25 04:09       |
| Total/NA  | Analysis   | 537.1        |     | 1               | 159083       | Y5FM    | EA POM | 06/20/25 17:19       |

## Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-156298-4

(331-202-TP072)

Date Collected: 06/17/25 11:00

Matrix: Drinking Water

Date Received: 06/19/25 10:14

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Prep       | 533          |     |                 | 159316       | E2HD    | EA POM | 06/23/25 12:45       |
| Total/NA  | Analysis   | 533          |     | 1               | 159492       | M7ML    | EA POM | 06/24/25 16:45       |
| Total/NA  | Prep       | 537.1 DW     |     |                 | 158985       | G9MN    | EA POM | 06/20/25 04:09       |
| Total/NA  | Analysis   | 537.1        |     | 1               | 159083       | Y5FM    | EA POM | 06/20/25 17:28       |

### 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: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

Laboratory: Eurofins Eaton Analytical Pomona

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

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

## Method Summary

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

Job ID: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

| Method   | Method Description                                                    | Protocol | Laboratory |
|----------|-----------------------------------------------------------------------|----------|------------|
| 533      | Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water | EPA      | EA POM     |
| 537.1    | Perfluorinated Alkyl Acids (LC/MS)                                    | 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 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: 380-156298-1  
SDG: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells  
Pump 2

| Lab Sample ID | Client Sample ID                              | Matrix         | Collected      | Received       |
|---------------|-----------------------------------------------|----------------|----------------|----------------|
| 380-156298-1  | Halawa Shaft Viewing Pool                     | Drinking Water | 06/17/25 09:30 | 06/19/25 10:14 |
| 380-156298-2  | AIEA GULCH WELLS PUMP 2 (331-202-TP072)       | Drinking Water | 06/17/25 11:00 | 06/19/25 10:14 |
| 380-156298-3  | FB Halawa Shaft Viewing Pool                  | Drinking Water | 06/17/25 09:30 | 06/19/25 10:14 |
| 380-156298-4  | FB AIEA GULCH WELLS PUMP 2<br>(331-202-TP072) | Drinking Water | 06/17/25 11:00 | 06/19/25 10:14 |

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## Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-156298-1

SDG Number: PFAS: Halawa Shaft Viewing Pool/Aiea Gulch Wells Pump 2

**Login Number: 156298**

**List Source: Eurofins Eaton Analytical Pomona**

**List Number: 1**

**Creator: Segura, Ryan**

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