

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

SPECIAL
Hoaeae GAC EPD

JOB NUMBER

380-179192-1

Eurofins Eaton Analytical Pomona

Job Notes

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

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

Compliance Statement

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

Authorization



Authorized for release by
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Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
Surrogate Summary	11
Isotope Dilution Summary	12
QC Sample Results	13
QC Association Summary	30
Lab Chronicle	32
Certification Summary	33
Method Summary	34
Sample Summary	35
Chain of Custody	36
Receipt Checklists	37

Definitions/Glossary

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

Qualifiers

LCMS

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

Glossary

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

Case Narrative

Client: City & County of Honolulu
Project: SPECIAL

Job ID: 380-179192-1

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Job Narrative 380-179192-1

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

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

Receipt

The samples were received on 10/24/2025 9:44 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 1.3°C and 1.6°C.

PFAS

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

Detection Summary

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

Client Sample ID: Hoaeae GAC EPD

Lab Sample ID: 380-179192-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	2.4		2.0	ng/L	1		533	Total/NA
4-PFAS Hazard Index	0.00			NONE	1		None	Total/NA

Client Sample ID: FB: Hoaeae GAC EPD

Lab Sample ID: 380-179192-2

No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

Client Sample ID: Hoaeae GAC EPD

Lab Sample ID: 380-179192-1

Date Collected: 10/22/25 12:55

Matrix: Drinking Water

Date Received: 10/24/25 09:44

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluoropentanoic acid (PFPeA)	2.4		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/31/25 07:34	10/31/25 20:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	93		50 - 200	10/31/25 07:34	10/31/25 20:20	1
13C6 PFDA	110		50 - 200	10/31/25 07:34	10/31/25 20:20	1
13C5 PFHxA	107		50 - 200	10/31/25 07:34	10/31/25 20:20	1
13C4 PFHpA	112		50 - 200	10/31/25 07:34	10/31/25 20:20	1
13C8 PFOA	103		50 - 200	10/31/25 07:34	10/31/25 20:20	1
13C9 PFNA	112		50 - 200	10/31/25 07:34	10/31/25 20:20	1
13C7 PFUnA	111		50 - 200	10/31/25 07:34	10/31/25 20:20	1
13C2 PFDoA	106		50 - 200	10/31/25 07:34	10/31/25 20:20	1
13C4 PFBA	106		50 - 200	10/31/25 07:34	10/31/25 20:20	1
13C5 PFPeA	104		50 - 200	10/31/25 07:34	10/31/25 20:20	1
13C3 PFBS	111		50 - 200	10/31/25 07:34	10/31/25 20:20	1
13C3 PFHxS	106		50 - 200	10/31/25 07:34	10/31/25 20:20	1
13C8 PFOS	114		50 - 200	10/31/25 07:34	10/31/25 20:20	1

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Client Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

Client Sample ID: Hoaeae GAC EPD

Lab Sample ID: 380-179192-1

Date Collected: 10/22/25 12:55

Matrix: Drinking Water

Date Received: 10/24/25 09:44

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-4:2-FTS	130		50 - 200	10/31/25 07:34	10/31/25 20:20	1
13C2-6:2-FTS	118		50 - 200	10/31/25 07:34	10/31/25 20:20	1
13C2-8:2-FTS	125		50 - 200	10/31/25 07:34	10/31/25 20:20	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		10/29/25 17:36	10/30/25 15:54	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 15:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	121		70 - 130			10/29/25 17:36	10/30/25 15:54	1
13C2 PFHxA	117		70 - 130			10/29/25 17:36	10/30/25 15:54	1
13C2 PFDA	121		70 - 130			10/29/25 17:36	10/30/25 15:54	1
13C3-GenX	114		70 - 130			10/29/25 17:36	10/30/25 15:54	1

Method: EPA None - PFAS Hazard Index

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4-PFAS Hazard Index	0.00			NONE			10/30/25 15:54	1

Client Sample ID: FB: Hoaeae GAC EPD

Lab Sample ID: 380-179192-2

Date Collected: 10/22/25 12:55

Matrix: Drinking Water

Date Received: 10/24/25 09:44

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

Client Sample ID: FB: Hoaeae GAC EPD

Lab Sample ID: 380-179192-2

Date Collected: 10/22/25 12:55

Matrix: Drinking Water

Date Received: 10/24/25 09:44

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)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/29/25 16:15	10/30/25 15:45	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	95		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C6 PFDA	98		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C5 PFHxA	103		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C4 PFHpA	101		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C8 PFOA	100		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C9 PFNA	103		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C7 PFUnA	102		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C2 PFDoA	104		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C4 PFBA	107		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C5 PFPeA	101		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C3 PFBS	114		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C3 PFHxS	106		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C8 PFOS	105		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C2-4:2-FTS	111		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C2-6:2-FTS	105		50 - 200	10/29/25 16:15	10/30/25 15:45	1
13C2-8:2-FTS	108		50 - 200	10/29/25 16:15	10/30/25 15:45	1

Client Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

Client Sample ID: FB: Hoaeae GAC EPD

Lab Sample ID: 380-179192-2

Date Collected: 10/22/25 12:55

Matrix: Drinking Water

Date Received: 10/24/25 09:44

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		10/29/25 17:36	10/30/25 16:04	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/29/25 17:36	10/30/25 16:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	120		70 - 130			10/29/25 17:36	10/30/25 16:04	1
13C2 PFHxA	120		70 - 130			10/29/25 17:36	10/30/25 16:04	1
13C2 PFDA	118		70 - 130			10/29/25 17:36	10/30/25 16:04	1
13C3-GenX	115		70 - 130			10/29/25 17:36	10/30/25 16:04	1

Surrogate Summary

Client: City & County of Honolulu
 Project/Site: SPECIAL

Job ID: 380-179192-1
 SDG: Hoaeae GAC EPD

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

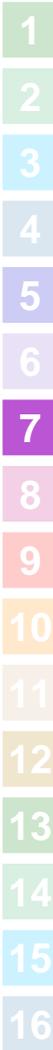
Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-179189-B-1-A MS	Matrix Spike	112	118	119	112
380-179189-C-1-A MSD	Matrix Spike Duplicate	116	123	121	116
380-179192-1	Hoaeae GAC EPD	121	117	121	114
380-179192-2	FB: Hoaeae GAC EPD	120	120	118	115
LCS 380-183250/22-A	Lab Control Sample	112	125	120	120
MBL 380-183250/20-A	Method Blank	124	125	128	122
MRL 380-183250/21-A	Lab Control Sample	108	125	122	118

Surrogate Legend

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



Isotope Dilution Summary

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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)
380-179184-B-1-A MS	Matrix Spike	101	98	110	103	98	102	100	104
380-179184-B-1-B MSD	Matrix Spike Duplicate	99	102	110	105	105	102	101	105
380-179192-1	Hoaeae GAC EPD	93	110	107	112	103	112	111	106
380-179192-2	FB: Hoaeae GAC EPD	95	98	103	101	100	103	102	104
380-179335-B-1-A MS	Matrix Spike	105	113	106	111	106	113	116	111
380-179335-C-1-A MSD	Matrix Spike Duplicate	99	111	100	105	104	111	114	110
LCS 380-183208/22-A	Lab Control Sample	95	103	107	105	97	103	101	106
LCS 380-183713/22-A	Lab Control Sample	98	108	103	108	102	106	117	106
MBL 380-183208/20-A	Method Blank	99	103	108	105	102	107	104	105
MBL 380-183713/20-A	Method Blank	64	78	80	83	80	82	85	82
MRL 380-183208/21-A	Lab Control Sample	96	102	105	103	99	100	102	107
MRL 380-183713/21-A	Lab Control Sample	72	98	93	96	94	95	103	100

		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)
380-179184-B-1-A MS	Matrix Spike	106	101	111	107	106	114	113	106
380-179184-B-1-B MSD	Matrix Spike Duplicate	100	100	108	102	108	114	111	108
380-179192-1	Hoaeae GAC EPD	106	104	111	106	114	130	118	125
380-179192-2	FB: Hoaeae GAC EPD	107	101	114	106	105	111	105	108
380-179335-B-1-A MS	Matrix Spike	108	113	112	110	116	124	119	122
380-179335-C-1-A MSD	Matrix Spike Duplicate	102	111	112	106	114	117	115	119
LCS 380-183208/22-A	Lab Control Sample	104	104	108	106	109	111	106	101
LCS 380-183713/22-A	Lab Control Sample	104	106	114	105	112	116	117	124
MBL 380-183208/20-A	Method Blank	108	107	99	101	108	108	101	104
MBL 380-183713/20-A	Method Blank	87	89	107	105	112	115	113	114
MRL 380-183208/21-A	Lab Control Sample	103	101	110	105	109	110	107	104
MRL 380-183713/21-A	Lab Control Sample	97	95	113	108	116	130	127	123

Surrogate Legend

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

QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: MBL 380-183208/20-A
Matrix: Drinking Water
Analysis Batch: 183350

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183208

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.0		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		10/29/25 16:15	10/30/25 11:56	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	99		50 - 200	10/29/25 16:15	10/30/25 11:56	1
13C6 PFDA	103		50 - 200	10/29/25 16:15	10/30/25 11:56	1
13C5 PFHxA	108		50 - 200	10/29/25 16:15	10/30/25 11:56	1
13C4 PFHpA	105		50 - 200	10/29/25 16:15	10/30/25 11:56	1
13C8 PFOA	102		50 - 200	10/29/25 16:15	10/30/25 11:56	1
13C9 PFNA	107		50 - 200	10/29/25 16:15	10/30/25 11:56	1
13C7 PFUnA	104		50 - 200	10/29/25 16:15	10/30/25 11:56	1
13C2 PFDoA	105		50 - 200	10/29/25 16:15	10/30/25 11:56	1
13C4 PFBA	108		50 - 200	10/29/25 16:15	10/30/25 11:56	1
13C5 PFPeA	107		50 - 200	10/29/25 16:15	10/30/25 11:56	1
13C3 PFBS	99		50 - 200	10/29/25 16:15	10/30/25 11:56	1
13C3 PFHxS	101		50 - 200	10/29/25 16:15	10/30/25 11:56	1

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: MBL 380-183208/20-A
Matrix: Drinking Water
Analysis Batch: 183350

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183208

Isotope Dilution	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C8 PFOS	108		50 - 200	10/29/25 16:15	10/30/25 11:56	1
13C2-4:2-FTS	108		50 - 200	10/29/25 16:15	10/30/25 11:56	1
13C2-6:2-FTS	101		50 - 200	10/29/25 16:15	10/30/25 11:56	1
13C2-8:2-FTS	104		50 - 200	10/29/25 16:15	10/30/25 11:56	1

Lab Sample ID: LCS 380-183208/22-A
Matrix: Drinking Water
Analysis Batch: 183350

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183208

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.1	59.7		ng/L		99	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.1	58.6		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	60.1	61.5		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.1	59.5		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	60.1	59.8		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	60.1	60.0		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.1	61.2		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.1	61.2		ng/L		102	70 - 130
Perfluorohexanoic acid (PFHxA)	60.1	59.3		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	60.1	60.6		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.1	57.7		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	60.1	64.2		ng/L		107	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.1	62.8		ng/L		105	70 - 130
Perfluorobutanoic acid (PFBA)	60.1	59.9		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.1	66.3		ng/L		110	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.1	62.8		ng/L		105	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.1	62.2		ng/L		103	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.1	60.4		ng/L		100	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.1	63.5		ng/L		106	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.1	59.8		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.1	56.7		ng/L		94	70 - 130
Perfluoropentanoic acid (PFPeA)	60.1	57.7		ng/L		96	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.1	57.1		ng/L		95	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: LCS 380-183208/22-A
Matrix: Drinking Water
Analysis Batch: 183350

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183208

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	60.1	61.2		ng/L		102	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	95		50 - 200				
13C6 PFDA	103		50 - 200				
13C5 PFHxA	107		50 - 200				
13C4 PFHpA	105		50 - 200				
13C8 PFOA	97		50 - 200				
13C9 PFNA	103		50 - 200				
13C7 PFUnA	101		50 - 200				
13C2 PFDoA	106		50 - 200				
13C4 PFBA	104		50 - 200				
13C5 PFPeA	104		50 - 200				
13C3 PFBS	108		50 - 200				
13C3 PFHxS	106		50 - 200				
13C8 PFOS	109		50 - 200				
13C2-4:2-FTS	111		50 - 200				
13C2-6:2-FTS	106		50 - 200				
13C2-8:2-FTS	101		50 - 200				

Lab Sample ID: MRL 380-183208/21-A
Matrix: Drinking Water
Analysis Batch: 183350

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183208

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.09	J	ng/L		104	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.09	J	ng/L		104	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.01	J	ng/L		101	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	2.00	2.09	J	ng/L		104	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.03	J	ng/L		101	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.10	J	ng/L		105	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.23	J	ng/L		111	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.04	J	ng/L		102	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.08	J	ng/L		104	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.20	J	ng/L		110	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.07	J	ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.35	J	ng/L		117	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: MRL 380-183208/21-A
Matrix: Drinking Water
Analysis Batch: 183350

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183208

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.25	J	ng/L		112	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.37	J	ng/L		118	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.17	J	ng/L		108	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.19	J	ng/L		109	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.11	J	ng/L		106	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.96	J	ng/L		98	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.99	J	ng/L		99	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.21	J	ng/L		110	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	1.90	J	ng/L		95	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.98	J	ng/L		99	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	96		50 - 200
13C6 PFDA	102		50 - 200
13C5 PFHxA	105		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	99		50 - 200
13C9 PFNA	100		50 - 200
13C7 PFUnA	102		50 - 200
13C2 PFDoA	107		50 - 200
13C4 PFBA	103		50 - 200
13C5 PFPeA	101		50 - 200
13C3 PFBS	110		50 - 200
13C3 PFHxS	105		50 - 200
13C8 PFOS	109		50 - 200
13C2-4:2-FTS	110		50 - 200
13C2-6:2-FTS	107		50 - 200
13C2-8:2-FTS	104		50 - 200

Lab Sample ID: 380-179184-B-1-A MS
Matrix: Drinking Water
Analysis Batch: 183350

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 183208

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.4	58.1		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.4	61.2		ng/L		101	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	60.4		ng/L		100	70 - 130

QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: 380-179184-B-1-A MS
Matrix: Drinking Water
Analysis Batch: 183350

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 183208

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		60.4	59.9		ng/L		99	70 - 130
Dimer Acid (HFPO-DA)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.4	58.2		ng/L		96	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.4	63.4		ng/L		105	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	58.3		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.4	60.9		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.4	61.4		ng/L		102	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.4	56.2		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.4	64.2		ng/L		106	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.4	61.7		ng/L		102	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.4	62.9		ng/L		104	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	63.4		ng/L		105	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.4	57.0		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	62.6		ng/L		104	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	66.3		ng/L		110	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	66.9		ng/L		111	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	59.0		ng/L		98	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.4	61.0		ng/L		101	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	56.9		ng/L		94	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	58.8		ng/L		97	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.4	60.5		ng/L		100	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	61.0		ng/L		101	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	58.1		ng/L		96	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	101		50 - 200
13C6 PFDA	98		50 - 200
13C5 PFHxA	110		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	98		50 - 200
13C9 PFNA	102		50 - 200
13C7 PFUnA	100		50 - 200
13C2 PFDoA	104		50 - 200
13C4 PFBA	106		50 - 200
13C5 PFPeA	101		50 - 200
13C3 PFBS	111		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	106		50 - 200

QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: 380-179184-B-1-A MS
Matrix: Drinking Water
Analysis Batch: 183350

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 183208

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	114		50 - 200
13C2-6:2-FTS	113		50 - 200
13C2-8:2-FTS	106		50 - 200

Lab Sample ID: 380-179184-B-1-B MSD
Matrix: Drinking Water
Analysis Batch: 183350

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 183208

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	59.2		ng/L		98	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	60.4		ng/L		100	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	57.6		ng/L		96	70 - 130	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<2.0		60.2	62.0		ng/L		103	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	58.6		ng/L		97	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	60.2		ng/L		100	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	59.1		ng/L		98	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	60.4		ng/L		100	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	65.6		ng/L		109	70 - 130	7	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	59.3		ng/L		98	70 - 130	5	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	62.4		ng/L		104	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	58.3		ng/L		97	70 - 130	6	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	59.4		ng/L		99	70 - 130	6	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	62.2		ng/L		103	70 - 130	2	30
Perfluorobutanoic acid (PFBA)	<2.0		60.2	61.7		ng/L		102	70 - 130	8	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	60.0		ng/L		100	70 - 130	4	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	69.4		ng/L		115	70 - 130	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	61.8		ng/L		103	70 - 130	8	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	62.2		ng/L		103	70 - 130	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.2	65.0		ng/L		108	70 - 130	6	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	59.8		ng/L		99	70 - 130	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	59.3		ng/L		98	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	63.2		ng/L		105	70 - 130	4	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	60.8		ng/L		101	70 - 130	0	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	60.5		ng/L		100	70 - 130	4	30

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QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

<i>Isotope Dilution</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
<i>%Recovery</i>	<i>Qualifier</i>		
13C3 HFPO-DA	99		50 - 200
13C6 PFDA	102		50 - 200
13C5 PFHxA	110		50 - 200
13C4 PFHpA	105		50 - 200
13C8 PFOA	105		50 - 200
13C9 PFNA	102		50 - 200
13C7 PFUnA	101		50 - 200
13C2 PFDoA	105		50 - 200
13C4 PFBA	100		50 - 200
13C5 PFPeA	100		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	102		50 - 200
13C8 PFOS	108		50 - 200
13C2-4:2-FTS	114		50 - 200
13C2-6:2-FTS	111		50 - 200
13C2-8:2-FTS	108		50 - 200

Lab Sample ID: MBL 380-183713/20-A
Matrix: Drinking Water
Analysis Batch: 183907

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183713

<i>Analyte</i>	<i>MBL</i>	<i>MBL</i>	<i>RL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>Result</i>	<i>Qualifier</i>						
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.0		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1

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QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: MBL 380-183713/20-A
Matrix: Drinking Water
Analysis Batch: 183907

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183713

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		10/31/25 07:34	10/31/25 17:47	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	64		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C6 PFDA	78		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C5 PFHxA	80		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C4 PFHpA	83		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C8 PFOA	80		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C9 PFNA	82		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C7 PFUnA	85		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C2 PFDoA	82		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C4 PFBA	87		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C5 PFPeA	89		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C3 PFBS	107		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C3 PFHxS	105		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C8 PFOS	112		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C2-4:2-FTS	115		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C2-6:2-FTS	113		50 - 200	10/31/25 07:34	10/31/25 17:47	1
13C2-8:2-FTS	114		50 - 200	10/31/25 07:34	10/31/25 17:47	1

Lab Sample ID: LCS 380-183713/22-A
Matrix: Drinking Water
Analysis Batch: 183907

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183713

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	106		ng/L		88	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	114		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	105		ng/L		87	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	120	107		ng/L		89	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	111		ng/L		92	70 - 130
Perfluorodecanoic acid (PFDA)	120	116		ng/L		96	70 - 130
Perfluorododecanoic acid (PFDoA)	120	116		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	107		ng/L		88	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	117		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	120	115		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	120	114		ng/L		95	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	112		ng/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	120	117		ng/L		97	70 - 130

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QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: LCS 380-183713/22-A
Matrix: Drinking Water
Analysis Batch: 183907

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183713

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	120	108		ng/L		90	70 - 130
Perfluorobutanoic acid (PFBA)	120	112		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	107		ng/L		89	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	116		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	111		ng/L		93	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	108		ng/L		89	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	108		ng/L		90	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	110		ng/L		91	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	110		ng/L		91	70 - 130
Perfluoropentanoic acid (PFPeA)	120	107		ng/L		89	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	106		ng/L		88	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	120	123		ng/L		102	70 - 130

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	98		50 - 200
13C6 PFDA	108		50 - 200
13C5 PFHxA	103		50 - 200
13C4 PFHpA	108		50 - 200
13C8 PFOA	102		50 - 200
13C9 PFNA	106		50 - 200
13C7 PFUnA	117		50 - 200
13C2 PFDoA	106		50 - 200
13C4 PFBA	104		50 - 200
13C5 PFPeA	106		50 - 200
13C3 PFBS	114		50 - 200
13C3 PFHxS	105		50 - 200
13C8 PFOS	112		50 - 200
13C2-4:2-FTS	116		50 - 200
13C2-6:2-FTS	117		50 - 200
13C2-8:2-FTS	124		50 - 200

Lab Sample ID: MRL 380-183713/21-A
Matrix: Drinking Water
Analysis Batch: 183907

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183713

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.77	J	ng/L		88	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.90	J	ng/L		94	50 - 150

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QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: MRL 380-183713/21-A
Matrix: Drinking Water
Analysis Batch: 183907

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183713

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.78	J	ng/L		89	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.93	J	ng/L		96	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.92	J	ng/L		95	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	1.93	J	ng/L		96	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	1.97	J	ng/L		98	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.00	J	ng/L		99	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.93	J	ng/L		96	50 - 150
Perfluorononanoic acid (PFNA)	2.01	1.92	J	ng/L		96	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	1.96	J	ng/L		97	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.99	J	ng/L		99	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	1.90	J	ng/L		94	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.18	J	ng/L		108	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	1.95	J	ng/L		97	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	1.99	J	ng/L		99	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.08	J	ng/L		103	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.70	J	ng/L		84	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.92	J	ng/L		95	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.93	J	ng/L		96	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.02	J	ng/L		100	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.74	J	ng/L		86	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.94	J	ng/L		96	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	72		50 - 200
13C6 PFDA	98		50 - 200
13C5 PFHxA	93		50 - 200
13C4 PFHpA	96		50 - 200
13C8 PFOA	94		50 - 200
13C9 PFNA	95		50 - 200
13C7 PFUnA	103		50 - 200
13C2 PFDoA	100		50 - 200
13C4 PFBA	97		50 - 200
13C5 PFPeA	95		50 - 200
13C3 PFBS	113		50 - 200
13C3 PFHxS	108		50 - 200

QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: MRL 380-183713/21-A
Matrix: Drinking Water
Analysis Batch: 183907

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183713

<i>Isotope Dilution</i>	<i>MRL %Recovery</i>	<i>MRL Qualifier</i>	<i>Limits</i>
13C8 PFOS	116		50 - 200
13C2-4:2-FTS	130		50 - 200
13C2-6:2-FTS	127		50 - 200
13C2-8:2-FTS	123		50 - 200

Lab Sample ID: 380-179335-B-1-A MS
Matrix: Drinking Water
Analysis Batch: 183907

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 183713

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	105		ng/L		87	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	111		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	107		ng/L		89	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<2.0		121	113		ng/L		94	70 - 130
Perfluorobutanesulfonic acid (PFBS)	3.6		121	114		ng/L		92	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		121	112		ng/L		93	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		121	114		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	3.0		121	113		ng/L		91	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	9.5		121	124		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	6.7		121	123		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		121	114		ng/L		94	70 - 130
Perfluorooctanesulfonic acid (PFOS)	12		121	123		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	2.9		121	123		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		121	111		ng/L		92	70 - 130
Perfluorobutanoic acid (PFBA)	4.2		121	114		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	114		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	109		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	115		ng/L		95	70 - 130
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	110		ng/L		91	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		121	117		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	120		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	118		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	8.6		121	119		ng/L		91	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	108		ng/L		90	70 - 130

QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: 380-179335-B-1-A MS
Matrix: Drinking Water
Analysis Batch: 183907

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 183713

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	117		ng/L		96	70 - 130
MS MS									
Isotope Dilution	%Recovery	Qualifier	Limits						
13C3 HFPO-DA	105		50 - 200						
13C6 PFDA	113		50 - 200						
13C5 PFHxA	106		50 - 200						
13C4 PFHpA	111		50 - 200						
13C8 PFOA	106		50 - 200						
13C9 PFNA	113		50 - 200						
13C7 PFUnA	116		50 - 200						
13C2 PFDoA	111		50 - 200						
13C4 PFBA	108		50 - 200						
13C5 PFPeA	113		50 - 200						
13C3 PFBS	112		50 - 200						
13C3 PFHxS	110		50 - 200						
13C8 PFOS	116		50 - 200						
13C2-4:2-FTS	124		50 - 200						
13C2-6:2-FTS	119		50 - 200						
13C2-8:2-FTS	122		50 - 200						

Lab Sample ID: 380-179335-C-1-A MSD
Matrix: Drinking Water
Analysis Batch: 183907

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 183713

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	99.9		ng/L		83	70 - 130	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	108		ng/L		90	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	116		ng/L		96	70 - 130	8	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<2.0		121	113		ng/L		93	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	3.6		121	115		ng/L		92	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		121	115		ng/L		96	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	<2.0		121	116		ng/L		96	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	3.0		121	112		ng/L		91	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	9.5		121	123		ng/L		94	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	6.7		121	132		ng/L		104	70 - 130	7	30
Perfluorononanoic acid (PFNA)	<2.0		121	111		ng/L		92	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	12		121	121		ng/L		91	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	2.9		121	127		ng/L		103	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		121	111		ng/L		92	70 - 130	0	30
Perfluorobutanoic acid (PFBA)	4.2		121	126		ng/L		101	70 - 130	10	30

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QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: 380-179335-C-1-A MSD
Matrix: Drinking Water
Analysis Batch: 183907

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 183713

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	116		ng/L		96	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	111		ng/L		92	70 - 130	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	115		ng/L		95	70 - 130	0	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	111		ng/L		92	70 - 130	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	113		ng/L		93	70 - 130	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	127		ng/L		105	70 - 130	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	116		ng/L		96	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	8.6		121	122		ng/L		94	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	109		ng/L		91	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	120		ng/L		98	70 - 130	2	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	MSD Limits
13C3 HFPO-DA	99		50 - 200
13C6 PFDA	111		50 - 200
13C5 PFHxA	100		50 - 200
13C4 PFHpA	105		50 - 200
13C8 PFOA	104		50 - 200
13C9 PFNA	111		50 - 200
13C7 PFUnA	114		50 - 200
13C2 PFDoA	110		50 - 200
13C4 PFBA	102		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	112		50 - 200
13C3 PFHxS	106		50 - 200
13C8 PFOS	114		50 - 200
13C2-4:2-FTS	117		50 - 200
13C2-6:2-FTS	115		50 - 200
13C2-8:2-FTS	119		50 - 200

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

Lab Sample ID: MBL 380-183250/20-A
Matrix: Drinking Water
Analysis Batch: 183347

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183250

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		10/29/25 17:36	10/30/25 11:56	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1

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QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: MBL 380-183250/20-A
Matrix: Drinking Water
Analysis Batch: 183347

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183250

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		10/29/25 17:36	10/30/25 11:56	1
Surrogate	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	124		70 - 130			10/29/25 17:36	10/30/25 11:56	1
13C2 PFHxA	125		70 - 130			10/29/25 17:36	10/30/25 11:56	1
13C2 PFDA	128		70 - 130			10/29/25 17:36	10/30/25 11:56	1
13C3-GenX	122		70 - 130			10/29/25 17:36	10/30/25 11:56	1

Lab Sample ID: LCS 380-183250/22-A
Matrix: Drinking Water
Analysis Batch: 183347

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183250

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.2	52.6		ng/L		105	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.2	53.8		ng/L		107	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.2	53.2		ng/L		106	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.2	52.3		ng/L		104	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.2	48.4		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	50.2	55.7		ng/L		111	70 - 130
Perfluorododecanoic acid (PFDoA)	50.2	54.0		ng/L		107	70 - 130
Perfluorooctanoic acid (PFOA)	50.2	54.9		ng/L		109	70 - 130
Perfluorodecanoic acid (PFDA)	50.2	53.1		ng/L		106	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.2	54.9		ng/L		109	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.2	54.0		ng/L		107	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.2	54.1		ng/L		108	70 - 130
Perfluorononanoic acid (PFNA)	50.2	54.2		ng/L		108	70 - 130

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QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: LCS 380-183250/22-A
Matrix: Drinking Water
Analysis Batch: 183347

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183250

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotetradecanoic acid (PFTA)	50.2	41.3		ng/L		82	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.2	57.1		ng/L		114	70 - 130
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid(9Cl-PF3ONS)	50.2	53.1		ng/L		106	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.2	53.7		ng/L		107	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.2	52.5		ng/L		105	70 - 130
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
d5-NEtFOSAA	112		70 - 130				
13C2 PFHxA	125		70 - 130				
13C2 PFDA	120		70 - 130				
13C3-GenX	120		70 - 130				

Lab Sample ID: MRL 380-183250/21-A
Matrix: Drinking Water
Analysis Batch: 183347

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183250

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.33	J	ng/L		116	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.49	J	ng/L		124	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.49	J	ng/L		124	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	2.36	J	ng/L		117	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.01	2.16	J	ng/L		108	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.66	J	ng/L		132	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.49	J	ng/L		124	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.48	J	ng/L		123	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.41	J	ng/L		120	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.50	J	ng/L		124	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.30	J	ng/L		114	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.59	J	ng/L		129	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.61	J	ng/L		130	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	1.76	J	ng/L		88	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.01	2.54	J	ng/L		127	50 - 150
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.34	J	ng/L		116	50 - 150

QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: MRL 380-183250/21-A
Matrix: Drinking Water
Analysis Batch: 183347

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183250

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.52	J	ng/L		125	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.43	J	ng/L		121	50 - 150
	<i>MRL</i>	<i>MRL</i>					
Surrogate	%Recovery	Qualifier	Limits				
<i>d5-NEtFOSAA</i>	108		70 - 130				
<i>13C2 PFHxA</i>	125		70 - 130				
<i>13C2 PFDA</i>	122		70 - 130				
<i>13C3-GenX</i>	118		70 - 130				

Lab Sample ID: 380-179189-B-1-A MS
Matrix: Drinking Water
Analysis Batch: 183347

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 183250

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	25.3		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	27.2		ng/L		109	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	26.9		ng/L		107	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	26.2		ng/L		105	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	26.2		ng/L		104	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	26.2		ng/L		104	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	27.1		ng/L		108	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.1	26.8		ng/L		107	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	26.9		ng/L		107	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	27.3		ng/L		109	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	26.9		ng/L		108	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	27.0		ng/L		108	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.1	28.3		ng/L		113	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	22.8		ng/L		91	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	28.5		ng/L		114	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	26.6		ng/L		106	70 - 130
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	27.1		ng/L		108	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	25.9		ng/L		103	70 - 130

QC Sample Results

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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

Lab Sample ID: 380-179189-B-1-A MS
Matrix: Drinking Water
Analysis Batch: 183347

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 183250

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	112		70 - 130
13C2 PFHxA	118		70 - 130
13C2 PFDA	119		70 - 130
13C3-GenX	112		70 - 130

Lab Sample ID: 380-179189-C-1-A MSD
Matrix: Drinking Water
Analysis Batch: 183347

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 183250

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec		RPD	RPD Limit
				Result	Qualifier				Limits	RPD		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	25.3		ng/L		101	70 - 130	0	30	
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	26.2		ng/L		104	70 - 130	4	30	
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	27.1		ng/L		108	70 - 130	1	30	
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		25.1	25.7		ng/L		102	70 - 130	2	30	
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		25.1	27.2		ng/L		108	70 - 130	4	30	
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	27.3		ng/L		109	70 - 130	4	30	
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	27.1		ng/L		108	70 - 130	0	30	
Perfluorooctanoic acid (PFOA)	<2.0		25.1	27.5		ng/L		110	70 - 130	2	30	
Perfluorodecanoic acid (PFDA)	<2.0		25.1	27.2		ng/L		109	70 - 130	1	30	
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	27.2		ng/L		108	70 - 130	0	30	
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	26.7		ng/L		106	70 - 130	1	30	
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	27.4		ng/L		109	70 - 130	1	30	
Perfluorononanoic acid (PFNA)	<2.0		25.1	27.6		ng/L		110	70 - 130	3	30	
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	20.4		ng/L		81	70 - 130	11	30	
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	28.4		ng/L		113	70 - 130	0	30	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		25.1	26.3		ng/L		105	70 - 130	1	30	
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	26.1		ng/L		104	70 - 130	4	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	26.8		ng/L		107	70 - 130	3	30	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	116		70 - 130
13C2 PFHxA	123		70 - 130
13C2 PFDA	121		70 - 130
13C3-GenX	116		70 - 130

QC Association Summary

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

LCMS

Prep Batch: 183208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-179192-2	FB: Hoaeae GAC EPD	Total/NA	Drinking Water	533	
MBL 380-183208/20-A	Method Blank	Total/NA	Drinking Water	533	
LCS 380-183208/22-A	Lab Control Sample	Total/NA	Drinking Water	533	
MRL 380-183208/21-A	Lab Control Sample	Total/NA	Drinking Water	533	
380-179184-B-1-A MS	Matrix Spike	Total/NA	Drinking Water	533	
380-179184-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Drinking Water	533	

Prep Batch: 183250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-179192-1	Hoaeae GAC EPD	Total/NA	Drinking Water	537.1 DW	
380-179192-2	FB: Hoaeae GAC EPD	Total/NA	Drinking Water	537.1 DW	
MBL 380-183250/20-A	Method Blank	Total/NA	Drinking Water	537.1 DW	
LCS 380-183250/22-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
MRL 380-183250/21-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
380-179189-B-1-A MS	Matrix Spike	Total/NA	Drinking Water	537.1 DW	
380-179189-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 183347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-179192-1	Hoaeae GAC EPD	Total/NA	Drinking Water	537.1	183250
380-179192-2	FB: Hoaeae GAC EPD	Total/NA	Drinking Water	537.1	183250
MBL 380-183250/20-A	Method Blank	Total/NA	Drinking Water	537.1	183250
LCS 380-183250/22-A	Lab Control Sample	Total/NA	Drinking Water	537.1	183250
MRL 380-183250/21-A	Lab Control Sample	Total/NA	Drinking Water	537.1	183250
380-179189-B-1-A MS	Matrix Spike	Total/NA	Drinking Water	537.1	183250
380-179189-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Drinking Water	537.1	183250

Analysis Batch: 183350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-179192-2	FB: Hoaeae GAC EPD	Total/NA	Drinking Water	533	183208
MBL 380-183208/20-A	Method Blank	Total/NA	Drinking Water	533	183208
LCS 380-183208/22-A	Lab Control Sample	Total/NA	Drinking Water	533	183208
MRL 380-183208/21-A	Lab Control Sample	Total/NA	Drinking Water	533	183208
380-179184-B-1-A MS	Matrix Spike	Total/NA	Drinking Water	533	183208
380-179184-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Drinking Water	533	183208

Analysis Batch: 183565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-179192-1	Hoaeae GAC EPD	Total/NA	Drinking Water	None	

Prep Batch: 183713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-179192-1	Hoaeae GAC EPD	Total/NA	Drinking Water	533	
MBL 380-183713/20-A	Method Blank	Total/NA	Drinking Water	533	
LCS 380-183713/22-A	Lab Control Sample	Total/NA	Drinking Water	533	
MRL 380-183713/21-A	Lab Control Sample	Total/NA	Drinking Water	533	
380-179335-B-1-A MS	Matrix Spike	Total/NA	Drinking Water	533	
380-179335-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Drinking Water	533	

QC Association Summary

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

LCMS

Analysis Batch: 183907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-179192-1	Hoaeae GAC EPD	Total/NA	Drinking Water	533	183713
MBL 380-183713/20-A	Method Blank	Total/NA	Drinking Water	533	183713
LCS 380-183713/22-A	Lab Control Sample	Total/NA	Drinking Water	533	183713
MRL 380-183713/21-A	Lab Control Sample	Total/NA	Drinking Water	533	183713
380-179335-B-1-A MS	Matrix Spike	Total/NA	Drinking Water	533	183713
380-179335-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Drinking Water	533	183713

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Lab Chronicle

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

Client Sample ID: Hoaeae GAC EPD

Lab Sample ID: 380-179192-1

Date Collected: 10/22/25 12:55

Matrix: Drinking Water

Date Received: 10/24/25 09:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			183713	XTD8	EA POM	10/31/25 07:34
Total/NA	Analysis	533		1	183907	Y5FM	EA POM	10/31/25 20:20
Total/NA	Prep	537.1 DW			183250	N8NE	EA POM	10/29/25 17:36
Total/NA	Analysis	537.1		1	183347	Y5FM	EA POM	10/30/25 15:54
Total/NA	Analysis	None		1	183565	Y7BM	EA POM	10/30/25 15:54

Client Sample ID: FB: Hoaeae GAC EPD

Lab Sample ID: 380-179192-2

Date Collected: 10/22/25 12:55

Matrix: Drinking Water

Date Received: 10/24/25 09:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			183208	E2HD	EA POM	10/29/25 16:15
Total/NA	Analysis	533		1	183350	M7ML	EA POM	10/30/25 15:45
Total/NA	Prep	537.1 DW			183250	N8NE	EA POM	10/29/25 17:36
Total/NA	Analysis	537.1		1	183347	Y5FM	EA POM	10/30/25 16:04

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: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

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	01-31-26

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
None		Drinking Water	4-PFAS Hazard Index

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Method Summary

Client: City & County of Honolulu
Project/Site: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

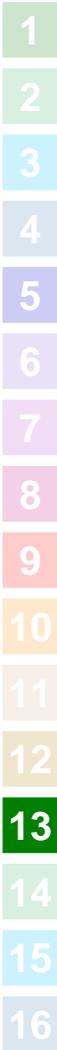
Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
537.1	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA POM
None	PFAS Hazard Index	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA POM
537.1 DW	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: SPECIAL

Job ID: 380-179192-1
SDG: Hoaeae GAC EPD

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-179192-1	Hoaeae GAC EPD	Drinking Water	10/22/25 12:55	10/24/25 09:44	Hawaii
380-179192-2	FB: Hoaeae GAC EPD	Drinking Water	10/22/25 12:55	10/24/25 09:44	Hawaii

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Chain of Custody Record

Client Information		Lab PM Lopez, Maria	Camera Tracking No(s)	COC No: 380-82899-24463 1								
Client Contact: Mr Erwin Kawata		E-Mail: Maria.Lopez@et.eurofins.com	State of Origin:	Page: Page 1 of 1								
Company: City & County of Honolulu		PWSID:	Job #:									
Address: 630 South Beretania Street Public Service Bldg Room 310		Due Date Requested:										
City: Honolulu		TAT Requested (days):										
State, Zip: HI 96843		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										
Phone: 808-749-5091 (Tel)		PO #: C20525101 exp 05312023										
Email: ekawata@hbws.org		WO #:										
Project Name: SPECIAL		Project #: 38000519										
Site: Hawaii		SSOW#:										
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Solid, Other)	Preservation Code: (ST-Tissue, AN-NA)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	537 1_DW_PREC 537 1 Full List	533 All Analytes	Analysis Requested	Special Instructions/Note:
Hoaeae GAC EPD		22-Oct-2025	1255	G	Drinking Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3 X 3	3 X 3	380-179192 COC	380-179192 COC
FB: Hoaeae GAC EPD		22-Oct-2025	1255				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 X 1			
Possible Hazard Identification		<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I II III IV Other (specify)										
Empty Kit Relinquished by:		Date:	Method of Shipment: <u>2854 2833 3042 / 5053</u>									
Relinquished by:		Date/Time:	<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:									
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Date/Time:	Received by: <u>YUO1</u> Date/Time: <u>10/24/25 9:44</u> Company: <u>Comp</u> Received by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____ Cooler Temperature(s) °C and Other Remarks: <u>60/1.6 = 1.3</u> <u>60/1.3</u>									



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-179192-1
SDG Number: Hoaeae GAC EPD

Login Number: 179192

List Number: 1

Creator: Segura, Ryan

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.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
CIO4 headspace requirement met (>50% for CA, >30% for other states).	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

