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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 6/6/2024 11:14:37 AM

JOB DESCRIPTION

RED-HILL
525.2, 533, 537.1
RUSH Weekly Red Hill

JOB NUMBER

380-97851-1

Eurofins Eaton Analytical Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

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

Rachelle Arada

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6/6/2024 11:14:37 AM

Authorized for release by
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Table of Contents

Definitions/Glossary

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

Job ID: 380-97851-1
SDG: 525.2, 533, 537.1

Qualifiers

GC/MS Semi VOA

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.

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

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

Job Narrative
380-97851-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample 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 5/31/2024 10:09 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 2.5°C and 3.0°C.

Receipt Exceptions
The following samples were submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-97851-7), FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-97851-8) and FB: HALAWA WELLS UNITS 1&2 (331-206-TP065) (380-97851-9)

Bottle received half filled.

EPA 537.1 and EPA 533 are two distinct methods for the analysis of PFAS in drinking water. The analyses are conducted on differing instrumentation, with calibrations, extraction solvents and sample preservatives being dissimilar among the two methods. Therefore it is probable and not unexpected to see the methods having slight variations in analytical results. HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-97851-3)

GC/MS Semi VOA
Method 525.2_PREC: Bottle received half filled.

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

PFAS
Method 533: EPA 537.1 and EPA 533 are two distinct methods for the analysis of PFAS in drinking water. The analyses are conducted on differing instrumentation, with calibrations, extraction solvents and sample preservatives being dissimilar among the two methods. Therefore it is probable and not unexpected to see the methods having slight variations in analytical results. HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-97851-3)

Method 537.1_DW_PREC: EPA 537.1 and EPA 533 are two distinct methods for the analysis of PFAS in drinking water. The analyses are conducted on differing instrumentation, with calibrations, extraction solvents and sample preservatives being dissimilar among the two methods. Therefore it is probable and not unexpected to see the methods having slight variations in analytical results. HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-97851-3)

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: 380-97851-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Lab Sample ID: 380-97851-1

PWSID Number: HI0000331

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Lab Sample ID: 380-97851-2

PWSID Number: HI0000331

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Lab Sample ID: 380-97851-3

PWSID Number: HI0000331

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.2		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.6		2.0		ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	2.0		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		2.0		ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	2.0		2.0		ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.2		2.0		ng/L	1		537.1	Total/NA

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Lab Sample ID: 380-97851-7

No Detections.

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Lab Sample ID: 380-97851-8

No Detections.

Client Sample ID: FB: HALAWA WELLS UNITS 1&2 (331-206-TP065)
Lab Sample ID: 380-97851-9

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-97851-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Date Collected: 05/29/24 10:40
Date Received: 05/31/24 10:09

Lab Sample ID: 380-97851-1
Matrix: Drinking Water
PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
2,4'-DDD	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
2,4'-DDE	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
2,4'-DDT	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
2,4 Dinitrotoluene	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
2,6-Dinitrotoluene	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
2-Methylnaphthalene	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
4,4'-DDD	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
4,4'-DDE	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
4,4'-DDT	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Acenaphthene	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Acenaphthylene	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Acetochlor	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Alachlor	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
alpha-BHC	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
alpha-Chlordane	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Anthracene	<0.020		0.020		ug/L		06/01/24 16:35	06/03/24 19:18	1
Atrazine	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Benz(a)anthracene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Benzo[a]pyrene	<0.020		0.020		ug/L		06/01/24 16:35	06/03/24 19:18	1
Benzo[b]fluoranthene	<0.020		0.020		ug/L		06/01/24 16:35	06/03/24 19:18	1
Benzo[g,h,i]perylene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Benzo[k]fluoranthene	<0.020		0.020		ug/L		06/01/24 16:35	06/03/24 19:18	1
beta-BHC	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Bis(2-ethylhexyl) phthalate	<0.60		0.60		ug/L		06/01/24 16:35	06/03/24 19:18	1
Bromacil	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Butachlor	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Butylbenzylphthalate	<0.50		0.50		ug/L		06/01/24 16:35	06/03/24 19:18	1
Chlorobenzilate	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Chloroneb	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Chlorpyrifos	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Chrysene	<0.020		0.020		ug/L		06/01/24 16:35	06/03/24 19:18	1
delta-BHC	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Di(2-ethylhexyl)adipate	<0.60		0.60		ug/L		06/01/24 16:35	06/03/24 19:18	1
Dibenz(a,h)anthracene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Diclorvos (DDVP)	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Dieldrin	<0.20		0.20		ug/L		06/01/24 16:35	06/03/24 19:18	1
Diethylphthalate	<0.50		0.50		ug/L		06/01/24 16:35	06/03/24 19:18	1
Dimethylphthalate	<0.50		0.50		ug/L		06/01/24 16:35	06/03/24 19:18	1
Di-n-butyl phthalate	<0.99		0.99		ug/L		06/01/24 16:35	06/03/24 19:18	1
Di-n-octyl phthalate	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Endosulfan I (Alpha)	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Endosulfan II (Beta)	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Endosulfan sulfate	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Endrin	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Endrin aldehyde	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
EPTC	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Date Collected: 05/29/24 10:40
Date Received: 05/31/24 10:09

Lab Sample ID: 380-97851-1
Matrix: Drinking Water
PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Fluorene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
gamma-Chlordane	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Heptachlor	<0.040		0.040		ug/L		06/01/24 16:35	06/03/24 19:18	1
Heptachlor epoxide (isomer B)	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Hexachlorobenzene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Hexachlorocyclopentadiene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Isophorone	<0.50		0.50		ug/L		06/01/24 16:35	06/03/24 19:18	1
Lindane	<0.040		0.040		ug/L		06/01/24 16:35	06/03/24 19:18	1
Malathion	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Methoxychlor	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Metolachlor	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Molinate	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Naphthalene	<0.30		0.30		ug/L		06/01/24 16:35	06/03/24 19:18	1
Parathion	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Pendimethalin (Penoxaline)	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Phenanthrene	<0.040		0.040		ug/L		06/01/24 16:35	06/03/24 19:18	1
Propachlor	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Pyrene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Simazine	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Terbacil	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Terbuthylazine	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1
Thiobencarb	<0.20		0.20		ug/L		06/01/24 16:35	06/03/24 19:18	1
Total Permethrin (mixed isomers)	<0.20		0.20		ug/L		06/01/24 16:35	06/03/24 19:18	1
trans-Nonachlor	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:18	1
Trifluralin	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*0.78*	*T J*	*ug/L*		*2.61*	*N/A*	*06/01/24 16:35*	*06/03/24 19:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*102*		*70 - 130*	*06/01/24 16:35*	*06/03/24 19:18*	*1*
Perylene-d12	*92*		*70 - 130*	*06/01/24 16:35*	*06/03/24 19:18*	*1*
Triphenylphosphate	*97*		*70 - 130*	*06/01/24 16:35*	*06/03/24 19:18*	*1*

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		06/02/24 13:14	06/03/24 16:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Date Collected: 05/29/24 10:40
Date Received: 05/31/24 10:09

Lab Sample ID: 380-97851-1
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 16:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*77*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C6 PFDA	*83*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C5 PFHxA	*83*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C4 PFHpA	*85*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C8 PFOA	*79*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C9 PFNA	*76*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C7 PFUnA	*84*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C2 PFDoA	*84*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C4 PFBA	*83*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C5 PFPeA	*90*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C3 PFBS	*100*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C3 PFHxS	*110*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C8 PFOS	*98*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C2-4:2-FTS	*125*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C2-6:2-FTS	*124*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*1*
13C2-8:2-FTS	*105*		*50 - 200*	*06/02/24 13:14*	*06/03/24 16:58*	*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		06/01/24 08:01	06/02/24 20:38	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1

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

Lab Sample ID: 380-97851-1

Date Collected: 05/29/24 10:40
Date Received: 05/31/24 10:09

Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
9-Chlorohexadecafluoro-3-oxanonane 1 sulfonic acid(9Cl PF3ONS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*90*		*70 - 130*	*06/01/24 08:01*	*06/02/24 20:38*	*1*
13C2 PFHxA	*99*		*70 - 130*	*06/01/24 08:01*	*06/02/24 20:38*	*1*
13C2 PFDA	*95*		*70 - 130*	*06/01/24 08:01*	*06/02/24 20:38*	*1*
13C3-GenX	*96*		*70 - 130*	*06/01/24 08:01*	*06/02/24 20:38*	*1*

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

Lab Sample ID: 380-97851-2

Date Collected: 05/29/24 11:00
Date Received: 05/31/24 10:09

Matrix: Drinking Water
PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
2,4'-DDD	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
2,4'-DDE	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
2,4'-DDT	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
2,4-Dinitrotoluene	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
2,6-Dinitrotoluene	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
2-Methylnaphthalene	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
4,4'-DDD	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
4,4'-DDE	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
4,4'-DDT	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Acenaphthene	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Acenaphthylene	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Acetochlor	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Alachlor	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
alpha-BHC	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
alpha-Chlordane	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Date Collected: 05/29/24 11:00
Date Received: 05/31/24 10:09

Lab Sample ID: 380-97851-2
Matrix: Drinking Water
PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	<0.019		0.019		ug/L		06/01/24 16:35	06/03/24 19:38	1
Atrazine	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Benz(a)anthracene	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Benzo[a]pyrene	<0.019		0.019		ug/L		06/01/24 16:35	06/03/24 19:38	1
Benzo[b]fluoranthene	0 019		0 019		ug/L		06/01/24 16 35	06/03/24 19 38	1
Benzo[g,h,i]perylene	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Benzo[k]fluoranthene	<0.019		0.019		ug/L		06/01/24 16:35	06/03/24 19:38	1
beta-BHC	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58		ug/L		06/01/24 16:35	06/03/24 19:38	1
Bromacil	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Butachlor	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Butylbenzylphthalate	<0.49		0.49		ug/L		06/01/24 16:35	06/03/24 19:38	1
Chlorobenzilate	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Chloroneb	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Chlorpyrifos	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Chrysene	<0.019		0.019		ug/L		06/01/24 16:35	06/03/24 19:38	1
delta-BHC	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Di(2-ethylhexyl)adipate	<0.58		0.58		ug/L		06/01/24 16:35	06/03/24 19:38	1
Dibenz(a,h)anthracene	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Diclorvos (DDVP)	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Dieldrin	<0.19		0.19		ug/L		06/01/24 16:35	06/03/24 19:38	1
Diethylphthalate	<0.49		0.49		ug/L		06/01/24 16:35	06/03/24 19:38	1
Dimethylphthalate	<0.49		0.49		ug/L		06/01/24 16:35	06/03/24 19:38	1
Di-n-butyl phthalate	<0.97		0.97		ug/L		06/01/24 16:35	06/03/24 19:38	1
Di-n-octyl phthalate	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Endosulfan I (Alpha)	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Endosulfan II (Beta)	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Endosulfan sulfate	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Endrin	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Endrin aldehyde	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
EPTC	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Fluoranthene	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Fluorene	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
gamma-Chlordane	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Heptachlor	<0.039		0.039		ug/L		06/01/24 16:35	06/03/24 19:38	1
Heptachlor epoxide (isomer B)	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Hexachlorobenzene	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Hexachlorocyclopentadiene	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Isophorone	<0.49		0.49		ug/L		06/01/24 16:35	06/03/24 19:38	1
Lindane	<0.039		0.039		ug/L		06/01/24 16:35	06/03/24 19:38	1
Malathion	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Methoxychlor	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Metolachlor	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Molinate	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Naphthalene	<0.29		0.29		ug/L		06/01/24 16:35	06/03/24 19:38	1
Parathion	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1

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

Job ID: 380-97851-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Date Collected: 05/29/24 11:00
Date Received: 05/31/24 10:09

Lab Sample ID: 380-97851-2
Matrix: Drinking Water
PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Pendimethalin (Penoxaline)	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Phenanthrene	<0.039		0.039		ug/L		06/01/24 16:35	06/03/24 19:38	1
Propachlor	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Pyrene	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Simazine	0 049		0 049		ug/L		06/01/24 16 35	06/03/24 19 38	1
Terbacil	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Terbuthylazine	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1
Thiobencarb	<0.19		0.19		ug/L		06/01/24 16:35	06/03/24 19:38	1
Total Permethrin (mixed isomers)	<0.19		0.19		ug/L		06/01/24 16:35	06/03/24 19:38	1
trans-Nonachlor	<0.049		0.049		ug/L		06/01/24 16:35	06/03/24 19:38	1
Trifluralin	<0.097		0.097		ug/L		06/01/24 16:35	06/03/24 19:38	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*06/01/24 16:35*	*06/03/24 19:38*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*119*		*70 - 130*	*06/01/24 16:35*	*06/03/24 19:38*	*1*
Perylene-d12	*99*		*70 - 130*	*06/01/24 16:35*	*06/03/24 19:38*	*1*
Triphenylphosphate	*96*		*70 - 130*	*06/01/24 16:35*	*06/03/24 19:38*	*1*

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		06/02/24 13:14	06/03/24 17:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Date Collected: 05/29/24 11:00
Date Received: 05/31/24 10:09

Lab Sample ID: 380-97851-2
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*85*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C6 PFDA	*87*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C5 PFHxA	*84*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C4 PFHpA	*91*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C8 PFOA	*88*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C9 PFNA	*83*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C7 PFUnA	*85*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C2 PFDoA	*84*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C4 PFBA	*92*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C5 PFPeA	*98*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C3 PFBS	*96*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C3 PFHxS	*107*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C8 PFOS	*99*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C2-4:2-FTS	*130*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C2-6:2-FTS	*126*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*1*
13C2-8:2-FTS	*110*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:08*	*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		06/01/24 08:01	06/02/24 20:47	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1

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

Lab Sample ID: 380-97851-2

Date Collected: 05/29/24 11:00
Date Received: 05/31/24 10:09

Matrix: Drinking Water
PWSID Number: HI0000331

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

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		06/01/24 08:01	06/02/24 20:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 20:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*96*		*70 - 130*	*06/01/24 08:01*	*06/02/24 20:47*	*1*
13C2 PFHxA	*104*		*70 - 130*	*06/01/24 08:01*	*06/02/24 20:47*	*1*
13C2 PFDA	*97*		*70 - 130*	*06/01/24 08:01*	*06/02/24 20:47*	*1*
13C3-GenX	*96*		*70 - 130*	*06/01/24 08:01*	*06/02/24 20:47*	*1*

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)

Lab Sample ID: 380-97851-3

Date Collected: 05/29/24 11:15
Date Received: 05/31/24 10:09

Matrix: Drinking Water
PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
2,4'-DDD	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
2,4'-DDE	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
2,4'-DDT	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
2,4-Dinitrotoluene	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
2,6-Dinitrotoluene	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
2-Methylnaphthalene	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
4,4'-DDD	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
4,4'-DDE	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
4,4'-DDT	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Acenaphthene	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Acenaphthylene	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Acetochlor	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Alachlor	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
alpha-BHC	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
alpha-Chlordane	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Anthracene	<0.020		0.020		ug/L		06/01/24 16:35	06/03/24 19:58	1
Atrazine	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Benz(a)anthracene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Benzo[a]pyrene	<0.020		0.020		ug/L		06/01/24 16:35	06/03/24 19:58	1
Benzo[b]fluoranthene	<0.020		0.020		ug/L		06/01/24 16:35	06/03/24 19:58	1
Benzo[g,h,i]perylene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Benzo[k]fluoranthene	<0.020		0.020		ug/L		06/01/24 16:35	06/03/24 19:58	1
beta-BHC	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Bis(2-ethylhexyl) phthalate	<0.60		0.60		ug/L		06/01/24 16:35	06/03/24 19:58	1
Bromacil	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Butachlor	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Butylbenzylphthalate	<0.50		0.50		ug/L		06/01/24 16:35	06/03/24 19:58	1
Chlorobenzilate	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Chloroneb	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1

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

Job ID: 380-97851-1
SDG: 525.2, 533, 537.1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Date Collected: 05/29/24 11:15
Date Received: 05/31/24 10:09

Lab Sample ID: 380-97851-3
Matrix: Drinking Water
PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorpyrifos	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Chrysene	<0.020		0.020		ug/L		06/01/24 16:35	06/03/24 19:58	1
delta-BHC	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Di(2-ethylhexyl)adipate	<0.60		0.60		ug/L		06/01/24 16:35	06/03/24 19:58	1
Dibenz(a,h)anthracene	0 050		0 050		ug/L		06/01/24 16 35	06/03/24 19 58	1
Diclorvos (DDVP)	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Dieldrin	<0.20		0.20		ug/L		06/01/24 16:35	06/03/24 19:58	1
Diethylphthalate	<0.50		0.50		ug/L		06/01/24 16:35	06/03/24 19:58	1
Dimethylphthalate	<0.50		0.50		ug/L		06/01/24 16:35	06/03/24 19:58	1
Di-n-butyl phthalate	<0.99		0.99		ug/L		06/01/24 16:35	06/03/24 19:58	1
Di-n-octyl phthalate	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Endosulfan I (Alpha)	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Endosulfan II (Beta)	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Endosulfan sulfate	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Endrin	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Endrin aldehyde	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
EPTC	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Fluoranthene	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Fluorene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
gamma-Chlordane	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Heptachlor	<0.040		0.040		ug/L		06/01/24 16:35	06/03/24 19:58	1
Heptachlor epoxide (isomer B)	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Hexachlorobenzene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Hexachlorocyclopentadiene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Isophorone	<0.50		0.50		ug/L		06/01/24 16:35	06/03/24 19:58	1
Lindane	<0.040		0.040		ug/L		06/01/24 16:35	06/03/24 19:58	1
Malathion	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Methoxychlor	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Metolachlor	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Molinate	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Naphthalene	<0.30		0.30		ug/L		06/01/24 16:35	06/03/24 19:58	1
Parathion	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Pendimethalin (Penoxaline)	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Phenanthrene	<0.040		0.040		ug/L		06/01/24 16:35	06/03/24 19:58	1
Propachlor	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Pyrene	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Simazine	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Terbacil	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Terbuthylazine	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1
Thiobencarb	<0.20		0.20		ug/L		06/01/24 16:35	06/03/24 19:58	1
Total Permethrin (mixed isomers)	<0.20		0.20		ug/L		06/01/24 16:35	06/03/24 19:58	1
trans-Nonachlor	<0.050		0.050		ug/L		06/01/24 16:35	06/03/24 19:58	1
Trifluralin	<0.099		0.099		ug/L		06/01/24 16:35	06/03/24 19:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexazinone	*0.11*		*ug/L*		*7.84*	*51235-04-2*	*06/01/24 16:35*	*06/03/24 19:58*	*1*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*06/01/24 16:35*	*06/03/24 19:58*	*1*

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)

Lab Sample ID: 380-97851-3

Date Collected: 05/29/24 11:15
Date Received: 05/31/24 10:09

Matrix: Drinking Water
PWSID Number: HI0000331

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	103		70 - 130	06/01/24 16:35	06/03/24 19:58	1
Perylene-d12	97		70 - 130	06/01/24 16:35	06/03/24 19:58	1
Triphenylphosphate	88		70 - 130	06/01/24 16:35	06/03/24 19:58	1

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		06/02/24 13:14	06/03/24 17:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluorohexanesulfonic acid (PFHxS)	**2.2**		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluorooctanesulfonic acid (PFOS)	**2.6**		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluorooctanoic acid (PFOA)	**2.0**		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:17	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	81		50 - 200	06/02/24 13:14	06/03/24 17:17	1
13C6 PFDA	86		50 - 200	06/02/24 13:14	06/03/24 17:17	1
13C5 PFHxA	84		50 - 200	06/02/24 13:14	06/03/24 17:17	1
13C4 PFHpA	93		50 - 200	06/02/24 13:14	06/03/24 17:17	1
13C8 PFOA	90		50 - 200	06/02/24 13:14	06/03/24 17:17	1

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

Job ID: 380-97851-1
SDG: 525.2, 533, 537.1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Date Collected: 05/29/24 11:15
Date Received: 05/31/24 10:09

Lab Sample ID: 380-97851-3
Matrix: Drinking Water
PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C9 PFNA	87		50 - 200	06/02/24 13:14	06/03/24 17:17	1
13C7 PFUnA	83		50 - 200	06/02/24 13:14	06/03/24 17:17	1
13C2 PFDoA	78		50 - 200	06/02/24 13:14	06/03/24 17:17	1
13C4 PFBA	90		50 - 200	06/02/24 13:14	06/03/24 17:17	1
13C5 PFPeA	102		50 - 200	06/02/24 13:14	06/03/24 17:17	1
13C3 PFBS	93		50 - 200	06/02/24 13:14	06/03/24 17:17	1
13C3 PFHxS	104		50 - 200	06/02/24 13:14	06/03/24 17:17	1
13C8 PFOS	96		50 - 200	06/02/24 13:14	06/03/24 17:17	1
13C2-4:2-FTS	131		50 - 200	06/02/24 13:14	06/03/24 17:17	1
13C2-6:2-FTS	141		50 - 200	06/02/24 13:14	06/03/24 17:17	1
13C2-8:2-FTS	108		50 - 200	06/02/24 13:14	06/03/24 17:17	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		06/01/24 08:01	06/02/24 20:57	1
Perfluorooctanesulfonic acid (PFOS)	**2.3**		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
Perfluorohexanoic acid (PFHxA)	**2.0**		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
Perfluorohexanesulfonic acid (PFHxS)	**2.2**		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 20:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	93		70 - 130	06/01/24 08:01	06/02/24 20:57	1
13C2 PFHxA	97		70 - 130	06/01/24 08:01	06/02/24 20:57	1
13C2 PFDA	98		70 - 130	06/01/24 08:01	06/02/24 20:57	1
13C3-GenX	93		70 - 130	06/01/24 08:01	06/02/24 20:57	1

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

Lab Sample ID: 380-97851-7

Date Collected: 05/29/24 10:40
Date Received: 05/31/24 10:09

Matrix: 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		06/02/24 13:14	06/03/24 17:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*96*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*
13C6 PFDA	*96*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*
13C5 PFHxA	*100*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*
13C4 PFHpA	*106*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*
13C8 PFOA	*101*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*
13C9 PFNA	*96*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*
13C7 PFUnA	*95*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*
13C2 PFDoA	*93*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*
13C4 PFBA	*100*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*
13C5 PFPeA	*105*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*
13C3 PFBS	*101*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*
13C3 PFHxS	*109*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*

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

Lab Sample ID: 380-97851-7

Date Collected: 05/29/24 10:40
Date Received: 05/31/24 10:09

Matrix: Water

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*103*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*
13C2-4:2-FTS	*129*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*
13C2-6:2-FTS	*135*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*1*
13C2-8:2-FTS	*113*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:27*	*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		06/01/24 08:01	06/02/24 21:07	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/01/24 08:01	06/02/24 21:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*96*		*70 - 130*	*06/01/24 08:01*	*06/02/24 21:07*	*1*
13C2 PFHxA	*96*		*70 - 130*	*06/01/24 08:01*	*06/02/24 21:07*	*1*
13C2 PFDA	*100*		*70 - 130*	*06/01/24 08:01*	*06/02/24 21:07*	*1*
13C3-GenX	*94*		*70 - 130*	*06/01/24 08:01*	*06/02/24 21:07*	*1*

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

Lab Sample ID: 380-97851-8

Date Collected: 05/29/24 11:00
Date Received: 05/31/24 10:09

Matrix: 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		06/02/24 13:14	06/03/24 17:46	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/02/24 13:14	06/03/24 17:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/02/24 13:14	06/03/24 17:46	1

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

Job ID: 380-97851-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Date Collected: 05/29/24 11:00
Date Received: 05/31/24 10:09

Lab Sample ID: 380-97851-8
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*91*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C6 PFDA	*98*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C5 PFHxA	*99*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C4 PFHpA	*105*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C8 PFOA	*101*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C9 PFNA	*97*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C7 PFUnA	*95*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C2 PFDoA	*95*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C4 PFBA	*102*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C5 PFPeA	*108*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C3 PFBS	*95*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C3 PFHxS	*105*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C8 PFOS	*99*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C2-4:2-FTS	*125*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C2-6:2-FTS	*126*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*
13C2-8:2-FTS	*107*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:46*	*1*

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

Lab Sample ID: 380-97851-8

Date Collected: 05/29/24 11:00
Date Received: 05/31/24 10:09

Matrix: Water

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		06/01/24 08:01	06/02/24 21:16	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*90*		*70 - 130*	*06/01/24 08:01*	*06/02/24 21:16*	*1*
13C2 PFHxA	*89*		*70 - 130*	*06/01/24 08:01*	*06/02/24 21:16*	*1*
13C2 PFDA	*98*		*70 - 130*	*06/01/24 08:01*	*06/02/24 21:16*	*1*
13C3-GenX	*88*		*70 - 130*	*06/01/24 08:01*	*06/02/24 21:16*	*1*

Client Sample ID: FB: HALAWA WELLS UNITS 1&2 (331-206-TP065)

Lab Sample ID: 380-97851-9

Date Collected: 05/29/24 11:15
Date Received: 05/31/24 10:09

Matrix: 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		06/02/24 13:14	06/03/24 17:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1

Client Sample ID: FB: HALAWA WELLS UNITS 1&2 (331-206-TP065)
Lab Sample ID: 380-97851-9
Date Collected: 05/29/24 11:15
Matrix: Water
Date Received: 05/31/24 10:09

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		06/02/24 13:14	06/03/24 17:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*91*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C6 PFDA	*97*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C5 PFHxA	*100*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C4 PFHpA	*105*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C8 PFOA	*100*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C9 PFNA	*95*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C7 PFUnA	*93*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C2 PFDoA	*91*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C4 PFBA	*97*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C5 PFPeA	*105*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C3 PFBS	*97*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C3 PFHxS	*108*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C8 PFOS	*98*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C2-4:2-FTS	*126*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C2-6:2-FTS	*124*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*1*
13C2-8:2-FTS	*109*		*50 - 200*	*06/02/24 13:14*	*06/03/24 17:56*	*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		06/01/24 08:01	06/02/24 21:26	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1

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

Job ID: 380-97851-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB: HALAWA WELLS UNITS 1&2 (331-206-TP065)
Date Collected: 05/29/24 11:15
Date Received: 05/31/24 10:09

Lab Sample ID: 380-97851-9
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/01/24 08:01	06/02/24 21:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*101*		*70 - 130*	*06/01/24 08:01*	*06/02/24 21:26*	*1*
13C2 PFHxA	*100*		*70 - 130*	*06/01/24 08:01*	*06/02/24 21:26*	*1*
13C2 PFDA	*104*		*70 - 130*	*06/01/24 08:01*	*06/02/24 21:26*	*1*
13C3-GenX	*102*		*70 - 130*	*06/01/24 08:01*	*06/02/24 21:26*	*1*

Action Limit Summary

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

Job ID: 380-97851-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-97851-1

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Alachlor	<0.050		ug/L	2	0.050	525.2	Total/NA
Atrazine	<0.050		ug/L	3	0.050	525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L	0.2	0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.60		ug/L	6	0.60	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.60		ug/L	400	0.60	525.2	Total/NA
Endrin	<0.099		ug/L	2	0.099	525.2	Total/NA
Heptachlor	<0.040		ug/L	0.4	0.040	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.050		ug/L	0.2	0.050	525.2	Total/NA
Hexachlorobenzene	<0.050		ug/L	1	0.050	525.2	Total/NA
Hexachlorocyclopentadiene	<0.050		ug/L	50	0.050	525.2	Total/NA
Lindane	<0.040		ug/L	0.2	0.040	525.2	Total/NA
Methoxychlor	<0.099		ug/L	40	0.099	525.2	Total/NA
Simazine	<0.050		ug/L	4	0.050	525.2	Total/NA
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: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)

Lab Sample ID: 380-97851-2

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Alachlor	<0.049		ug/L	2	0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	<0.019		ug/L	0.2	0.019	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.58		ug/L	6	0.58	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.58		ug/L	400	0.58	525.2	Total/NA
Endrin	<0.097		ug/L	2	0.097	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50	0.049	525.2	Total/NA

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

Lab Sample ID: 380-97851-2

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Lindane	<0.039		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	<0.097		ug/L	40	0.097	525.2	Total/NA
Simazine	<0.049		ug/L	4	0.049	525.2	Total/NA
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: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)

Lab Sample ID: 380-97851-3

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Alachlor	<0.050		ug/L	2	0.050	525.2	Total/NA
Atrazine	<0.050		ug/L	3	0.050	525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L	0.2	0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.60		ug/L	6	0.60	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.60		ug/L	400	0.60	525.2	Total/NA
Endrin	<0.099		ug/L	2	0.099	525.2	Total/NA
Heptachlor	<0.040		ug/L	0.4	0.040	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.050		ug/L	0.2	0.050	525.2	Total/NA
Hexachlorobenzene	<0.050		ug/L	1	0.050	525.2	Total/NA
Hexachlorocyclopentadiene	<0.050		ug/L	50	0.050	525.2	Total/NA
Lindane	<0.040		ug/L	0.2	0.040	525.2	Total/NA
Methoxychlor	<0.099		ug/L	40	0.099	525.2	Total/NA
Simazine	<0.050		ug/L	4	0.050	525.2	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.2		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.6		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

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (Continued)

Lab Sample ID: 380-97851-3

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	2.3		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)	2.2		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: 380-97851-7

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	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 WELLS PUMPS 1&2 (260) (331-203-TP400)

Lab Sample ID: 380-97851-8

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	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

Action Limit Summary

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

Job ID: 380-97851-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-97851-8

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
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: FB: HALAWA WELLS UNITS 1&2 (331-206-TP065)

Lab Sample ID: 380-97851-9

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	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: 380-97851-1
SDG: 525.2, 533, 537.1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS)

Matrix: Drinking Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		2NMX	PRY	TPP
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
380-97851-1	AIEA GULCH WELLS PUMP 2 (	102	92	97
380-97851-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	119	99	96
380-97851-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	103	97	88

Surrogate Legend

2NMX = 2-Nitro-m-xylene
PRY = Perylene-d12
TPP = Triphenylphosphate

Method: 525.2 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		2NMX	PRY	TPP
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
810-106147-B-1-A DU	Duplicate	107	86	95
810-106147-B-6-A MS	Matrix Spike	105	98	106
LCS 380-93149/23-A	Lab Control Sample	99	93	101
MB 380-93149/21-A	Method Blank	105	93	96
MRL 380-93149/22-A	Lab Control Sample	103	90	92

Surrogate Legend

2NMX = 2-Nitro-m-xylene
PRY = Perylene-d12
TPP = Triphenylphosphate

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

Matrix: Drinking Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS	PFHxA	PFDA	GenX
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
380-97851-1	AIEA GULCH WELLS PUMP 2 (	90	99	95	96
380-97851-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	96	104	97	96
380-97851-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	93	97	98	93

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)			
		d5NEFOS	PFHxA	PFDA	GenX
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
380-97559-B-1-A MS	Matrix Spike	91	92	89	89

Surrogate Summary

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

Job ID: 380-97851-1
SDG: 525.2, 533, 537.1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-97559-C-1-A MSD	Matrix Spike Duplicate	88	92	93	90
380-97851-7	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	96	96	100	94
380-97851-8	FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	90	89	98	88
380-97851-9	FB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	101	100	104	102
LCS 380-93126/24-A	Lab Control Sample	94	85	90	89
MBL 380-93126/22-A	Method Blank	83	89	84	86
MRL 380-93126/23-A	Lab Control Sample	82	86	92	84

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: 380-97851-1
SDG: 525.2, 533, 537.1

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

Matrix: Drinking Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-97851-1	AIEA GULCH WELLS PUMP 2 (	77	83	83	85	79	76	84	84
380-97851-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	85	87	84	91	88	83	85	84
380-97851-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	81	86	84	93	90	87	83	78

		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)
380-97851-1	AIEA GULCH WELLS PUMP 2 (	83	90	100	110	98	125	124	105
380-97851-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	92	98	96	107	99	130	126	110
380-97851-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	90	102	93	104	96	131	141	108

Surrogate Legend

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

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

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-97851-7	FB: AIEA GULCH WELLS PUMI	96	96	100	106	101	96	95	93
380-97851-8	FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	91	98	99	105	101	97	95	95
380-97851-9	FB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	91	97	100	105	100	95	93	91
380-97952-B-1-A MS	Matrix Spike	98	89	92	99	93	87	85	81
380-97952-C-1-A MSD	Matrix Spike Duplicate	105	94	99	103	96	89	87	81
LCS 380-93161/24-A	Lab Control Sample	97	97	101	106	101	95	95	93
MBL 380-93161/22-A	Method Blank	103	97	102	111	105	96	94	94
MRL 380-93161/23-A	Lab Control Sample	96	92	101	105	98	89	87	87

Isotope Dilution Summary

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

Job ID: 380-97851-1
SDG: 525.2, 533, 537.1

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 (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-97851-7	FB: AIEA GULCH WELLS PUMI	100	105	101	109	103	129	135	113
380-97851-8	FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	102	108	95	105	99	125	126	107
380-97851-9	FB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	97	105	97	108	98	126	124	109
380-97952-B-1-A MS	Matrix Spike	100	146	105	112	100	141	128	105
380-97952-C-1-A MSD	Matrix Spike Duplicate	100	144	106	112	101	142	121	104
LCS 380-93161/24-A	Lab Control Sample	100	107	100	113	100	117	113	103
MBL 380-93161/22-A	Method Blank	103	105	99	111	103	117	124	104
MRL 380-93161/23-A	Lab Control Sample	96	104	101	112	97	120	118	99

Surrogate Legend

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

Method: 525.2 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 380-93149/21-A
Matrix: Water
Analysis Batch: 93298

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93149

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
2,4'-DDD	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
2,4'-DDE	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
2,4'-DDT	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
2,4-Dinitrotoluene	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
2,6-Dinitrotoluene	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
2-Methylnaphthalene	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
4,4'-DDD	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
4,4'-DDE	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
4,4'-DDT	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Acenaphthene	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Acenaphthylene	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Acetochlor	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Alachlor	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
alpha-BHC	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
alpha-Chlordane	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Anthracene	<0.019		0.019		ug/L		06/01/24 14:55	06/03/24 14:57	1
Atrazine	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Benz(a)anthracene	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Benzo[a]pyrene	<0.019		0.019		ug/L		06/01/24 14:55	06/03/24 14:57	1
Benzo[b]fluoranthene	<0.019		0.019		ug/L		06/01/24 14:55	06/03/24 14:57	1
Benzo[g,h,i]perylene	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Benzo[k]fluoranthene	<0.019		0.019		ug/L		06/01/24 14:55	06/03/24 14:57	1
beta-BHC	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58		ug/L		06/01/24 14:55	06/03/24 14:57	1
Bromacil	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Butachlor	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Butylbenzylphthalate	<0.49		0.49		ug/L		06/01/24 14:55	06/03/24 14:57	1
Chlorobenzilate	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Chloroneb	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Chlorpyrifos	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Chrysene	<0.019		0.019		ug/L		06/01/24 14:55	06/03/24 14:57	1
delta-BHC	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Di(2-ethylhexyl)adipate	<0.58		0.58		ug/L		06/01/24 14:55	06/03/24 14:57	1
Dibenz(a,h)anthracene	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Diclorvos (DDVP)	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Dieldrin	<0.19		0.19		ug/L		06/01/24 14:55	06/03/24 14:57	1
Diethylphthalate	<0.49		0.49		ug/L		06/01/24 14:55	06/03/24 14:57	1
Dimethylphthalate	<0.49		0.49		ug/L		06/01/24 14:55	06/03/24 14:57	1
Di-n-butyl phthalate	<0.97		0.97		ug/L		06/01/24 14:55	06/03/24 14:57	1
Di-n-octyl phthalate	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Endosulfan I (Alpha)	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Endosulfan II (Beta)	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Endosulfan sulfate	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Endrin	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Endrin aldehyde	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
EPTC	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 380-93149/21-A
Matrix: Water
Analysis Batch: 93298

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93149

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Fluorene	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
gamma-Chlordane	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Heptachlor	<0.039		0.039		ug/L		06/01/24 14:55	06/03/24 14:57	1
Heptachlor epoxide (isomer B)	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Hexachlorobenzene	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Hexachlorocyclopentadiene	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Isophorone	<0.49		0.49		ug/L		06/01/24 14:55	06/03/24 14:57	1
Lindane	<0.039		0.039		ug/L		06/01/24 14:55	06/03/24 14:57	1
Malathion	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Methoxychlor	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Metolachlor	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Molinate	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Naphthalene	<0.29		0.29		ug/L		06/01/24 14:55	06/03/24 14:57	1
Parathion	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Pendimethalin (Penoxaline)	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Phenanthrene	<0.039		0.039		ug/L		06/01/24 14:55	06/03/24 14:57	1
Propachlor	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Pyrene	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Simazine	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Terbacil	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Terbuthylazine	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1
Thiobencarb	<0.19		0.19		ug/L		06/01/24 14:55	06/03/24 14:57	1
Total Permethrin (mixed isomers)	<0.19		0.19		ug/L		06/01/24 14:55	06/03/24 14:57	1
trans-Nonachlor	<0.049		0.049		ug/L		06/01/24 14:55	06/03/24 14:57	1
Trifluralin	<0.097		0.097		ug/L		06/01/24 14:55	06/03/24 14:57	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclopentasiloxane, decamethyl-	*0.810*	*T J N*	*ug/L*		*2.66*	*541-02-6*	*06/01/24 14:55*	*06/03/24 14:57*	*1*
Cyclohexasiloxane, dodecamethyl-	*0.704*	*T J N*	*ug/L*		*3.21*	*540-97-6*	*06/01/24 14:55*	*06/03/24 14:57*	*1*
Unknown	*0.656*	*T J*	*ug/L*		*9.75*	*N/A*	*06/01/24 14:55*	*06/03/24 14:57*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*105*		*70 - 130*	*06/01/24 14:55*	*06/03/24 14:57*	*1*
Perylene-d12	*93*		*70 - 130*	*06/01/24 14:55*	*06/03/24 14:57*	*1*
Triphenylphosphate	*96*		*70 - 130*	*06/01/24 14:55*	*06/03/24 14:57*	*1*

Lab Sample ID: LCS 380-93149/23-A
Matrix: Water
Analysis Batch: 93298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93149

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	1.95	2.18		ug/L		112	70 - 130
2,4'-DDD	1.95	2.25		ug/L		116	70 - 130
2,4'-DDE	1.95	2.21		ug/L		114	70 - 130
2,4'-DDT	1.95	2.13		ug/L		109	70 - 130
2,4-Dinitrotoluene	1.95	1.77		ug/L		91	70 - 130

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 380-93149/23-A
Matrix: Water
Analysis Batch: 93298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93149

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,6-Dinitrotoluene	1.95	1.98		ug/L		102	70 - 130
2-Methylnaphthalene	1.95	2.17		ug/L		112	70 - 130
4,4'-DDD	1.95	2.12		ug/L		109	70 - 130
4,4'-DDE	1.95	2.16		ug/L		111	70 - 130
4,4'-DDT	1.95	2.19		ug/L		113	70 - 130
Acenaphthene	1.95	2.12		ug/L		109	70 - 130
Acenaphthylene	1.95	2.14		ug/L		110	70 - 130
Acetochlor	1.95	2.05		ug/L		105	70 - 130
Alachlor	1.95	2.15		ug/L		110	70 - 130
alpha-BHC	1.95	2.04		ug/L		105	70 - 130
alpha-Chlordane	1.95	1.95		ug/L		100	70 - 130
Anthracene	1.95	1.37		ug/L		70	70 - 130
Atrazine	1.95	2.16		ug/L		111	70 - 130
Benz(a)anthracene	1.95	2.01		ug/L		103	70 - 130
Benzo[a]pyrene	1.95	1.67		ug/L		86	70 - 130
Benzo[b]fluoranthene	1.95	2.25		ug/L		115	70 - 130
Benzo[g,h,i]perylene	1.95	2.28		ug/L		117	70 - 130
Benzo[k]fluoranthene	1.95	2.42		ug/L		124	70 - 130
beta-BHC	1.95	2.18		ug/L		112	70 - 130
Bis(2-ethylhexyl) phthalate	1.95	2.38		ug/L		122	70 - 130
Bromacil	1.95	2.06		ug/L		106	70 - 130
Butachlor	1.95	2.27		ug/L		117	70 - 130
Butylbenzylphthalate	1.95	2.31		ug/L		119	70 - 130
Chlorobenzilate	1.95	2.09		ug/L		107	70 - 130
Chloroneb	1.95	2.06		ug/L		106	70 - 130
Chlorothalonil (Draconil, Bravo)	1.95	2.35		ug/L		120	70 - 130
Chlorpyrifos	1.95	2.10		ug/L		108	70 - 130
Chrysene	1.95	2.22		ug/L		114	70 - 130
delta-BHC	1.95	2.30		ug/L		118	70 - 130
Di(2-ethylhexyl)adipate	1.95	2.22		ug/L		114	70 - 130
Dibenz(a,h)anthracene	1.95	2.29		ug/L		117	70 - 130
Diclorvos (DDVP)	1.95	2.36		ug/L		121	70 - 130
Dieldrin	1.95	2.19		ug/L		112	70 - 130
Diethylphthalate	1.95	1.96		ug/L		101	70 - 130
Dimethylphthalate	1.95	2.17		ug/L		112	70 - 130
Di-n-butyl phthalate	3.90	4.55		ug/L		117	70 - 130
Di-n-octyl phthalate	1.95	2.13		ug/L		110	70 - 130
Endosulfan I (Alpha)	1.95	2.26		ug/L		116	70 - 130
Endosulfan II (Beta)	1.95	2.34		ug/L		120	70 - 130
Endosulfan sulfate	1.95	2.10		ug/L		108	70 - 130
Endrin	1.95	2.11		ug/L		108	70 - 130
Endrin aldehyde	1.95	1.76		ug/L		91	60 - 130
EPTC	1.95	2.34		ug/L		120	70 - 130
Fluoranthene	1.95	2.31		ug/L		118	70 - 130
Fluorene	1.95	2.18		ug/L		112	70 - 130
gamma-Chlordane	1.95	1.97		ug/L		101	70 - 130
Heptachlor	1.95	2.16		ug/L		111	70 - 130
Heptachlor epoxide (isomer B)	1.95	2.00		ug/L		103	70 - 130
Hexachlorobenzene	1.95	1.74		ug/L		89	70 - 130

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 380-93149/23-A
Matrix: Water
Analysis Batch: 93298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93149

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorocyclopentadiene	1.95	2.25		ug/L		115	70 - 130
Indeno[1,2,3-cd]pyrene	1.95	2.35		ug/L		121	70 - 130
Isophorone	1.95	2.23		ug/L		114	70 - 130
Lindane	1.95	2.21		ug/L		114	70 - 130
Malathion	1.95	2.06		ug/L		106	70 - 130
Methoxychlor	1.95	2.22		ug/L		114	70 - 130
Metolachlor	1.95	2.23		ug/L		115	70 - 130
Molinate	1.95	2.19		ug/L		112	70 - 130
Naphthalene	1.95	2.06		ug/L		106	70 - 130
Parathion	1.95	2.18		ug/L		112	70 - 130
Pendimethalin (Penoxaline)	1.95	2.16		ug/L		111	70 - 130
Phenanthrene	1.95	2.19		ug/L		112	70 - 130
Propachlor	1.95	2.04		ug/L		105	70 - 130
Pyrene	1.95	2.26		ug/L		116	70 - 130
Simazine	1.95	2.05		ug/L		105	70 - 130
Terbacil	1.95	1.98		ug/L		101	70 - 130
Terbuthylazine	1.95	2.09		ug/L		107	70 - 130
Thiobencarb	1.95	2.33		ug/L		119	70 - 130
trans-Nonachlor	1.95	2.07		ug/L		106	70 - 130
Trifluralin	1.95	1.93		ug/L		99	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Nitro-m-xylene	*99*		*70 - 130*
Perylene-d12	*93*		*70 - 130*
Triphenylphosphate	*101*		*70 - 130*

Lab Sample ID: MRL 380-93149/22-A
Matrix: Water
Analysis Batch: 93298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93149

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.0970	0.115		ug/L		119	50 - 150
2,4'-DDD	0.0970	0.118		ug/L		122	50 - 150
2,4'-DDE	0.0970	0.111		ug/L		114	50 - 150
2,4'-DDT	0.0970	0.111		ug/L		115	50 - 150
2,4-Dinitrotoluene	0.0970	0.0805	J	ug/L		83	50 - 150
2,6-Dinitrotoluene	0.0970	0.108		ug/L		112	50 - 150
2-Methylnaphthalene	0.0970	0.108		ug/L		111	50 - 150
4,4'-DDD	0.0970	0.113		ug/L		117	50 - 150
4,4'-DDE	0.0970	0.0964	J	ug/L		99	50 - 150
4,4'-DDT	0.0970	0.110		ug/L		113	50 - 150
Acenaphthene	0.0970	0.0972		ug/L		100	50 - 150
Acenaphthylene	0.0970	0.0915	J	ug/L		94	50 - 150
Acetochlor	0.0485	0.0566	J	ug/L		117	50 - 150
Alachlor	0.0485	0.0501		ug/L		103	50 - 150
alpha-BHC	0.0970	0.0986		ug/L		102	50 - 150
alpha-Chlordane	0.0242	<0.028		ug/L		113	50 - 150
Anthracene	0.0194	<0.018		ug/L		59	50 - 150

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MRL 380-93149/22-A
Matrix: Water
Analysis Batch: 93298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93149

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Atrazine	0.0485	<0.047		ug/L		87	50 - 150
Benz(a)anthracene	0.0485	0.0501		ug/L		103	50 - 150
Benzo[a]pyrene	0.0194	0.0151	J	ug/L		78	50 - 150
Benzo[b]fluoranthene	0.0194	0.0209		ug/L		108	50 - 150
Benzo[g,h,i]perylene	0.0485	0.0472	J	ug/L		97	50 - 150
Benzo[k]fluoranthene	0.0194	0.0214		ug/L		110	50 - 150
beta-BHC	0.0970	0.0945	J	ug/L		97	50 - 150
Bis(2-ethylhexyl) phthalate	0.582	0.703		ug/L		121	50 - 150
Bromacil	0.0970	0.112		ug/L		115	50 - 150
Butachlor	0.0485	0.0607		ug/L		125	50 - 150
Butylbenzylphthalate	0.145	0.151	J	ug/L		103	50 - 150
Chlorobenzilate	0.0970	0.0954	J	ug/L		98	50 - 150
Chloroneb	0.0970	0.0986		ug/L		102	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0970	0.0926	J	ug/L		95	50 - 150
Chlorpyrifos	0.0485	0.0539		ug/L		111	50 - 150
Chrysene	0.0194	0.0211		ug/L		109	50 - 150
delta-BHC	0.0970	0.113		ug/L		116	50 - 150
Di(2-ethylhexyl)adipate	0.291	0.295	J	ug/L		101	50 - 150
Dibenz(a,h)anthracene	0.0485	0.0418	J	ug/L		86	50 - 150
Diclorvos (DDVP)	0.0485	0.0656		ug/L		135	50 - 150
Dieldrin	0.0970	0.124	J	ug/L		128	50 - 150
Diethylphthalate	0.145	0.159	J	ug/L		110	50 - 150
Dimethylphthalate	0.291	0.308	J	ug/L		106	50 - 150
Di-n-butyl phthalate	0.291	0.363	J	ug/L		125	49 - 243
Di-n-octyl phthalate	0.0970	0.102		ug/L		106	50 - 150
Endosulfan I (Alpha)	0.0970	0.112		ug/L		116	50 - 150
Endosulfan II (Beta)	0.0970	0.139		ug/L		143	50 - 150
Endosulfan sulfate	0.0970	0.120		ug/L		123	50 - 150
Endrin	0.0970	0.0913	J	ug/L		94	50 - 150
Endrin aldehyde	0.0970	0.112		ug/L		116	50 - 150
EPTC	0.0970	0.102		ug/L		105	50 - 150
Fluoranthene	0.0485	0.0547	J	ug/L		113	50 - 150
Fluorene	0.0485	<0.048		ug/L		98	50 - 150
gamma-Chlordane	0.0242	0.0270	J	ug/L		111	50 - 150
Heptachlor	0.0388	0.0440		ug/L		113	50 - 150
Heptachlor epoxide (isomer B)	0.0485	0.0587		ug/L		121	50 - 150
Hexachlorobenzene	0.0485	0.0422	J	ug/L		87	50 - 150
Hexachlorocyclopentadiene	0.0485	0.0457	J	ug/L		94	50 - 150
Indeno[1,2,3-cd]pyrene	0.0485	0.0463	J	ug/L		95	50 - 150
Isophorone	0.0970	0.123	J	ug/L		127	50 - 150
Lindane	0.0388	0.0367	J	ug/L		95	50 - 150
Malathion	0.0970	0.109		ug/L		112	50 - 150
Methoxychlor	0.0970	0.107		ug/L		110	50 - 150
Metolachlor	0.0485	0.0603		ug/L		124	50 - 150
Molinate	0.0970	0.104		ug/L		107	50 - 150
Naphthalene	0.0970	0.113	J	ug/L		117	50 - 150
Parathion	0.0970	0.111		ug/L		115	50 - 150
Pendimethalin (Penoxaline)	0.0970	0.0890	J	ug/L		92	50 - 150
Phenanthrene	0.0194	0.0205	J	ug/L		106	50 - 150

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MRL 380-93149/22-A
Matrix: Water
Analysis Batch: 93298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93149

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Propachlor	0.0485	0.0457	J	ug/L		94	50 - 150
Pyrene	0.0485	0.0535		ug/L		110	50 - 150
Simazine	0.0485	0.0430	J	ug/L		89	50 - 150
Terbacil	0.0970	0.121		ug/L		124	50 - 150
Terbuthylazine	0.0970	0.101		ug/L		104	50 - 150
Thiobencarb	0.0970	0.112	J	ug/L		115	50 - 150
trans-Nonachlor	0.0242	0.0326	J	ug/L		135	50 - 150
Trifluralin	0.0970	0.0923	J	ug/L		95	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
2-Nitro-m-xylene	*103*		*70 - 130*
Perylene-d12	*90*		*70 - 130*
Triphenylphosphate	*92*		*70 - 130*

Lab Sample ID: 810-106147-B-6-A MS
Matrix: Water
Analysis Batch: 93298

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 93149

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.097		1.96	2.28		ug/L		117	70 - 130
2,4'-DDD	<0.097		1.96	2.36		ug/L		121	70 - 130
2,4'-DDE	<0.097		1.96	2.29		ug/L		117	70 - 130
2,4'-DDT	<0.097		1.96	2.20		ug/L		112	70 - 130
2,4-Dinitrotoluene	<0.097		1.96	1.76		ug/L		90	70 - 130
2,6-Dinitrotoluene	<0.097		1.96	1.71		ug/L		87	70 - 130
2-Methylnaphthalene	<0.097		1.96	2.29		ug/L		117	70 - 130
4,4'-DDD	<0.097		1.96	2.21		ug/L		113	70 - 130
4,4'-DDE	<0.097		1.96	2.20		ug/L		112	70 - 130
4,4'-DDT	<0.097		1.96	2.25		ug/L		115	70 - 130
Acenaphthene	<0.097		1.96	2.07		ug/L		106	70 - 130
Acenaphthylene	<0.097		1.96	2.08		ug/L		106	70 - 130
Acetochlor	<0.097		1.96	2.26		ug/L		115	70 - 130
Alachlor	<0.048		1.96	2.28		ug/L		117	70 - 130
alpha-BHC	<0.097		1.96	2.18		ug/L		111	70 - 130
alpha-Chlordane	<0.048		1.96	2.09		ug/L		107	70 - 130
Anthracene	<0.019		1.96	1.86		ug/L		95	70 - 130
Atrazine	<0.048		1.96	1.97		ug/L		100	70 - 130
Benz(a)anthracene	<0.048		1.96	2.23		ug/L		114	70 - 130
Benzo[a]pyrene	<0.019		1.96	2.02		ug/L		103	70 - 130
Benzo[b]fluoranthene	<0.019		1.96	2.27		ug/L		116	70 - 130
Benzo[g,h,i]perylene	<0.048		1.96	2.35		ug/L		120	70 - 130
Benzo[k]fluoranthene	<0.019		1.96	2.47		ug/L		126	70 - 130
beta-BHC	<0.097		1.96	2.27		ug/L		116	70 - 130
Bis(2-ethylhexyl) phthalate	<0.58		1.96	2.37		ug/L		121	70 - 130
Bromacil	<0.097		1.96	1.97		ug/L		101	70 - 130
Butachlor	<0.048		1.96	2.37		ug/L		121	70 - 130
Butylbenzylphthalate	<0.48		1.96	2.45		ug/L		125	70 - 130
Chlorobenzilate	<0.097		1.96	2.52		ug/L		129	70 - 130

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 810-106147-B-6-A MS
Matrix: Water
Analysis Batch: 93298

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 93149

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroneb	<0.097		1.96	1.85		ug/L		95	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.097		1.96	2.29		ug/L		117	70 - 130
Chlorpyrifos	<0.048		1.96	2.17		ug/L		111	70 - 130
Chrysene	<0.019		1.96	2.21		ug/L		113	70 - 130
delta-BHC	<0.097		1.96	2.37		ug/L		121	70 - 130
Di(2-ethylhexyl)adipate	<0.58		1.96	2.34		ug/L		120	70 - 130
Dibenz(a,h)anthracene	<0.048		1.96	2.47		ug/L		126	70 - 130
Diclorvos (DDVP)	<0.048		1.96	2.42		ug/L		123	70 - 130
Dieldrin	<0.19		1.96	2.30		ug/L		117	70 - 130
Diethylphthalate	<0.48		1.96	2.10		ug/L		107	70 - 130
Dimethylphthalate	<0.48		1.96	1.95		ug/L		100	70 - 130
Di-n-butyl phthalate	<0.97		3.92	4.84		ug/L		119	70 - 130
Di-n-octyl phthalate	<0.097		1.96	2.16		ug/L		110	70 - 130
Endosulfan I (Alpha)	<0.097		1.96	2.40		ug/L		123	70 - 130
Endosulfan II (Beta)	<0.097		1.96	2.41		ug/L		123	70 - 130
Endosulfan sulfate	<0.097		1.96	2.08		ug/L		106	70 - 130
Endrin	<0.097		1.96	2.00		ug/L		102	70 - 130
Endrin aldehyde	<0.097		1.96	1.70		ug/L		87	60 - 130
EPTC	<0.097		1.96	2.38		ug/L		122	70 - 130
Fluoranthene	<0.097		1.96	2.37		ug/L		121	70 - 130
Fluorene	<0.048		1.96	1.96		ug/L		100	70 - 130
gamma-Chlordane	<0.048		1.96	2.10		ug/L		107	70 - 130
Heptachlor	<0.039		1.96	2.40		ug/L		122	70 - 130
Heptachlor epoxide (isomer B)	<0.048		1.96	2.10		ug/L		107	70 - 130
Hexachlorobenzene	<0.048		1.96	1.76		ug/L		90	70 - 130
Hexachlorocyclopentadiene	<0.048		1.96	2.33		ug/L		119	70 - 130
Indeno[1,2,3-cd]pyrene	<0.048		1.96	2.44		ug/L		124	70 - 130
Isophorone	<0.48		1.96	2.36		ug/L		120	70 - 130
Lindane	<0.039		1.96	2.31		ug/L		118	70 - 130
Malathion	<0.097		1.96	2.16		ug/L		110	70 - 130
Methoxychlor	<0.097		1.96	2.18		ug/L		111	70 - 130
Metolachlor	<0.048		1.96	2.33		ug/L		119	70 - 130
Molinate	<0.097		1.96	1.93		ug/L		99	70 - 130
Naphthalene	<0.29		1.96	2.18		ug/L		111	70 - 130
Parathion	<0.097		1.96	2.33		ug/L		119	70 - 130
Pendimethalin (Penoxaline)	<0.097		1.96	2.23		ug/L		114	70 - 130
Phenanthrene	<0.039		1.96	2.18		ug/L		111	70 - 130
Propachlor	<0.048		1.96	2.31		ug/L		118	70 - 130
Pyrene	<0.048		1.96	2.35		ug/L		120	70 - 130
Simazine	<0.048		1.96	2.01		ug/L		102	70 - 130
Terbacil	<0.097		1.96	2.03		ug/L		103	70 - 130
Terbuthylazine	<0.097		1.96	2.01		ug/L		103	70 - 130
Thiobencarb	<0.19		1.96	2.31		ug/L		118	70 - 130
trans-Nonachlor	<0.048		1.96	2.16		ug/L		110	70 - 130
Trifluralin	<0.097		1.96	2.12		ug/L		108	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Nitro-m-xylene	*105*		*70 - 130*

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 810-106147-B-6-A MS
Matrix: Water
Analysis Batch: 93298

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 93149

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Perylene-d12	*98*		*70 - 130*
Triphenylphosphate	*106*		*70 - 130*

Lab Sample ID: 810-106147-B-1-A DU
Matrix: Water
Analysis Batch: 93298

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 93149

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
1-Methylnaphthalene	<0.10		<0.098		ug/L		NC	20
2,4'-DDD	<0.10		<0.098		ug/L		NC	20
2,4'-DDE	<0.10		<0.098		ug/L		NC	20
2,4'-DDT	<0.10		<0.098		ug/L		NC	20
2,4-Dinitrotoluene	<0.10		<0.098		ug/L		NC	20
2,6-Dinitrotoluene	<0.10		<0.098		ug/L		NC	20
2-Methylnaphthalene	<0.10		<0.098		ug/L		NC	20
4,4'-DDD	<0.10		<0.098		ug/L		NC	20
4,4'-DDE	<0.10		<0.098		ug/L		NC	20
4,4'-DDT	<0.10		<0.098		ug/L		NC	20
Acenaphthene	<0.10		<0.098		ug/L		NC	20
Acenaphthylene	<0.10		<0.098		ug/L		NC	20
Acetochlor	<0.10		<0.098		ug/L		NC	20
Alachlor	<0.050		<0.049		ug/L		NC	20
alpha-BHC	<0.10		<0.098		ug/L		NC	20
alpha-Chlordane	<0.050		<0.049		ug/L		NC	20
Anthracene	<0.020		<0.020		ug/L		NC	20
Atrazine	<0.050		<0.049		ug/L		NC	20
Benz(a)anthracene	<0.050		<0.049		ug/L		NC	20
Benzo[a]pyrene	<0.020		<0.020		ug/L		NC	20
Benzo[b]fluoranthene	<0.020		<0.020		ug/L		NC	20
Benzo[g,h,i]perylene	<0.050		<0.049		ug/L		NC	20
Benzo[k]fluoranthene	<0.020		<0.020		ug/L		NC	20
beta-BHC	<0.10		<0.098		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	<0.60		<0.59		ug/L		NC	20
Bromacil	<0.10		<0.098		ug/L		NC	20
Butachlor	<0.050		<0.049		ug/L		NC	20
Butylbenzylphthalate	<0.50		<0.49		ug/L		NC	20
Chlorobenzilate	<0.10		<0.098		ug/L		NC	20
Chloroneb	<0.10		<0.098		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	<0.10		<0.098		ug/L		NC	20
Chlorpyrifos	<0.050		<0.049		ug/L		NC	20
Chrysene	<0.020		<0.020		ug/L		NC	20
delta-BHC	<0.10		<0.098		ug/L		NC	20
Di(2-ethylhexyl)adipate	<0.60		<0.59		ug/L		NC	20
Dibenz(a,h)anthracene	<0.050		<0.049		ug/L		NC	20
Diclorvos (DDVP)	<0.050		<0.049		ug/L		NC	20
Dieldrin	<0.20		<0.20		ug/L		NC	20
Diethylphthalate	<0.50		<0.49		ug/L		NC	20
Dimethylphthalate	<0.50		<0.49		ug/L		NC	20

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 810-106147-B-1-A DU
Matrix: Water
Analysis Batch: 93298

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 93149

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Di-n-butyl phthalate	<1.0			<0.98		ug/L				NC	20
Di-n-octyl phthalate	<0.10			<0.098		ug/L				NC	20
Endosulfan I (Alpha)	<0.10			<0.098		ug/L				NC	20
Endosulfan II (Beta)	<0.10			<0.098		ug/L				NC	20
Endosulfan sulfate	<0.10			<0.098		ug/L				NC	20
Endrin	<0.10			<0.098		ug/L				NC	20
Endrin aldehyde	<0.10			<0.098		ug/L				NC	20
EPTC	<0.10			<0.098		ug/L				NC	20
Fluoranthene	<0.10			<0.098		ug/L				NC	20
Fluorene	<0.050			<0.049		ug/L				NC	20
gamma-Chlordane	<0.050			<0.049		ug/L				NC	20
Heptachlor	<0.040			<0.039		ug/L				NC	20
Heptachlor epoxide (isomer B)	<0.050			<0.049		ug/L				NC	20
Hexachlorobenzene	<0.050			<0.049		ug/L				NC	20
Hexachlorocyclopentadiene	<0.050			<0.049		ug/L				NC	20
Indeno[1,2,3-cd]pyrene	<0.050			<0.049		ug/L				NC	20
Isophorone	<0.50			<0.49		ug/L				NC	20
Lindane	<0.040			<0.039		ug/L				NC	20
Malathion	<0.10			<0.098		ug/L				NC	20
Methoxychlor	<0.10			<0.098		ug/L				NC	20
Metolachlor	<0.050			<0.049		ug/L				NC	20
Molinate	<0.10			<0.098		ug/L				NC	20
Naphthalene	<0.30			<0.29		ug/L				NC	20
Parathion	<0.10			<0.098		ug/L				NC	20
Pendimethalin (Penoxaline)	<0.10			<0.098		ug/L				NC	20
Phenanthrene	<0.040			<0.039		ug/L				NC	20
Propachlor	<0.050			<0.049		ug/L				NC	20
Pyrene	<0.050			<0.049		ug/L				NC	20
Simazine	<0.050			<0.049		ug/L				NC	20
Terbacil	<0.10			<0.098		ug/L				NC	20
Terbuthylazine	<0.10			<0.098		ug/L				NC	20
Thiobencarb	<0.20			<0.20		ug/L				NC	20
Total Permethrin (mixed isomers)	<0.20			<0.20		ug/L				NC	20
trans-Nonachlor	<0.050			<0.049		ug/L				NC	20
Trifluralin	<0.10			<0.098		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
2-Nitro-m-xylene	*107*		*70 - 130*
Perylene-d12	*86*		*70 - 130*
Triphenylphosphate	*95*		*70 - 130*

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

Lab Sample ID: MBL 380-93161/22-A
Matrix: Water
Analysis Batch: 93310

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93161

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		06/02/24 13:14	06/03/24 15:13	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*103*		*50 - 200*	*06/02/24 13:14*	*06/03/24 15:13*	*1*
13C6 PFDA	*97*		*50 - 200*	*06/02/24 13:14*	*06/03/24 15:13*	*1*
13C5 PFHxA	*102*		*50 - 200*	*06/02/24 13:14*	*06/03/24 15:13*	*1*
13C4 PFHpA	*111*		*50 - 200*	*06/02/24 13:14*	*06/03/24 15:13*	*1*
13C8 PFOA	*105*		*50 - 200*	*06/02/24 13:14*	*06/03/24 15:13*	*1*
13C9 PFNA	*96*		*50 - 200*	*06/02/24 13:14*	*06/03/24 15:13*	*1*
13C7 PFUnA	*94*		*50 - 200*	*06/02/24 13:14*	*06/03/24 15:13*	*1*
13C2 PFDoA	*94*		*50 - 200*	*06/02/24 13:14*	*06/03/24 15:13*	*1*
13C4 PFBA	*103*		*50 - 200*	*06/02/24 13:14*	*06/03/24 15:13*	*1*
13C5 PFPeA	*105*		*50 - 200*	*06/02/24 13:14*	*06/03/24 15:13*	*1*
13C3 PFBS	*99*		*50 - 200*	*06/02/24 13:14*	*06/03/24 15:13*	*1*
13C3 PFHxS	*111*		*50 - 200*	*06/02/24 13:14*	*06/03/24 15:13*	*1*

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

Lab Sample ID: MBL 380-93161/22-A
Matrix: Water
Analysis Batch: 93310

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93161

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	103		50 - 200	06/02/24 13:14	06/03/24 15:13	1
13C2-4:2-FTS	117		50 - 200	06/02/24 13:14	06/03/24 15:13	1
13C2-6:2-FTS	124		50 - 200	06/02/24 13:14	06/03/24 15:13	1
13C2-8:2-FTS	104		50 - 200	06/02/24 13:14	06/03/24 15:13	1

Lab Sample ID: LCS 380-93161/24-A
Matrix: Water
Analysis Batch: 93310

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93161

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.2	57.6		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.2	58.0		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.2	56.3		ng/L		94	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.2	61.7		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.2	62.7		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	60.2	59.1		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	60.2	59.6		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.2	57.4		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.2	58.3		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	60.2	57.5		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	60.2	60.2		ng/L		100	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.2	58.9		ng/L		98	70 - 130
Perfluorooctanoic acid (PFOA)	60.2	61.1		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.2	59.6		ng/L		99	70 - 130
Perfluorobutanoic acid (PFBA)	60.2	60.0		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.2	62.1		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.2	60.8		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.2	63.2		ng/L		105	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.2	51.5		ng/L		86	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.2	59.8		ng/L		99	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.2	62.1		ng/L		103	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.2	57.2		ng/L		95	70 - 130
Perfluoropentanoic acid (PFPeA)	60.2	55.6		ng/L		92	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.2	63.6		ng/L		106	70 - 130

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

Lab Sample ID: LCS 380-93161/24-A
Matrix: Water
Analysis Batch: 93310

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93161

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			60.2	54.2		ng/L		90	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*97*		*50 - 200*
13C6 PFDA	*97*		*50 - 200*
13C5 PFHxA	*101*		*50 - 200*
13C4 PFHpA	*106*		*50 - 200*
13C8 PFOA	*101*		*50 - 200*
13C9 PFNA	*95*		*50 - 200*
13C7 PFUnA	*95*		*50 - 200*
13C2 PFDoA	*93*		*50 - 200*
13C4 PFBA	*100*		*50 - 200*
13C5 PFPeA	*107*		*50 - 200*
13C3 PFBS	*100*		*50 - 200*
13C3 PFHxS	*113*		*50 - 200*
13C8 PFOS	*100*		*50 - 200*
13C2-4:2-FTS	*117*		*50 - 200*
13C2-6:2-FTS	*113*		*50 - 200*
13C2-8:2-FTS	*103*		*50 - 200*

Lab Sample ID: MRL 380-93161/23-A
Matrix: Water
Analysis Batch: 93310

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93161

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.00	2.19	J	ng/L		109	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.00	2.15	J	ng/L		107	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	2.03	J	ng/L		101	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.00	1.99	J	ng/L		99	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.00	2.28	J	ng/L		114	50 - 150		
Perfluorodecanoic acid (PFDA)			2.00	2.16	J	ng/L		108	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.00	2.22	J	ng/L		111	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.00	2.22	J	ng/L		111	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.00	2.09	J	ng/L		104	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.00	2.11	J	ng/L		105	50 - 150		
Perfluorononanoic acid (PFNA)			2.00	2.17	J	ng/L		108	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			2.00	2.30	J	ng/L		115	50 - 150		
Perfluorooctanoic acid (PFOA)			2.00	2.30	J	ng/L		115	50 - 150		
Perfluoroundecanoic acid (PFUnA)			2.00	2.29	J	ng/L		114	50 - 150		
Perfluorobutanoic acid (PFBA)			2.00	2.19	J	ng/L		109	50 - 150		

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

Lab Sample ID: MRL 380-93161/23-A
Matrix: Water
Analysis Batch: 93310

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93161

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			2.00	2.28	J	ng/L		114	50 - 150		
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			2.00	2.24	J	ng/L		112	50 - 150		
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			2.00	2.48	J	ng/L		124	50 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.00	2.02	J	ng/L		101	50 - 150		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.00	2.11	J	ng/L		105	50 - 150		
Perfluoro-3-methoxypropanoic acid (PFMPA)			2.00	2.17	J	ng/L		108	50 - 150		
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.00	2.01	J	ng/L		100	50 - 150		
Perfluoropentanoic acid (PFPeA)			2.00	2.14	J	ng/L		107	50 - 150		
Perfluoroheptanesulfonic acid (PFHpS)			2.00	2.30	J	ng/L		115	50 - 150		
Perfluoropentanesulfonic acid (PFPeS)			2.00	1.98	J	ng/L		99	50 - 150		

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*96*		*50 - 200*
13C6 PFDA	*92*		*50 - 200*
13C5 PFHxA	*101*		*50 - 200*
13C4 PFHpA	*105*		*50 - 200*
13C8 PFOA	*98*		*50 - 200*
13C9 PFNA	*89*		*50 - 200*
13C7 PFUnA	*87*		*50 - 200*
13C2 PFDoA	*87*		*50 - 200*
13C4 PFBA	*96*		*50 - 200*
13C5 PFPeA	*104*		*50 - 200*
13C3 PFBS	*101*		*50 - 200*
13C3 PFHxS	*112*		*50 - 200*
13C8 PFOS	*97*		*50 - 200*
13C2-4:2-FTS	*120*		*50 - 200*
13C2-6:2-FTS	*118*		*50 - 200*
13C2-8:2-FTS	*99*		*50 - 200*

Lab Sample ID: 380-97952-B-1-A MS
Matrix: Water
Analysis Batch: 93310

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 93161

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.4	59.9		ng/L		99	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.4	61.1		ng/L		101	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	55.5		ng/L		92	70 - 130		

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

Lab Sample ID: 380-97952-B-1-A MS
Matrix: Water
Analysis Batch: 93310

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 93161

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		60.4	56.8		ng/L		94	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.4	65.0		ng/L		106	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.4	59.6		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	60.4		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.4	57.5		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.4	59.8		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.4	61.4		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.4	62.1		ng/L		103	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.3		60.4	62.6		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.4	61.0		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	61.0		ng/L		101	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.4	59.9		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	61.7		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	62.6		ng/L		104	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	59.2		ng/L		98	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	57.7		ng/L		96	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.4	61.5		ng/L		102	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	70.4		ng/L		117	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	59.7		ng/L		99	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.4	54.0		ng/L		89	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	63.4		ng/L		105	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	58.9		ng/L		98	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*98*		*50 - 200*
13C6 PFDA	*89*		*50 - 200*
13C5 PFHxA	*92*		*50 - 200*
13C4 PFHpA	*99*		*50 - 200*
13C8 PFOA	*93*		*50 - 200*
13C9 PFNA	*87*		*50 - 200*
13C7 PFUnA	*85*		*50 - 200*
13C2 PFDoA	*81*		*50 - 200*
13C4 PFBA	*100*		*50 - 200*
13C5 PFPeA	*146*		*50 - 200*
13C3 PFBS	*105*		*50 - 200*
13C3 PFHxS	*112*		*50 - 200*
13C8 PFOS	*100*		*50 - 200*

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

Lab Sample ID: 380-97952-B-1-A MS
Matrix: Water
Analysis Batch: 93310

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 93161

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	141		50 - 200
13C2-6:2-FTS	128		50 - 200
13C2-8:2-FTS	105		50 - 200

Lab Sample ID: 380-97952-C-1-A MSD
Matrix: Water
Analysis Batch: 93310

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 93161

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	58.4		ng/L		97	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	59.0		ng/L		98	70 - 130	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	55.1		ng/L		92	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	57.1		ng/L		95	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	61.4		ng/L		100	70 - 130	6	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	59.1		ng/L		98	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	62.4		ng/L		104	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	57.5		ng/L		96	70 - 130	0	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	60.5		ng/L		99	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	58.7		ng/L		97	70 - 130	4	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	61.1		ng/L		101	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	2.3		60.2	62.4		ng/L		100	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	63.8		ng/L		104	70 - 130	5	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	60.1		ng/L		100	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	<2.0		60.2	61.4		ng/L		102	70 - 130	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	64.8		ng/L		108	70 - 130	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	61.6		ng/L		102	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	59.7		ng/L		99	70 - 130	1	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	49.7		ng/L		82	70 - 130	15	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.2	58.7		ng/L		97	70 - 130	5	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	71.9		ng/L		119	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	59.5		ng/L		99	70 - 130	0	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	55.3		ng/L		92	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	64.0		ng/L		106	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	56.2		ng/L		93	70 - 130	5	30

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	105		50 - 200
13C6 PFDA	94		50 - 200
13C5 PFHxA	99		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	96		50 - 200
13C9 PFNA	89		50 - 200
13C7 PFUnA	87		50 - 200
13C2 PFDoA	81		50 - 200
13C4 PFBA	100		50 - 200
13C5 PFPeA	144		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	112		50 - 200
13C8 PFOS	101		50 - 200
13C2-4:2-FTS	142		50 - 200
13C2-6:2-FTS	121		50 - 200
13C2-8:2-FTS	104		50 - 200

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

Lab Sample ID: MBL 380-93126/22-A
Matrix: Water
Analysis Batch: 93167

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93126

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		06/01/24 08:01	06/02/24 17:39	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		06/01/24 08:01	06/02/24 17:39	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	83		70 - 130	06/01/24 08:01	06/02/24 17:39	1
13C2 PFHxA	89		70 - 130	06/01/24 08:01	06/02/24 17:39	1
13C2 PFDA	84		70 - 130	06/01/24 08:01	06/02/24 17:39	1

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

Lab Sample ID: MBL 380-93126/22-A
Matrix: Water
Analysis Batch: 93167

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93126

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	86		70 - 130	06/01/24 08:01	06/02/24 17:39	1

Lab Sample ID: LCS 380-93126/24-A
Matrix: Water
Analysis Batch: 93167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93126

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.0	48.7		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.0	52.1		ng/L		104	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.0	54.1		ng/L		108	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.0	57.2		ng/L		114	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.0	56.1		ng/L		112	70 - 130
Perfluorohexanoic acid (PFHxA)	50.0	48.8		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	50.0	50.5		ng/L		101	70 - 130
Perfluorooctanoic acid (PFOA)	50.0	52.1		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	50.0	52.7		ng/L		105	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.0	54.7		ng/L		109	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.0	46.2		ng/L		92	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.0	52.8		ng/L		106	70 - 130
Perfluorononanoic acid (PFNA)	50.0	51.2		ng/L		102	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.0	48.3		ng/L		97	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.0	50.6		ng/L		101	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.0	52.4		ng/L		105	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.0	52.6		ng/L		105	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.0	57.0		ng/L		114	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	94		70 - 130
13C2 PFHxA	85		70 - 130
13C2 PFDA	90		70 - 130
13C3-GenX	89		70 - 130

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

Lab Sample ID: MRL 380-93126/23-A
Matrix: Water
Analysis Batch: 93167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93126

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.01	J	ng/L		100	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.03	J	ng/L		101	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.33	J	ng/L		116	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.28	J	ng/L		114	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.07	J	ng/L		103	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.19	J	ng/L		109	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.21	J	ng/L		110	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.25	J	ng/L		112	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.78	J	ng/L		89	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.18	J	ng/L		109	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.21	J	ng/L		110	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.19	J	ng/L		109	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.32	J	ng/L		116	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.00	J	ng/L		100	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.96	J	ng/L		98	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.33	J	ng/L		116	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*82*		*70 - 130*
13C2 PFHxA	*86*		*70 - 130*
13C2 PFDA	*92*		*70 - 130*
13C3-GenX	*84*		*70 - 130*

Lab Sample ID: 380-97559-B-1-A MS
Matrix: Water
Analysis Batch: 93167

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 93126

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		25.4	27.0		ng/L		106	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.7		25.4	30.5		ng/L		110	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.4	30.7		ng/L		121	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.4	28.8		ng/L		113	70 - 130

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

Lab Sample ID: 380-97559-B-1-A MS
Matrix: Water
Analysis Batch: 93167

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 93126

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.4	29.7		ng/L		117	70 - 130
Perfluorohexanoic acid (PFHxA)	3.9		25.4	32.3		ng/L		112	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.4	27.4		ng/L		108	70 - 130
Perfluorooctanoic acid (PFOA)	3.4		25.4	31.1		ng/L		109	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.4	28.7		ng/L		113	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.4	29.8		ng/L		112	70 - 130
Perfluorobutanesulfonic acid (PFBS)	2.8		25.4	30.2		ng/L		108	70 - 130
Perfluoroheptanoic acid (PFHpA)	2.1		25.4	29.2		ng/L		107	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.4	28.7		ng/L		110	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.4	26.5		ng/L		104	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.4	27.1		ng/L		107	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.4	26.3		ng/L		104	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.4	26.7		ng/L		105	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.4	29.2		ng/L		115	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*91*		*70 - 130*
13C2 PFHxA	*92*		*70 - 130*
13C2 PFDA	*89*		*70 - 130*
13C3-GenX	*89*		*70 - 130*

Lab Sample ID: 380-97559-C-1-A MSD
Matrix: Water
Analysis Batch: 93167

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 93126

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		26.1	27.9		ng/L		107	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	2.7		26.1	30.4		ng/L		106	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)	<2.0		26.1	29.7		ng/L		114	70 - 130	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		26.1	27.5		ng/L		105	70 - 130	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		26.1	28.9		ng/L		111	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	3.9		26.1	33.3		ng/L		113	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	<2.0		26.1	27.5		ng/L		105	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	3.4		26.1	31.9		ng/L		109	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		26.1	28.9		ng/L		111	70 - 130	1	30

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

Lab Sample ID: 380-97559-C-1-A MSD
Matrix: Water
Analysis Batch: 93167

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 93126

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		26.1	29.8		ng/L		109	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	2.8		26.1	30.3		ng/L		105	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	2.1		26.1	29.6		ng/L		105	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		26.1	28.9		ng/L		108	70 - 130	1	30
Perfluorotetradecanoic acid (PFTA)	<2.0		26.1	26.7		ng/L		102	70 - 130	1	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		26.1	27.3		ng/L		105	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		26.1	26.9		ng/L		103	70 - 130	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		26.1	26.5		ng/L		101	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		26.1	29.1		ng/L		111	70 - 130	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
d5-NEtFOSAA	*88*		*70 - 130*
13C2 PFHxA	*92*		*70 - 130*
13C2 PFDA	*93*		*70 - 130*
13C3-GenX	*90*		*70 - 130*

GC/MS Semi VOA

Prep Batch: 93149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-97851-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	
380-97851-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	525.2	
380-97851-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	525.2	
MB 380-93149/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-93149/23-A	Lab Control Sample	Total/NA	Water	525.2	
MRL 380-93149/22-A	Lab Control Sample	Total/NA	Water	525.2	
810-106147-B-6-A MS	Matrix Spike	Total/NA	Water	525.2	
810-106147-B-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 93298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-97851-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	93149
380-97851-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	525.2	93149
380-97851-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	525.2	93149
MB 380-93149/21-A	Method Blank	Total/NA	Water	525.2	93149
LCS 380-93149/23-A	Lab Control Sample	Total/NA	Water	525.2	93149
MRL 380-93149/22-A	Lab Control Sample	Total/NA	Water	525.2	93149
810-106147-B-6-A MS	Matrix Spike	Total/NA	Water	525.2	93149
810-106147-B-1-A DU	Duplicate	Total/NA	Water	525.2	93149

LCMS

Prep Batch: 93126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-97851-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-97851-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	537.1 DW	
380-97851-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	537.1 DW	
380-97851-7	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP(	Total/NA	Water	537.1 DW	
380-97851-8	FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP	Total/NA	Water	537.1 DW	
380-97851-9	FB: HALAWA WELLS UNITS 1&2 (331-206-TP06	Total/NA	Water	537.1 DW	
MBL 380-93126/22-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-93126/24-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-93126/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-97559-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-97559-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Prep Batch: 93161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-97851-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
380-97851-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	533	
380-97851-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	
380-97851-7	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP(	Total/NA	Water	533	
380-97851-8	FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP	Total/NA	Water	533	
380-97851-9	FB: HALAWA WELLS UNITS 1&2 (331-206-TP06	Total/NA	Water	533	
MBL 380-93161/22-A	Method Blank	Total/NA	Water	533	
LCS 380-93161/24-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-93161/23-A	Lab Control Sample	Total/NA	Water	533	
380-97952-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-97952-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

LCMS

Analysis Batch: 93167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-97851-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1	93126
380-97851-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	537.1	93126
380-97851-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	537.1	93126
380-97851-7	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP(	Total/NA	Water	537.1	93126
380-97851-8	FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP	Total/NA	Water	537.1	93126
380-97851-9	FB: HALAWA WELLS UNITS 1&2 (331-206-TP06	Total/NA	Water	537.1	93126
MBL 380-93126/22-A	Method Blank	Total/NA	Water	537.1	93126
LCS 380-93126/24-A	Lab Control Sample	Total/NA	Water	537.1	93126
MRL 380-93126/23-A	Lab Control Sample	Total/NA	Water	537.1	93126
380-97559-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	93126
380-97559-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	93126

Analysis Batch: 93310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-97851-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	93161
380-97851-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	533	93161
380-97851-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	93161
380-97851-7	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP(	Total/NA	Water	533	93161
380-97851-8	FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP	Total/NA	Water	533	93161
380-97851-9	FB: HALAWA WELLS UNITS 1&2 (331-206-TP06	Total/NA	Water	533	93161
MBL 380-93161/22-A	Method Blank	Total/NA	Water	533	93161
LCS 380-93161/24-A	Lab Control Sample	Total/NA	Water	533	93161
MRL 380-93161/23-A	Lab Control Sample	Total/NA	Water	533	93161
380-97952-B-1-A MS	Matrix Spike	Total/NA	Water	533	93161
380-97952-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	93161

Lab Chronicle

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

Job ID: 380-97851-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-97851-1

Date Collected: 05/29/24 10:40
Date Received: 05/31/24 10:09

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			93149	IQ42	EA POM	06/01/24 16:35
Total/NA	Analysis	525.2		1	93298	UPAC	EA POM	06/03/24 19:18
Total/NA	Prep	533			93161	E9PK	EA POM	06/02/24 13:14
Total/NA	Analysis	533		1	93310	SZ9R	EA POM	06/03/24 16:58
Total/NA	Prep	537.1 DW			93126	SL5Q	EA POM	06/01/24 08:01
Total/NA	Analysis	537.1		1	93167	SZ9R	EA POM	06/02/24 20:38

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

Lab Sample ID: 380-97851-2

Date Collected: 05/29/24 11:00
Date Received: 05/31/24 10:09

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			93149	IQ42	EA POM	06/01/24 16:35
Total/NA	Analysis	525.2		1	93298	UPAC	EA POM	06/03/24 19:38
Total/NA	Prep	533			93161	E9PK	EA POM	06/02/24 13:14
Total/NA	Analysis	533		1	93310	SZ9R	EA POM	06/03/24 17:08
Total/NA	Prep	537.1 DW			93126	SL5Q	EA POM	06/01/24 08:01
Total/NA	Analysis	537.1		1	93167	SZ9R	EA POM	06/02/24 20:47

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)

Lab Sample ID: 380-97851-3

Date Collected: 05/29/24 11:15
Date Received: 05/31/24 10:09

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			93149	IQ42	EA POM	06/01/24 16:35
Total/NA	Analysis	525.2		1	93298	UPAC	EA POM	06/03/24 19:58
Total/NA	Prep	533			93161	E9PK	EA POM	06/02/24 13:14
Total/NA	Analysis	533		1	93310	SZ9R	EA POM	06/03/24 17:17
Total/NA	Prep	537.1 DW			93126	SL5Q	EA POM	06/01/24 08:01
Total/NA	Analysis	537.1		1	93167	SZ9R	EA POM	06/02/24 20:57

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

Lab Sample ID: 380-97851-7

Date Collected: 05/29/24 10:40
Date Received: 05/31/24 10:09

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			93161	E9PK	EA POM	06/02/24 13:14
Total/NA	Analysis	533		1	93310	SZ9R	EA POM	06/03/24 17:27
Total/NA	Prep	537.1 DW			93126	SL5Q	EA POM	06/01/24 08:01
Total/NA	Analysis	537.1		1	93167	SZ9R	EA POM	06/02/24 21:07

Lab Chronicle

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

Job ID: 380-97851-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-97851-8

Date Collected: 05/29/24 11:00
Date Received: 05/31/24 10:09

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			93161	E9PK	EA POM	06/02/24 13:14
Total/NA	Analysis	533		1	93310	SZ9R	EA POM	06/03/24 17:46
Total/NA	Prep	537.1 DW			93126	SL5Q	EA POM	06/01/24 08:01
Total/NA	Analysis	537.1		1	93167	SZ9R	EA POM	06/02/24 21:16

Client Sample ID: FB: HALAWA WELLS UNITS 1&2 (331-206-TP065)

Lab Sample ID: 380-97851-9

Date Collected: 05/29/24 11:15
Date Received: 05/31/24 10:09

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			93161	E9PK	EA POM	06/02/24 13:14
Total/NA	Analysis	533		1	93310	SZ9R	EA POM	06/03/24 17:56
Total/NA	Prep	537.1 DW			93126	SL5Q	EA POM	06/01/24 08:01
Total/NA	Analysis	537.1		1	93167	SZ9R	EA POM	06/02/24 21:26

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: 380-97851-1
SDG: 525.2, 533, 537.1

Laboratory: Eurofins Eaton Analytical Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-25

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

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Drinking Water	1-Methylnaphthalene
525.2	525.2	Drinking Water	2,4'-DDD
525.2	525.2	Drinking Water	2,4'-DDE
525.2	525.2	Drinking Water	2,4'-DDT
525.2	525.2	Drinking Water	2,4-Dinitrotoluene
525.2	525.2	Drinking Water	2,6-Dinitrotoluene
525.2	525.2	Drinking Water	2-Methylnaphthalene
525.2	525.2	Drinking Water	4,4'-DDD
525.2	525.2	Drinking Water	4,4'-DDE
525 2	525 2	Drinking Water	4,4' DDT
525.2	525.2	Drinking Water	Acetochlor
525.2	525.2	Drinking Water	alpha-BHC
525.2	525.2	Drinking Water	alpha-Chlordane
525.2	525.2	Drinking Water	beta-BHC
525.2	525.2	Drinking Water	Chlorobenzilate
525.2	525.2	Drinking Water	Chloroneb
525.2	525.2	Drinking Water	Chlorothalonil (Draconil, Bravo)
525.2	525.2	Drinking Water	Chlorpyrifos
525.2	525.2	Drinking Water	delta-BHC
525.2	525.2	Drinking Water	Diclorvos (DDVP)
525.2	525.2	Drinking Water	Endosulfan I (Alpha)
525.2	525.2	Drinking Water	Endosulfan II (Beta)
525.2	525.2	Drinking Water	Endosulfan sulfate
525.2	525.2	Drinking Water	Endrin aldehyde
525.2	525.2	Drinking Water	EPTC
525.2	525.2	Drinking Water	gamma-Chlordane
525.2	525.2	Drinking Water	Isophorone
525.2	525.2	Drinking Water	Malathion
525.2	525.2	Drinking Water	Parathion
525.2	525.2	Drinking Water	Pendimethalin (Penoxaline)
525.2	525.2	Drinking Water	Terbacil
525.2	525.2	Drinking Water	Terbuthylazine
525.2	525.2	Drinking Water	Total Permethrin (mixed isomers)
525.2	525.2	Drinking Water	trans-Nonachlor

Method Summary

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

Job ID: 380-97851-1
SDG: 525.2, 533, 537.1

Method	Method Description	Protocol	Laboratory
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA POM
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
537.1	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA POM
525.2	Extraction of Semivolatile Compounds	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: 380-97851-1
SDG: 525.2, 533, 537.1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-97851-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	05/29/24 10:40	05/31/24 10:09	HI0000331
380-97851-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Drinking Water	05/29/24 11:00	05/31/24 10:09	HI0000331
380-97851-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Drinking Water	05/29/24 11:15	05/31/24 10:09	HI0000331
380-97851-7	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Water	05/29/24 10:40	05/31/24 10:09	
380-97851-8	FB AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Water	05/29/24 11:00	05/31/24 10:09	
380-97851-9	FB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	Water	05/29/24 11:15	05/31/24 10:09	

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: MSHIELDS AT PA	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-27984-2757.2
Client Contact: Dr. Ron Fenstermacher	Phone: 808-748-5840	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 1 of 2
Company: City & County of Honolulu	PWSID:			Job #:
Address: 630 South Beretania Street; Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: Δ No			
Phone: 808-748-5091 (tel)	PO #: C20525101 exp 05312023			
Email: rfenstemacher@hbws.org	WO #:			
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111			
Site:	SSOW#:			

Analysis Requested

380-97851 COC

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	8015B_GRO_LL - (MOD) GRO	8015B_DRO_LL_CS - HNL Ranges: C10-C24/C24-C36/C8-C18	525.2_PREC - (MOD) 525plus PLUS TICs	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:				R	A	Q		Y	N		
MOANALUA WELLS				Water			2	4	2	2				chlorinated
AIEA GULCH WELLS PUMP2	29-May-2024	1040		Water			2	4	2	2	3	3		chlorinated
AIEA WELLS PUMPS 1&2 (260)	29-May-2024	1100		Water			2	4	2	2	3	3		
HALAWA WELLS UNITS 1&2	29-May-2024	1115		Water			2	4	2	2	3	3		
TB MOANALUA WELLS				Water				2						
TB AIEA GULCH WELLS PUMP2	29-May-2024	1040		Water				2			1	1		
TB AIEA WELLS PUMPS 1&2 (260)	29-May-2024	1100		Water				2			1	1		
TB HALAWA WELLS UNITS 1&2	29-May-2024	1115		Water				2			1	1		

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by: [redacted]	5/29/24 1200	HBWS		5/31/24 1009	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 63A 3.1-0.1 = 3.0 GEL

ORIGIN ID:HIKA (808) 748-5840
BWS CHEMLAB
HONOLULU BOARD OF WATER SUPPLY
630 S. BERETANIA ST.
CHEMICAL LABORATORY
HONOLULU, HI 96843
UNITED STATES US

SHIP DATE: 30MAY24
ACTWGT: 50.00 LB
CAD: 258050552/INET4535

BILL RECIPIENT

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

POMONA CA 91768
(626) 386-1100 REF:
INV:
PO: DEPT:

583J4/C450/9AE3

FedEx Express

J242024032601uw

FRI - 31 MAY 10:30A
PRIORITY OVERNIGHT

3 of 5
MPS# 0263 7766 2922 8188
Mstr# 7766 2922 8166

0201

91768
ONT
CA-US

WM ONTA

After printing this label:
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2. Place label in shipping pouch and affix it to your shipment.

ORIGIN ID:HIKA (808) 748-5840
BWS CHEMLAB
HONOLULU BOARD OF WATER SUPPLY
630 S. BERETANIA ST.
CHEMICAL LABORATORY
HONOLULU, HI 96843
UNITED STATES US

SHIP DATE: 30MAY24
ACTWGT: 50.00 LB
CAD: 258050552/INET4535

BILL RECIPIENT

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

POMONA CA 91768
(626) 386-1100 REF:
INV:
PO: DEPT:

583J4/C458/9AE3

FedEx Express

1 of 5

TRK# 0201 7766 2922 8166

FRI - 31 MAY 10:30A
PRIORITY OVERNIGHT

MASTER

WM ONTA

91768
CA-US ONT

631A 3.7-0.1 = 3.6 ±CF

5/31/24 0955

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

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ORIGIN ID:HIKA (808) 748-5840
BWS CHEMLAB
HONOLULU BOARD OF WATER SUPPLY
630 S. BERETANIA ST.
CHEMICAL LABORATORY
HONOLULU, HI 96843
UNITED STATES US

SHIP DATE: 30MAY24
ACTWGT: 50.00 LB
CAD: 258050552/INET4535

BILL RECIPIENT

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

POMONA CA 91768
(626) 386-1100 REF:
INV:
PO: DEPT:

583J4/C458/9AE3

FedEx Express

E

J242024032601uv

FRI - 31 MAY 10:30A
PRIORITY OVERNIGHT

5 of 5
MPS# 0263 7766 2922 8203
0201
Mstr# 7766 2922 8166

91768
WM ONTA CA-US ONT

2.7-0.2=2.5 (630A) Gel Frozen
Danni 5-30-24 10:09 FEAP

Eurofins Eaton Analytical Pomona
941 Corporate Center Drive
Pomona, CA 91768-2642
Phone: 626-386-1100

Chain of Custody Record

eurofins | Envir

Loc: 380
97851

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-128718.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State - Hawaii		Job #: 380-97851-1
Address: 2841 Dow Avenue, Suite 100,	Due Date Requested: 6/20/2024			Preservation Codes: -
City: Tustin	TAT Requested (days):			
State, Zip: CA, 92780				
Phone: 714-895-5494(Tel)	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			Other:

Analysis Requested

380-97851 Chain of Custody

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO_LL_CS/3510C_LL HNL Ranges: C10-C24/C24-C36/C8-C18	8015B_GRO_LL/5030C (MOD) GRO	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-97851-1)	5/29/24	10:40 Hawaiian		Water			X	X	6	initial volume (500ml) and final volume (2ml). MRLs are needed.
AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-97851-2)	5/29/24	11:00 Hawaiian		Water			X	X	6	initial volume (500ml) and final volume (2ml). MRLs are needed.
HALAWA SHAFT (331-241-TP401) (380-97851-3)	5/29/24	11:15 Hawaiian		Water			X	X	6	initial volume (500ml) and final volume (2ml). MRLs are needed.
TB:AIEA GULCH WELLS P2 (331-202-TP072) (380-97851-4)	5/29/24	10:40 Hawaiian		Water				X	2	MRLs are needed.
TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-9785	5/29/24	11:00 Hawaiian		Water				X	2	MRLs are needed.
TB: HALAWA WELLS UNITS 1&2 (331-206-TP065) (380-97851-6	5/29/24	11:15 Hawaiian		Water				X	2	MRLs are needed.

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Mohamad Mark Urrutia	5/31/24 1500	EEAP		5/31/24 1500	EEC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.9/2.3 SC/22

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-97851-1
SDG Number: 525.2, 533, 537.1

Login Number: 97851
List Number: 1
Creator: Sanchez Velasquez, Gustavo

List Source: Eurofins Eaton Analytical 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.	False	Received extra samples not listed on COC.
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	
ClO4 headspace requirement met (>50% for CA, >30% for other states).	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	