

ANALYTICAL REPORT

PREPARED FOR

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

Generated 9/9/2026 4:42:30 PM

JOB DESCRIPTION

RED-HILL
PFAS: Halawa Shaft Viewing Pool

JOB NUMBER

380-234463-1

Eurofins Pomona

Job Notes

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

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

Compliance Statement

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

Authorization



Authorized for release by
Maria Lopez, Project Manager
Maria.Lopez@et.eurofinsus.com
(626)386-1145

Generated
9/9/2026 4:42:30 PM

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
Action Limit Summary	11
Surrogate Summary	12
Isotope Dilution Summary	13
QC Sample Results	15
QC Association Summary	26
Lab Chronicle	27
Certification Summary	28
Method Summary	29
Sample Summary	30
Chain of Custody	31
Receipt Checklists	33



Definitions/Glossary

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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: 380-234463-1

Job ID: 380-234463-1

Eurofins Pomona

Job Narrative 380-234463-1

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

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

Receipt

The samples were received on 9/3/2026 9:25 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.3°C.

Receipt Exceptions

FRB bottle label ID for Trizma reads Kuou Well 1 while the ID on the COC reads Halawa Shaft. Logged ID based on COC. FB: HALAWA SHAFT VIEWING POOL (331-241-TP401) (380-234463-2)

PFAS

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

Eurofins Pomona

Detection Summary

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

**Client Sample ID: HALAWA SHAFT VIEWING POOL
(331-241-TP401)**

Lab Sample ID: 380-234463-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.3		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.9		2.0	ng/L	1		EPA 537.1 V2	Total/NA

**Client Sample ID: FB: HALAWA SHAFT VIEWING POOL
(331-241-TP401)**

Lab Sample ID: 380-234463-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Pomona

Client Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

**Client Sample ID: HALAWA SHAFT VIEWING POOL
(331-241-TP401)**

Lab Sample ID: 380-234463-1

Date Collected: 09/01/26 09:30

Matrix: Drinking Water

Date Received: 09/03/26 09:25

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluorooctanesulfonic acid (PFOS)	3.3		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:38	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	74		50 - 200	09/03/26 18:00	09/04/26 16:38	1
13C6 PFDA	63		50 - 200	09/03/26 18:00	09/04/26 16:38	1
13C5 PFHxA	79		50 - 200	09/03/26 18:00	09/04/26 16:38	1
13C4 PFHpA	75		50 - 200	09/03/26 18:00	09/04/26 16:38	1
13C8 PFOA	71		50 - 200	09/03/26 18:00	09/04/26 16:38	1
13C9 PFNA	72		50 - 200	09/03/26 18:00	09/04/26 16:38	1
13C7 PFUnA	60		50 - 200	09/03/26 18:00	09/04/26 16:38	1
13C2 PFDoA	68		50 - 200	09/03/26 18:00	09/04/26 16:38	1
13C4 PFBA	85		50 - 200	09/03/26 18:00	09/04/26 16:38	1
13C5 PFPeA	79		50 - 200	09/03/26 18:00	09/04/26 16:38	1
13C3 PFBS	103		50 - 200	09/03/26 18:00	09/04/26 16:38	1

Eurofins Pomona

Client Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

**Client Sample ID: HALAWA SHAFT VIEWING POOL
(331-241-TP401)**

Lab Sample ID: 380-234463-1

Date Collected: 09/01/26 09:30

Matrix: Drinking Water

Date Received: 09/03/26 09:25

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	106		50 - 200	09/03/26 18:00	09/04/26 16:38	1
13C8 PFOS	102		50 - 200	09/03/26 18:00	09/04/26 16:38	1
13C2-4:2-FTS	135		50 - 200	09/03/26 18:00	09/04/26 16:38	1
13C2-6:2-FTS	110		50 - 200	09/03/26 18:00	09/04/26 16:38	1
13C2-8:2-FTS	102		50 - 200	09/03/26 18:00	09/04/26 16:38	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
Perfluorooctanesulfonic acid (PFOS)	3.6		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
Perfluorohexanesulfonic acid (PFHxS)	3.9		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 12:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130	09/04/26 12:29	09/06/26 12:51	1
13C2 PFHxA	118		70 - 130	09/04/26 12:29	09/06/26 12:51	1
13C2 PFDA	105		70 - 130	09/04/26 12:29	09/06/26 12:51	1
13C3-GenX	112		70 - 130	09/04/26 12:29	09/06/26 12:51	1

**Client Sample ID: FB: HALAWA SHAFT VIEWING POOL
(331-241-TP401)**

Lab Sample ID: 380-234463-2

Date Collected: 09/01/26 09:30

Matrix: Water

Date Received: 09/03/26 09:25

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		09/03/26 18:00	09/04/26 16:47	1

Eurofins Pomona

Client Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

**Client Sample ID: FB: HALAWA SHAFT VIEWING POOL
(331-241-TP401)**

Lab Sample ID: 380-234463-2

Date Collected: 09/01/26 09:30

Matrix: Water

Date Received: 09/03/26 09:25

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/03/26 18:00	09/04/26 16:47	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	89		50 - 200	09/03/26 18:00	09/04/26 16:47	1
13C6 PFDA	103		50 - 200	09/03/26 18:00	09/04/26 16:47	1
13C5 PFHxA	102		50 - 200	09/03/26 18:00	09/04/26 16:47	1
13C4 PFHpA	102		50 - 200	09/03/26 18:00	09/04/26 16:47	1
13C8 PFOA	102		50 - 200	09/03/26 18:00	09/04/26 16:47	1
13C9 PFNA	106		50 - 200	09/03/26 18:00	09/04/26 16:47	1
13C7 PFUnA	106		50 - 200	09/03/26 18:00	09/04/26 16:47	1
13C2 PFDoA	103		50 - 200	09/03/26 18:00	09/04/26 16:47	1
13C4 PFBA	103		50 - 200	09/03/26 18:00	09/04/26 16:47	1
13C5 PFPeA	104		50 - 200	09/03/26 18:00	09/04/26 16:47	1
13C3 PFBS	103		50 - 200	09/03/26 18:00	09/04/26 16:47	1
13C3 PFHxS	105		50 - 200	09/03/26 18:00	09/04/26 16:47	1
13C8 PFOS	104		50 - 200	09/03/26 18:00	09/04/26 16:47	1
13C2-4:2-FTS	115		50 - 200	09/03/26 18:00	09/04/26 16:47	1

Eurofins Pomona

Client Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

**Client Sample ID: FB: HALAWA SHAFT VIEWING POOL
(331-241-TP401)**

Lab Sample ID: 380-234463-2

Date Collected: 09/01/26 09:30

Matrix: Water

Date Received: 09/03/26 09:25

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-6:2-FTS	106		50 - 200	09/03/26 18:00	09/04/26 16:47	1
13C2-8:2-FTS	98		50 - 200	09/03/26 18:00	09/04/26 16:47	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/04/26 12:29	09/06/26 13:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	101		70 - 130	09/04/26 12:29	09/06/26 13:01	1
13C2 PFHxA	106		70 - 130	09/04/26 12:29	09/06/26 13:01	1
13C2 PFDA	108		70 - 130	09/04/26 12:29	09/06/26 13:01	1
13C3-GenX	103		70 - 130	09/04/26 12:29	09/06/26 13:01	1

Action Limit Summary

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

**Client Sample ID: HALAWA SHAFT VIEWING POOL
(331-241-TP401)**

Lab Sample ID: 380-234463-1

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 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)	3.2		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.3		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.9		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

**Client Sample ID: FB: HALAWA SHAFT VIEWING POOL
(331-241-TP401)**

Lab Sample ID: 380-234463-2

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 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	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

Surrogate Summary

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)							
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)				
380-234463-1	HALAWA SHAFT VIEWING POC	103	118	105	112				
Surrogate Legend									
d5NEFOS = d5-NEtFOSAA									
PFHxA = 13C2 PFHxA									
PFDA = 13C2 PFDA									
GenX = 13C3-GenX									

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)							
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)				
380-234463-2	FB: HALAWA SHAFT VIEWING	101	106	108	103				
380-234574-F-1-A MS	Matrix Spike	102	113	111	109				
380-234574-G-1-A MSD	Matrix Spike Duplicate	102	111	111	110				
LCS 380-250955/24-A	Lab Control Sample	97	92	109	84				
MBL 380-250955/22-A	Method Blank	104	107	113	106				
MRL 380-250955/23-A	Lab Control Sample	94	93	108	83				
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: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-234463-1	HALAWA SHAFT VIEWING POOL	74	63	79	75	71	72	60	68

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-234463-1	HALAWA SHAFT VIEWING POOL	85	79	103	106	102	135	110	102

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 (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-234240-B-1-A MS	Matrix Spike	112	108	100	103	104	100	106	103
380-234240-C-1-A MSD	Matrix Spike Duplicate	114	116	106	107	110	108	113	116
380-234463-2	FB: HALAWA SHAFT VIEWING POOL (331-241-TP401)	89	103	102	102	102	106	106	103
LCS 380-250752/22-A	Lab Control Sample	97	98	97	103	104	99	102	105
MBL 380-250752/20-A	Method Blank	100	105	103	104	105	102	106	100
MRL 380-250752/21-A	Lab Control Sample	96	104	99	100	101	103	98	98

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-234240-B-1-A MS	Matrix Spike	109	118	105	101	103	123	111	97
380-234240-C-1-A MSD	Matrix Spike Duplicate	109	120	104	105	105	122	115	100
380-234463-2	FB: HALAWA SHAFT VIEWING POOL (331-241-TP401)	103	104	103	105	104	115	106	98
LCS 380-250752/22-A	Lab Control Sample	102	93	103	100	104	104	104	92
MBL 380-250752/20-A	Method Blank	102	103	108	106	106	114	105	98
MRL 380-250752/21-A	Lab Control Sample	100	100	105	105	106	106	111	98

Surrogate Legend

HFPODA = 13C3 HFPO-DA
C6PFDA = 13C6 PFDA

Eurofins Pomona

Isotope Dilution Summary

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

QC Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-250752/20-A

Matrix: Water

Analysis Batch: 250941

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 250752

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluorobutanoic acid (PFBA)	<0.68		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.36		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.47		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.46		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.24		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.45		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluoropentanoic acid (PFPeA)	<0.37		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.35		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1
Perfluoropentanesulfonic acid (PFPeS)	<0.38		2.0	ng/L		09/03/26 18:00	09/04/26 12:58	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	100		50 - 200	09/03/26 18:00	09/04/26 12:58	1
13C6 PFDA	105		50 - 200	09/03/26 18:00	09/04/26 12:58	1
13C5 PFHxA	103		50 - 200	09/03/26 18:00	09/04/26 12:58	1
13C4 PFHpA	104		50 - 200	09/03/26 18:00	09/04/26 12:58	1
13C8 PFOA	105		50 - 200	09/03/26 18:00	09/04/26 12:58	1
13C9 PFNA	102		50 - 200	09/03/26 18:00	09/04/26 12:58	1
13C7 PFUnA	106		50 - 200	09/03/26 18:00	09/04/26 12:58	1
13C2 PFDoA	100		50 - 200	09/03/26 18:00	09/04/26 12:58	1
13C4 PFBA	102		50 - 200	09/03/26 18:00	09/04/26 12:58	1
13C5 PFPeA	103		50 - 200	09/03/26 18:00	09/04/26 12:58	1
13C3 PFBS	108		50 - 200	09/03/26 18:00	09/04/26 12:58	1
13C3 PFHxS	106		50 - 200	09/03/26 18:00	09/04/26 12:58	1

Eurofins Pomona

QC Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-250752/20-A

Matrix: Water

Analysis Batch: 250941

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 250752

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	106		50 - 200	09/03/26 18:00	09/04/26 12:58	1
13C2-4:2-FTS	114		50 - 200	09/03/26 18:00	09/04/26 12:58	1
13C2-6:2-FTS	105		50 - 200	09/03/26 18:00	09/04/26 12:58	1
13C2-8:2-FTS	98		50 - 200	09/03/26 18:00	09/04/26 12:58	1

Lab Sample ID: LCS 380-250752/22-A

Matrix: Water

Analysis Batch: 250941

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250752

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	59.1	61.0		ng/L		103	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	59.1	60.0		ng/L		102	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	59.1	60.1		ng/L		102	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	59.1	53.7		ng/L		91	70 - 130
Perfluorobutanesulfonic acid (PFBS)	59.1	59.2		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	59.1	66.4		ng/L		112	70 - 130
Perfluorododecanoic acid (PFDaA)	59.1	63.1		ng/L		107	70 - 130
Perfluoroheptanoic acid (PFHpA)	59.1	61.9		ng/L		105	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	59.1	62.8		ng/L		106	70 - 130
Perfluorohexanoic acid (PFHxA)	59.1	63.2		ng/L		107	70 - 130
Perfluorononanoic acid (PFNA)	59.1	63.7		ng/L		108	70 - 130
Perfluorooctanesulfonic acid (PFOS)	59.1	61.5		ng/L		104	70 - 130
Perfluorooctanoic acid (PFOA)	59.1	60.7		ng/L		103	70 - 130
Perfluoroundecanoic acid (PFUnA)	59.1	65.9		ng/L		112	70 - 130
Perfluorobutanoic acid (PFBA)	59.1	60.4		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	59.1	60.0		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	59.1	58.5		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	59.1	60.2		ng/L		102	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	59.1	47.2		ng/L		80	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	59.1	68.7		ng/L		116	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	59.1	64.3		ng/L		109	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	59.1	60.9		ng/L		103	70 - 130
Perfluoropentanoic acid (PFPeA)	59.1	62.4		ng/L		106	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	59.1	62.8		ng/L		106	70 - 130

Eurofins Pomona

QC Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: LCS 380-250752/22-A

Matrix: Water

Analysis Batch: 250941

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250752

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	59.1	62.2		ng/L		105	70 - 130
Isotope Dilution							
	LCS	LCS					
	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	97		50 - 200				
13C6 PFDA	98		50 - 200				
13C5 PFHxA	97		50 - 200				
13C4 PFHpA	103		50 - 200				
13C8 PFOA	104		50 - 200				
13C9 PFNA	99		50 - 200				
13C7 PFUnA	102		50 - 200				
13C2 PFDoA	105		50 - 200				
13C4 PFBA	102		50 - 200				
13C5 PFPeA	93		50 - 200				
13C3 PFBS	103		50 - 200				
13C3 PFHxS	100		50 - 200				
13C8 PFOS	104		50 - 200				
13C2-4:2-FTS	104		50 - 200				
13C2-6:2-FTS	104		50 - 200				
13C2-8:2-FTS	92		50 - 200				

Lab Sample ID: MRL 380-250752/21-A

Matrix: Water

Analysis Batch: 250941

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250752

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.97	2.47	J	ng/L		125	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	1.97	2.16	J	ng/L		110	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.97	1.96	J	ng/L		99	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.97	1.76	J	ng/L		89	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.97	1.92	J	ng/L		97	50 - 150
Perfluorodecanoic acid (PFDA)	1.97	2.35	J	ng/L		119	50 - 150
Perfluorododecanoic acid (PFDoA)	1.97	2.39	J	ng/L		121	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.97	2.06	J	ng/L		104	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.97	2.00	J	ng/L		101	50 - 150
Perfluorohexanoic acid (PFHxA)	1.97	2.06	J	ng/L		104	50 - 150
Perfluorononanoic acid (PFNA)	1.97	2.10	J	ng/L		106	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.97	2.14	J	ng/L		108	50 - 150
Perfluorooctanoic acid (PFOA)	1.97	1.90	J	ng/L		96	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.97	2.25	J	ng/L		114	50 - 150
Perfluorobutanoic acid (PFBA)	1.97	2.22	J	ng/L		112	50 - 150

Eurofins Pomona

QC Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-250752/21-A

Matrix: Water

Analysis Batch: 250941

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250752

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.97	2.05	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.97	2.14	J	ng/L		108	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.97	1.95	J	ng/L		99	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.97	2.13	J	ng/L		108	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	1.97	1.86	J	ng/L		95	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	1.97	2.12	J	ng/L		108	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	1.97	1.84	J	ng/L		93	50 - 150
Perfluoropentanoic acid (PFPeA)	1.97	2.06	J	ng/L		104	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.97	2.13	J	ng/L		108	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.97	2.02	J	ng/L		103	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	96		50 - 200
13C6 PFDA	104		50 - 200
13C5 PFHxA	99		50 - 200
13C4 PFHpA	100		50 - 200
13C8 PFOA	101		50 - 200
13C9 PFNA	103		50 - 200
13C7 PFUnA	98		50 - 200
13C2 PFDoA	98		50 - 200
13C4 PFBA	100		50 - 200
13C5 PFPeA	100		50 - 200
13C3 PFBS	105		50 - 200
13C3 PFHxS	105		50 - 200
13C8 PFOS	106		50 - 200
13C2-4:2-FTS	106		50 - 200
13C2-6:2-FTS	111		50 - 200
13C2-8:2-FTS	98		50 - 200

Lab Sample ID: 380-234240-B-1-A MS

Matrix: Water

Analysis Batch: 250941

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 250752

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		118	118		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		118	119		ng/L		101	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		118	118		ng/L		100	70 - 130

Eurofins Pomona

QC Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-234240-B-1-A MS

Matrix: Water

Analysis Batch: 250941

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 250752

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		118	110		ng/L		93	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	5.8		118	118		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		118	116		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		118	118		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		118	115		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	6.4		118	127		ng/L		102	70 - 130
Perfluorohexanoic acid (PFHxA)	2.1		118	125		ng/L		103	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		118	123		ng/L		103	70 - 130
Perfluorooctanesulfonic acid (PFOS)	9.2		118	127		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	4.9		118	120		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		118	121		ng/L		102	70 - 130
Perfluorobutanoic acid (PFBA)	6.8		118	122		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		118	116		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		118	111		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		118	117		ng/L		99	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		118	110		ng/L		93	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		118	139		ng/L		117	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		118	121		ng/L		103	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		118	129		ng/L		109	70 - 130
Perfluoropentanoic acid (PFPeA)	2.2		118	123		ng/L		102	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		118	122		ng/L		103	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		118	125		ng/L		105	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	112		50 - 200
13C6 PFDA	108		50 - 200
13C5 PFHxA	100		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	104		50 - 200
13C9 PFNA	100		50 - 200
13C7 PFUnA	106		50 - 200
13C2 PFDoA	103		50 - 200
13C4 PFBA	109		50 - 200
13C5 PFPeA	118		50 - 200
13C3 PFBS	105		50 - 200
13C3 PFHxS	101		50 - 200
13C8 PFOS	103		50 - 200

Eurofins Pomona

QC Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-234240-B-1-A MS

Matrix: Water

Analysis Batch: 250941

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 250752

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	123		50 - 200
13C2-6:2-FTS	111		50 - 200
13C2-8:2-FTS	97		50 - 200

Lab Sample ID: 380-234240-C-1-A MSD

Matrix: Water

Analysis Batch: 250941

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 250752

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	<2.0		118	118		ng/L		99	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9CI-PF3ONS)	<2.0		118	117		ng/L		99	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		118	127		ng/L		107	70 - 130	7	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		118	113		ng/L		96	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	5.8		118	122		ng/L		98	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		118	115		ng/L		97	70 - 130	1	30
Perfluorododecanoic acid (PFDaA)	<2.0		118	116		ng/L		98	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		118	127		ng/L		106	70 - 130	9	30
Perfluorohexanesulfonic acid (PFHxS)	6.4		118	124		ng/L		99	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	2.1		118	126		ng/L		105	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		118	120		ng/L		101	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	9.2		118	129		ng/L		101	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	4.9		118	127		ng/L		103	70 - 130	6	30
Perfluoroundecanoic acid (PFUnA)	<2.0		118	118		ng/L		100	70 - 130	2	30
Perfluorobutanoic acid (PFBA)	6.8		118	123		ng/L		98	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		118	115		ng/L		97	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		118	114		ng/L		96	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		118	112		ng/L		95	70 - 130	4	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		118	108		ng/L		91	70 - 130	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		118	142		ng/L		120	70 - 130	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		118	118		ng/L		100	70 - 130	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		118	128		ng/L		108	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	2.2		118	119		ng/L		98	70 - 130	4	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		118	119		ng/L		101	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		118	121		ng/L		102	70 - 130	3	30

Eurofins Pomona

QC Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	114		50 - 200
13C6 PFDA	116		50 - 200
13C5 PFHxA	106		50 - 200
13C4 PFHpA	107		50 - 200
13C8 PFOA	110		50 - 200
13C9 PFNA	108		50 - 200
13C7 PFUnA	113		50 - 200
13C2 PFDoA	116		50 - 200
13C4 PFBA	109		50 - 200
13C5 PFPeA	120		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	105		50 - 200
13C8 PFOS	105		50 - 200
13C2-4:2-FTS	122		50 - 200
13C2-6:2-FTS	115		50 - 200
13C2-8:2-FTS	100		50 - 200

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

Lab Sample ID: MBL 380-250955/22-A
Matrix: Water
Analysis Batch: 251086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 250955

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.57		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.41		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
Perfluorodecanoic acid (PFDA)	<0.30		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
Perfluorotetradecanoic acid (PFTA)	<0.53		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
Perfluorotridecanoic acid (PFTrDA)	<0.35		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.29		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		09/04/26 12:29	09/06/26 10:47	1
Surrogate	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	104		70 - 130			09/04/26 12:29	09/06/26 10:47	1
13C2 PFHxA	107		70 - 130			09/04/26 12:29	09/06/26 10:47	1
13C2 PFDA	113		70 - 130			09/04/26 12:29	09/06/26 10:47	1

Eurofins Pomona

QC Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-250955/22-A

Matrix: Water

Analysis Batch: 251086

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 250955

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	106		70 - 130	09/04/26 12:29	09/06/26 10:47	1

Lab Sample ID: LCS 380-250955/24-A

Matrix: Water

Analysis Batch: 251086

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250955

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	24.5	19.7		ng/L		81	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	24.5	25.1		ng/L		102	70 - 130
Perfluoroundecanoic acid (PFUnA)	24.5	26.7		ng/L		109	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	24.5	23.6		ng/L		96	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	24.5	22.8		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	24.5	22.6		ng/L		92	70 - 130
Perfluorododecanoic acid (PFDoA)	24.5	27.0		ng/L		110	70 - 130
Perfluorooctanoic acid (PFOA)	24.5	23.5		ng/L		96	70 - 130
Perfluorodecanoic acid (PFDA)	24.5	25.5		ng/L		104	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	24.5	25.2		ng/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	24.5	23.4		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	24.5	23.2		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	24.5	25.3		ng/L		103	70 - 130
Perfluorotetradecanoic acid (PFTA)	24.5	23.7		ng/L		97	70 - 130
Perfluorotridecanoic acid (PFTrDA)	24.5	28.4		ng/L		116	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	24.5	24.6		ng/L		101	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	24.5	24.4		ng/L		99	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	24.5	21.3		ng/L		87	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	97		70 - 130
13C2 PFHxA	92		70 - 130
13C2 PFDA	109		70 - 130
13C3-GenX	84		70 - 130

QC Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-250955/23-A

Matrix: Water

Analysis Batch: 251086

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250955

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.96	1.61	J	ng/L		82	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.96	2.06	J	ng/L		105	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.96	2.26	J	ng/L		115	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.96	1.76	J	ng/L		89	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.96	1.90	J	ng/L		97	50 - 150
Perfluorohexanoic acid (PFHxA)	1.96	1.89	J	ng/L		96	50 - 150
Perfluorododecanoic acid (PFDaA)	1.96	2.37	J	ng/L		120	50 - 150
Perfluorooctanoic acid (PFOA)	1.96	2.05	J	ng/L		104	50 - 150
Perfluorodecanoic acid (PFDA)	1.96	2.13	J	ng/L		108	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.96	2.28	J	ng/L		116	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.96	1.98	J	ng/L		101	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.96	1.94	J	ng/L		99	50 - 150
Perfluorononanoic acid (PFNA)	1.96	2.15	J	ng/L		109	50 - 150
Perfluorotetradecanoic acid (PFTA)	1.96	1.99	J	ng/L		101	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.96	2.34	J	ng/L		119	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.96	2.00	J	ng/L		102	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.96	1.91	J	ng/L		97	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.96	1.73	J	ng/L		88	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	94		70 - 130
13C2 PFHxA	93		70 - 130
13C2 PFDA	108		70 - 130
13C3-GenX	83		70 - 130

Lab Sample ID: 380-234574-F-1-A MS

Matrix: Water

Analysis Batch: 251086

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 250955

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		24.6	25.4		ng/L		103	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		24.6	24.6		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		24.6	27.1		ng/L		110	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.6	25.8		ng/L		105	70 - 130

Eurofins Pomona

QC Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-234574-F-1-A MS

Matrix: Water

Analysis Batch: 251086

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 250955

Report Date: 2020-09-01									
Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier			Limits	Limits
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	<2.0		24.6	24.9		ng/L		101	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		24.6	27.1		ng/L		110	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		24.6	27.1		ng/L		110	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		24.6	26.0		ng/L		106	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		24.6	25.8		ng/L		105	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		24.6	24.6		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.6	23.6		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		24.6	26.0		ng/L		106	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		24.6	27.3		ng/L		111	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		24.6	20.9		ng/L		85	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		24.6	29.0		ng/L		118	70 - 130
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.6	24.4		ng/L		99	70 - 130
11-Chloroeicosafluoro-3-oxaund ecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.6	23.6		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.6	26.1		ng/L		106	70 - 130

Lab Sample ID: 380-234574-G-1-A MSD

Matrix: Water

Analysis Batch: 251086

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 250955

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		24.6	25.9		ng/L		105	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		24.6	26.0		ng/L		106	70 - 130	6	30
Perfluoroundecanoic acid (PFUnA)	<2.0		24.6	27.2		ng/L		110	70 - 130	0	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.6	25.7		ng/L		104	70 - 130	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		24.6	25.7		ng/L		104	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		24.6	27.4		ng/L		111	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		24.6	27.0		ng/L		110	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		24.6	25.9		ng/L		105	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	<2.0		24.6	25.9		ng/L		105	70 - 130	1	30

Eurofins Pomona

QC Sample Results

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-234574-G-1-A MSD

Matrix: Water

Analysis Batch: 251086

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 250955

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		24.6	26.9		ng/L		109	70 - 130	9	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.6	26.7		ng/L		108	70 - 130	12	30
Perfluoroheptanoic acid (PFHpA)	<2.0		24.6	26.9		ng/L		109	70 - 130	4	30
Perfluorononanoic acid (PFNA)	<2.0		24.6	27.9		ng/L		113	70 - 130	2	30
Perfluorotetradecanoic acid (PFTA)	<2.0		24.6	19.5		ng/L		79	70 - 130	7	30
Perfluorotridecanoic acid (PFTTrDA)	<2.0		24.6	28.4		ng/L		115	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.6	26.3		ng/L		107	70 - 130	7	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.6	25.2		ng/L		102	70 - 130	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.6	26.1		ng/L		106	70 - 130	0	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
d5-NEtFOSAA	102		70 - 130								
13C2 PFHxA	111		70 - 130								
13C2 PFDA	111		70 - 130								
13C3-GenX	110		70 - 130								

QC Association Summary

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

LCMS

Prep Batch: 250752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-234463-1	HALAWA SHAFT VIEWING POOL (331-241-TP4	Total/NA	Drinking Water	533	
380-234463-2	FB: HALAWA SHAFT VIEWING POOL (331-241-	Total/NA	Water	533	
MBL 380-250752/20-A	Method Blank	Total/NA	Water	533	
LCS 380-250752/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-250752/21-A	Lab Control Sample	Total/NA	Water	533	
380-234240-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-234240-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 250941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-234463-1	HALAWA SHAFT VIEWING POOL (331-241-TP4	Total/NA	Drinking Water	533	250752
380-234463-2	FB: HALAWA SHAFT VIEWING POOL (331-241-	Total/NA	Water	533	250752
MBL 380-250752/20-A	Method Blank	Total/NA	Water	533	250752
LCS 380-250752/22-A	Lab Control Sample	Total/NA	Water	533	250752
MRL 380-250752/21-A	Lab Control Sample	Total/NA	Water	533	250752
380-234240-B-1-A MS	Matrix Spike	Total/NA	Water	533	250752
380-234240-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	250752

Prep Batch: 250955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-234463-1	HALAWA SHAFT VIEWING POOL (331-241-TP4	Total/NA	Drinking Water	537.1 DW	
380-234463-2	FB: HALAWA SHAFT VIEWING POOL (331-241-	Total/NA	Water	537.1 DW	
MBL 380-250955/22-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-250955/24-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-250955/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-234574-F-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-234574-G-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 251086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-234463-1	HALAWA SHAFT VIEWING POOL (331-241-TP4	Total/NA	Drinking Water	EPA 537.1 V2	250955
380-234463-2	FB: HALAWA SHAFT VIEWING POOL (331-241-	Total/NA	Water	EPA 537.1 V2	250955
MBL 380-250955/22-A	Method Blank	Total/NA	Water	EPA 537.1 V2	250955
LCS 380-250955/24-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	250955
MRL 380-250955/23-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	250955
380-234574-F-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	250955
380-234574-G-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	250955

Lab Chronicle

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

**Client Sample ID: HALAWA SHAFT VIEWING POOL
(331-241-TP401)**

Lab Sample ID: 380-234463-1

Date Collected: 09/01/26 09:30

Matrix: Drinking Water

Date Received: 09/03/26 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			250752	N8NE	EA POM	09/03/26 18:00
Total/NA	Analysis	533		1	250941	Y5FM	EA POM	09/04/26 16:38
Total/NA	Prep	537.1 DW			250955	E9PK	EA POM	09/04/26 12:29
Total/NA	Analysis	EPA 537.1 V2		1	251086	UKDT	EA POM	09/06/26 12:51

**Client Sample ID: FB: HALAWA SHAFT VIEWING POOL
(331-241-TP401)**

Lab Sample ID: 380-234463-2

Date Collected: 09/01/26 09:30

Matrix: Water

Date Received: 09/03/26 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			250752	N8NE	EA POM	09/03/26 18:00
Total/NA	Analysis	533		1	250941	Y5FM	EA POM	09/04/26 16:47
Total/NA	Prep	537.1 DW			250955	E9PK	EA POM	09/04/26 12:29
Total/NA	Analysis	EPA 537.1 V2		1	251086	UKDT	EA POM	09/06/26 13:01

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

Laboratory: Eurofins Pomona

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

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

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

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

Method Summary

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
EPA 537.1 V2	EPA 537.1 Ver. 2.0 March 2020	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA POM
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA POM

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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

Sample Summary

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

Job ID: 380-234463-1
SDG: PFAS: Halawa Shaft Viewing Pool

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-234463-1	HALAWA SHAFT VIEWING POOL (331-241-TP401)	Drinking Water	09/01/26 09:30	09/03/26 09:25	Hawaii
380-234463-2	FB: HALAWA SHAFT VIEWING POOL (331-241-TP401)	Water	09/01/26 09:30	09/03/26 09:25	Hawaii

Client Information Phone (626) 386-1100 City & County of Honolulu Address: 630 South Beretania Street; Chemistry Lab City: Honolulu State Zip: HI 96843 Phone: 808-748-5840 (tel) Email: kiwamoto@hbws.org Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill Site:		Lab PM: Lopez, Maria E-Mail: Maria.Lopez@et.eurofinsus.com State of Origin:		Carrier Tracking No(s) COC No:	
Due Date Requested TAT Requested (days): RUSH Compliance Project: ☐ No PO #: C20525101 exp 05312023 WO #:		Analysis Requested		Preservation Codes A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - D1 Water K - EDTA L - EDA Other:	
Sample Identification Sample Date: 1-Sep-2026 Sample Time: 9:30 Sample Type (C=Comp, G=grab): G Matrix (W=water, S=solid, O=waste/oil, BT=tissue, asin):		Field Filtered Sample (Yes or No) ☒ Perform MS/MSD (Yes or No) ☒ 537 1_DW_PREC - 537 1 Full List ☒ 533 - All Analytes ☒		Total Number of containers: 380-234463 COC	
HALAWA SHAFT VIEWING POOL		1-Sep-2026 9:30 G Water		Special Instructions/Note:	
FB HALAWA SHAFT VIEWING POOL		1-Sep-2026 9:30 G Water		Special Instructions/Note:	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Date: 9/2/26 12:00		Method of Shipment: FedEx 876667982225	
Relinquished by:		Date/Time: 9/2/26 12:00		Date/Time: 9/3/26 925	
Relinquished by:		Date/Time:		Date/Time:	
Relinquished by:		Date/Time:		Date/Time:	
Custody Seals Intact: ☒ Yes ☐ No		Cooler Temperature(s) °C and Other Remarks: (31A) 3 140 2-33 961-110767		Company:	

SHIP DATE 02SEP26
ACTWGT 28.00 LB
CAD 25865552/INET4535

BILL RECIPIENT

ORIGIN ID HIK
BWS CHEM LAB
HONOLULU BOARD OF WATER SUPPLY
630 S. BERETANIA ST
CHEMICAL LABORATORY
HONOLULU HI 96843
UNITED STATES US

TO EUROFINS RECEIVING DEPARTMENT
EUROFINS DRINKING WATER TESTING
941 CORPORATE CENTER DR

POMONA CA 91768

REF

(626) 366-1100

DEPT.



THU - 03 SEP 10:30A
PRIORITY OVERNIGHT

2 of 2

MPS# 8766 6798 2236

0263

Mstr# 8766 6798 2225

91768

WM ONTA

CA-US ONT



(631A) 21+02:23 961- 100200
Mark Morvut 9/13/26 925

After printing this label
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1 Fold the printed page along the horizontal line
2 Place label in shipping pouch and affix it to your shipment

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-234463-1

SDG Number: PFAS: Halawa Shaft Viewing Pool

Login Number: 234463

List Number: 1

Creator: Segura, Ryan

List Source: Eurofins Pomona

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