

ANALYTICAL REPORT

PREPARED FOR

Attn: Mike Chicoine
USACE WAD
5900 Mac Arthur Boulevard
Washington, Washington, DC 20016

Generated 9/14/2023 9:21:40 AM

JOB DESCRIPTION

USACE-WAD

JOB NUMBER

380-61310-1

Eurofins Eaton Analytical Pomona

Job Notes

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

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

Compliance Statement

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

Authorization



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Authorized for release by
Thomas French, Project Manager
Tom.French@et.eurofinsus.com
(626)386-1100



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Definitions/Glossary

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

Qualifiers

LCMS

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

Glossary

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

Case Narrative

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

Job ID: 380-61310-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative 380-61310-1

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 8/31/2023 10:35 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.7°C

PFAS

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

Detection Summary

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

Client Sample ID: 18

Lab Sample ID: 380-61310-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	2.1		2.0	ng/L	1		533	Total/NA
Perfluorobutanoic acid (PFBA)	2.6		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	3.4		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	4.6		2.0	ng/L	1		533	Total/NA

Client Sample ID: JS

Lab Sample ID: 380-61310-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	2.3		2.0	ng/L	1		533	Total/NA
Perfluorobutanoic acid (PFBA)	2.7		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	3.2		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.7		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	2.4		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	4.7		2.0	ng/L	1		533	Total/NA

Client Sample ID: Field Reagent Blank - 18

Lab Sample ID: 380-61310-3

No Detections.

Client Sample ID: Field Reagent Blank - JS

Lab Sample ID: 380-61310-4

No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

Client Sample ID: 18

Lab Sample ID: 380-61310-1

Date Collected: 08/30/23 06:00

Matrix: Drinking Water

Date Received: 08/31/23 10:35

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluorobutanesulfonic acid (PFBS)	2.1		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluorobutanoic acid (PFBA)	2.6		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluorohexanoic acid (PFHxA)	3.4		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluoropentanoic acid (PFPeA)	4.6		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:17	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	95		50 - 200	09/08/23 11:01	09/11/23 16:17	1
13C2-4:2-FTS	108		50 - 200	09/08/23 11:01	09/11/23 16:17	1
13C2-6:2-FTS	103		50 - 200	09/08/23 11:01	09/11/23 16:17	1
13C2-8:2-FTS	120		50 - 200	09/08/23 11:01	09/11/23 16:17	1
13C3 HFPO-DA	74		50 - 200	09/08/23 11:01	09/11/23 16:17	1
13C3 PFBS	94		50 - 200	09/08/23 11:01	09/11/23 16:17	1
13C3 PFHxS	92		50 - 200	09/08/23 11:01	09/11/23 16:17	1
13C4 PFBA	91		50 - 200	09/08/23 11:01	09/11/23 16:17	1
13C4 PFHpA	87		50 - 200	09/08/23 11:01	09/11/23 16:17	1
13C5 PFHxA	87		50 - 200	09/08/23 11:01	09/11/23 16:17	1
13C5 PFPeA	120		50 - 200	09/08/23 11:01	09/11/23 16:17	1
13C6 PFDA	93		50 - 200	09/08/23 11:01	09/11/23 16:17	1
13C7 PFUnA	85		50 - 200	09/08/23 11:01	09/11/23 16:17	1

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Client Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

Client Sample ID: 18

Lab Sample ID: 380-61310-1

Date Collected: 08/30/23 06:00

Matrix: Drinking Water

Date Received: 08/31/23 10:35

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	90		50 - 200	09/08/23 11:01	09/11/23 16:17	1
13C8 PFOS	94		50 - 200	09/08/23 11:01	09/11/23 16:17	1
13C9 PFNA	92		50 - 200	09/08/23 11:01	09/11/23 16:17	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		09/08/23 10:40	09/12/23 00:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		09/08/23 10:40	09/12/23 00:37	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		09/08/23 10:40	09/12/23 00:37	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		09/08/23 10:40	09/12/23 00:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	104		70 - 130	09/08/23 10:40	09/12/23 00:37	1
13C2 PFHxA	110		70 - 130	09/08/23 10:40	09/12/23 00:37	1
13C3-GenX	102		70 - 130	09/08/23 10:40	09/12/23 00:37	1
d5-NEtFOSAA	94		70 - 130	09/08/23 10:40	09/12/23 00:37	1

Client Sample ID: JS

Lab Sample ID: 380-61310-2

Date Collected: 08/30/23 07:30

Matrix: Drinking Water

Date Received: 08/31/23 10:35

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)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluorobutanesulfonic acid (PFBS)	2.3		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluorobutanoic acid (PFBA)	2.7		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1

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Client Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

Client Sample ID: JS

Lab Sample ID: 380-61310-2

Date Collected: 08/30/23 07:30

Matrix: Drinking Water

Date Received: 08/31/23 10:35

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluorohexanoic acid (PFHxA)	3.2		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluorooctanesulfonic acid (PFOS)	2.7		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluorooctanoic acid (PFOA)	2.4		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluoropentanoic acid (PFPeA)	4.7		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:28	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C2 PFDoA	92		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C2-4:2-FTS	116		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C2-6:2-FTS	102		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C2-8:2-FTS	91		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C3 HFPO-DA	68		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C3 PFBS	91		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C3 PFHxS	94		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C4 PFBA	88		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C4 PFHpA	82		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C5 PFHxA	83		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C5 PFPeA	121		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C6 PFDA	87		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C7 PFUnA	86		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C8 PFOA	86		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C8 PFOS	97		50 - 200			09/08/23 11:01	09/11/23 16:28	1
13C9 PFNA	93		50 - 200			09/08/23 11:01	09/11/23 16:28	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		09/08/23 10:40	09/12/23 03:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		09/08/23 10:40	09/12/23 03:14	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		09/08/23 10:40	09/12/23 03:14	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		09/08/23 10:40	09/12/23 03:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C2 PFDA	113		70 - 130			09/08/23 10:40	09/12/23 03:14	1
13C2 PFHxA	115		70 - 130			09/08/23 10:40	09/12/23 03:14	1
13C3-GenX	102		70 - 130			09/08/23 10:40	09/12/23 03:14	1
d5-NEtFOSAA	101		70 - 130			09/08/23 10:40	09/12/23 03:14	1

Client Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

Client Sample ID: Field Reagent Blank - 18

Lab Sample ID: 380-61310-3

Date Collected: 08/30/23 06:00

Matrix: Drinking Water

Date Received: 08/31/23 10:35

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)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:38	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	94		50 - 200	09/08/23 11:01	09/11/23 16:38	1
13C2-4:2-FTS	97		50 - 200	09/08/23 11:01	09/11/23 16:38	1
13C2-6:2-FTS	91		50 - 200	09/08/23 11:01	09/11/23 16:38	1
13C2-8:2-FTS	83		50 - 200	09/08/23 11:01	09/11/23 16:38	1
13C3 HFPO-DA	80		50 - 200	09/08/23 11:01	09/11/23 16:38	1
13C3 PFBS	96		50 - 200	09/08/23 11:01	09/11/23 16:38	1
13C3 PFHxS	91		50 - 200	09/08/23 11:01	09/11/23 16:38	1
13C4 PFBA	90		50 - 200	09/08/23 11:01	09/11/23 16:38	1
13C4 PFHpA	86		50 - 200	09/08/23 11:01	09/11/23 16:38	1
13C5 PFHxA	94		50 - 200	09/08/23 11:01	09/11/23 16:38	1
13C5 PFPeA	100		50 - 200	09/08/23 11:01	09/11/23 16:38	1
13C6 PFDA	91		50 - 200	09/08/23 11:01	09/11/23 16:38	1
13C7 PFUnA	91		50 - 200	09/08/23 11:01	09/11/23 16:38	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

Client Sample ID: Field Reagent Blank - 18

Lab Sample ID: 380-61310-3

Date Collected: 08/30/23 06:00

Matrix: Drinking Water

Date Received: 08/31/23 10:35

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	94		50 - 200	09/08/23 11:01	09/11/23 16:38	1
13C8 PFOS	93		50 - 200	09/08/23 11:01	09/11/23 16:38	1
13C9 PFNA	93		50 - 200	09/08/23 11:01	09/11/23 16:38	1

Client Sample ID: Field Reagent Blank - JS

Lab Sample ID: 380-61310-4

Date Collected: 08/30/23 07:30

Matrix: Drinking Water

Date Received: 08/31/23 10:35

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 16:48	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	96		50 - 200	09/08/23 11:01	09/11/23 16:48	1
13C2-4:2-FTS	93		50 - 200	09/08/23 11:01	09/11/23 16:48	1
13C2-6:2-FTS	87		50 - 200	09/08/23 11:01	09/11/23 16:48	1
13C2-8:2-FTS	89		50 - 200	09/08/23 11:01	09/11/23 16:48	1

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Client Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

Client Sample ID: Field Reagent Blank - JS

Lab Sample ID: 380-61310-4

Date Collected: 08/30/23 07:30

Matrix: Drinking Water

Date Received: 08/31/23 10:35

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

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	83		50 - 200	09/08/23 11:01	09/11/23 16:48	1
13C3 PFBS	92		50 - 200	09/08/23 11:01	09/11/23 16:48	1
13C3 PFHxS	90		50 - 200	09/08/23 11:01	09/11/23 16:48	1
13C4 PFBA	93		50 - 200	09/08/23 11:01	09/11/23 16:48	1
13C4 PFHpA	94		50 - 200	09/08/23 11:01	09/11/23 16:48	1
13C5 PFHxA	93		50 - 200	09/08/23 11:01	09/11/23 16:48	1
13C5 PFPeA	98		50 - 200	09/08/23 11:01	09/11/23 16:48	1
13C6 PFDA	93		50 - 200	09/08/23 11:01	09/11/23 16:48	1
13C7 PFUnA	95		50 - 200	09/08/23 11:01	09/11/23 16:48	1
13C8 PFOA	94		50 - 200	09/08/23 11:01	09/11/23 16:48	1
13C8 PFOS	93		50 - 200	09/08/23 11:01	09/11/23 16:48	1
13C9 PFNA	96		50 - 200	09/08/23 11:01	09/11/23 16:48	1

Surrogate Summary

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDA	PFHxA	GenX	d5NEFOS
		(70-130)	(70-130)	(70-130)	(70-130)
380-61310-1	18	104	110	102	94
380-61310-1 MS	18	104	104	102	97
380-61310-1 MSD	18	113	112	109	102
380-61310-2	JS	113	115	102	101
LCS 380-54972/23-A	Lab Control Sample	108	112	108	103
LCSD 380-54972/24-A	Lab Control Sample Dup	110	114	113	102
MBL 380-54972/21-A	Method Blank	114	118	115	112
MRL 380-54972/22-A	Lab Control Sample	103	106	104	97

Surrogate Legend

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

Isotope Dilution Summary

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

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	PFDoA (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)	HFPODA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	PFBA (50-200)
380-60464-O-1-B MS	Matrix Spike	92	89	87	80	93	96	94	97
380-60464-P-1-B MSD	Matrix Spike Duplicate	90	88	86	83	89	95	93	92
380-61310-1	18	95	108	103	120	74	94	92	91
380-61310-2	JS	92	116	102	91	68	91	94	88
380-61310-3	Field Reagent Blank - 18	94	97	91	83	80	96	91	90
380-61310-4	Field Reagent Blank - JS	96	93	87	89	83	92	90	93
LCS 380-54980/23-A	Lab Control Sample	92	84	85	78	90	89	89	92
LCSD 380-54980/24-A	Lab Control Sample Dup	93	85	84	77	91	93	92	91
MBL 380-54980/21-A	Method Blank	84	91	87	93	75	82	83	87
MRL 380-54980/22-A	Lab Control Sample	86	95	92	83	83	95	93	92

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	C4PFHA (50-200)	13C5PHA (50-200)	PFPeA (50-200)	C6PFDA (50-200)	13C7PUA (50-200)	C8PFOA (50-200)	C8PFOS (50-200)	C9PFNA (50-200)
380-60464-O-1-B MS	Matrix Spike	90	95	102	93	92	97	95	100
380-60464-P-1-B MSD	Matrix Spike Duplicate	90	92	102	90	88	93	97	94
380-61310-1	18	87	87	120	93	85	90	94	92
380-61310-2	JS	82	83	121	87	86	86	97	93
380-61310-3	Field Reagent Blank - 18	86	94	100	91	91	94	93	93
380-61310-4	Field Reagent Blank - JS	94	93	98	93	95	94	93	96
LCS 380-54980/23-A	Lab Control Sample	94	96	105	95	92	97	92	98
LCSD 380-54980/24-A	Lab Control Sample Dup	91	95	103	93	91	94	96	100
MBL 380-54980/21-A	Method Blank	80	82	93	86	77	84	85	88
MRL 380-54980/22-A	Lab Control Sample	91	93	96	87	82	91	93	93

Surrogate Legend

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

QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

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

Lab Sample ID: MBL 380-54980/21-A
Matrix: Drinking Water
Analysis Batch: 55204

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 54980

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		09/08/23 11:01	09/11/23 13:32	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	84		50 - 200	09/08/23 11:01	09/11/23 13:32	1
13C2-4:2-FTS	91		50 - 200	09/08/23 11:01	09/11/23 13:32	1
13C2-6:2-FTS	87		50 - 200	09/08/23 11:01	09/11/23 13:32	1
13C2-8:2-FTS	93		50 - 200	09/08/23 11:01	09/11/23 13:32	1
13C3 HFPO-DA	75		50 - 200	09/08/23 11:01	09/11/23 13:32	1
13C3 PFBS	82		50 - 200	09/08/23 11:01	09/11/23 13:32	1
13C3 PFHxS	83		50 - 200	09/08/23 11:01	09/11/23 13:32	1
13C4 PFBA	87		50 - 200	09/08/23 11:01	09/11/23 13:32	1
13C4 PFHpA	80		50 - 200	09/08/23 11:01	09/11/23 13:32	1
13C5 PFHxA	82		50 - 200	09/08/23 11:01	09/11/23 13:32	1
13C5 PFPeA	93		50 - 200	09/08/23 11:01	09/11/23 13:32	1
13C6 PFDA	86		50 - 200	09/08/23 11:01	09/11/23 13:32	1

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QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

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

Lab Sample ID: MBL 380-54980/21-A
Matrix: Drinking Water
Analysis Batch: 55204

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 54980

Isotope Dilution	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C7 PFUnA	77		50 - 200	09/08/23 11:01	09/11/23 13:32	1
13C8 PFOA	84		50 - 200	09/08/23 11:01	09/11/23 13:32	1
13C8 PFOS	85		50 - 200	09/08/23 11:01	09/11/23 13:32	1
13C9 PFNA	88		50 - 200	09/08/23 11:01	09/11/23 13:32	1

Lab Sample ID: LCS 380-54980/23-A
Matrix: Drinking Water
Analysis Batch: 55204

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54980

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.0	50.4		ng/L		84	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.0	54.0		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.0	50.5		ng/L		84	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.0	54.0		ng/L		90	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.0	53.9		ng/L		90	70 - 130
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	60.0	48.1		ng/L		80	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.0	56.4		ng/L		94	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.0	45.6		ng/L		76	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.0	52.3		ng/L		87	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.0	54.7		ng/L		91	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.0	49.6		ng/L		83	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.0	52.0		ng/L		87	70 - 130
Perfluorobutanoic acid (PFBA)	60.0	50.8		ng/L		85	70 - 130
Perfluorodecanoic acid (PFDA)	60.0	52.2		ng/L		87	70 - 130
Perfluorododecanoic acid (PFDoA)	60.0	50.7		ng/L		85	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.0	51.8		ng/L		86	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.0	53.0		ng/L		88	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.0	51.7		ng/L		86	70 - 130
Perfluorohexanoic acid (PFHxA)	60.0	49.7		ng/L		83	70 - 130
Perfluorononanoic acid (PFNA)	60.0	54.5		ng/L		91	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.0	50.1		ng/L		84	70 - 130
Perfluorooctanoic acid (PFOA)	60.0	50.5		ng/L		84	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.0	51.7		ng/L		86	70 - 130
Perfluoropentanoic acid (PFPeA)	60.0	50.8		ng/L		85	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.0	51.1		ng/L		85	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

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

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C2 PFDoA	92		50 - 200
13C2-4:2-FTS	84		50 - 200
13C2-6:2-FTS	85		50 - 200
13C2-8:2-FTS	78		50 - 200
13C3 HFPO-DA	90		50 - 200
13C3 PFBS	89		50 - 200
13C3 PFHxS	89		50 - 200
13C4 PFBA	92		50 - 200
13C4 PFHpA	94		50 - 200
13C5 PFHxA	96		50 - 200
13C5 PFPeA	105		50 - 200
13C6 PFDA	95		50 - 200
13C7 PFUnA	92		50 - 200
13C8 PFOA	97		50 - 200
13C8 PFOS	92		50 - 200
13C9 PFNA	98		50 - 200

Lab Sample ID: LCSD 380-54980/24-A
Matrix: Drinking Water
Analysis Batch: 55204

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 54980

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.0	54.4		ng/L		91	70 - 130	8	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.0	58.5		ng/L		98	70 - 130	8	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.0	54.3		ng/L		90	70 - 130	7	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.0	56.4		ng/L		94	70 - 130	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.0	56.0		ng/L		93	70 - 130	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	60.0	51.5		ng/L		86	70 - 130	7	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.0	59.2		ng/L		99	70 - 130	5	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.0	49.2		ng/L		82	70 - 130	8	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.0	53.3		ng/L		89	70 - 130	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.0	57.1		ng/L		95	70 - 130	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.0	53.9		ng/L		90	70 - 130	8	30
Perfluorobutanesulfonic acid (PFBS)	60.0	55.0		ng/L		92	70 - 130	6	30
Perfluorobutanoic acid (PFBA)	60.0	54.5		ng/L		91	70 - 130	7	30
Perfluorodecanoic acid (PFDA)	60.0	57.5		ng/L		96	70 - 130	10	30
Perfluorododecanoic acid (PFDoA)	60.0	55.8		ng/L		93	70 - 130	10	30
Perfluoroheptanesulfonic acid (PFHpS)	60.0	53.9		ng/L		90	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)	60.0	55.8		ng/L		93	70 - 130	5	30
Perfluorohexanesulfonic acid (PFHxS)	60.0	54.8		ng/L		91	70 - 130	6	30

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QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

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

Lab Sample ID: LCSD 380-54980/24-A
Matrix: Drinking Water
Analysis Batch: 55204

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 54980

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	60.0	51.4		ng/L		86	70 - 130	3	30
Perfluorononanoic acid (PFNA)	60.0	55.6		ng/L		93	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	60.0	51.8		ng/L		86	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	60.0	55.7		ng/L		93	70 - 130	10	30
Perfluoropentanesulfonic acid (PFPeS)	60.0	55.8		ng/L		93	70 - 130	8	30
Perfluoropentanoic acid (PFPeA)	60.0	51.7		ng/L		86	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	60.0	54.3		ng/L		90	70 - 130	6	30

Isotope Dilution	LCSD		Limits
	%Recovery	Qualifier	
13C2 PFDoA	93		50 - 200
13C2-4:2-FTS	85		50 - 200
13C2-6:2-FTS	84		50 - 200
13C2-8:2-FTS	77		50 - 200
13C3 HFPO-DA	91		50 - 200
13C3 PFBS	93		50 - 200
13C3 PFHxS	92		50 - 200
13C4 PFBA	91		50 - 200
13C4 PFHpA	91		50 - 200
13C5 PFHxA	95		50 - 200
13C5 PFPeA	103		50 - 200
13C6 PFDA	93		50 - 200
13C7 PFUnA	91		50 - 200
13C8 PFOA	94		50 - 200
13C8 PFOS	96		50 - 200
13C9 PFNA	100		50 - 200

Lab Sample ID: MRL 380-54980/22-A
Matrix: Drinking Water
Analysis Batch: 55204

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54980

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.84	J	ng/L		92	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	1.97	J	ng/L		98	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	1.75	J	ng/L		88	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.16		ng/L		108	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.86	J	ng/L		93	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	2.00	1.79	J	ng/L		89	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.99	J	ng/L		100	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.71	J	ng/L		85	50 - 150

QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

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

Lab Sample ID: MRL 380-54980/22-A
Matrix: Drinking Water
Analysis Batch: 55204

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54980

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	1.84	J	ng/L		92	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.01		ng/L		100	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.91	J	ng/L		95	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.81	J	ng/L		91	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.01		ng/L		100	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.00		ng/L		100	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.86	J	ng/L		93	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	1.94	J	ng/L		97	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.91	J	ng/L		95	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.81	J	ng/L		91	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.96	J	ng/L		98	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.98	J	ng/L		99	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.77	J	ng/L		89	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.92	J	ng/L		96	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.79	J	ng/L		90	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	1.98	J	ng/L		99	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.80	J	ng/L		90	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C2 PFDoA	86		50 - 200
13C2-4:2-FTS	95		50 - 200
13C2-6:2-FTS	92		50 - 200
13C2-8:2-FTS	83		50 - 200
13C3 HFPO-DA	83		50 - 200
13C3 PFBS	95		50 - 200
13C3 PFHxS	93		50 - 200
13C4 PFBA	92		50 - 200
13C4 PFHpA	91		50 - 200
13C5 PFHxA	93		50 - 200
13C5 PFPeA	96		50 - 200
13C6 PFDA	87		50 - 200
13C7 PFUnA	82		50 - 200
13C8 PFOA	91		50 - 200
13C8 PFOS	93		50 - 200
13C9 PFNA	93		50 - 200

QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

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

Lab Sample ID: 380-60464-O-1-B MS
Matrix: Drinking Water
Analysis Batch: 55204

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 54980

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C4 PFBA	97		50 - 200
13C4 PFHpA	90		50 - 200
13C5 PFHxA	95		50 - 200
13C5 PFPeA	102		50 - 200
13C6 PFDA	93		50 - 200
13C7 PFUnA	92		50 - 200
13C8 PFOA	97		50 - 200
13C8 PFOS	95		50 - 200
13C9 PFNA	100		50 - 200

Lab Sample ID: 380-60464-P-1-B MSD
Matrix: Drinking Water
Analysis Batch: 55204

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 54980

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
				Result	Qualifier						
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		60.1	54.5		ng/L		91	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		60.1	59.2		ng/L		98	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		60.1	56.6		ng/L		94	70 - 130	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		60.1	58.3		ng/L		97	70 - 130	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		60.1	55.9		ng/L		93	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		60.1	52.4		ng/L		87	70 - 130	0	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		60.1	60.1		ng/L		100	70 - 130	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		60.1	50.3		ng/L		84	70 - 130	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		60.1	55.2		ng/L		92	70 - 130	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		60.1	52.8		ng/L		88	70 - 130	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		60.1	53.3		ng/L		89	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	ND		60.1	55.9		ng/L		92	70 - 130	5	30
Perfluorobutanoic acid (PFBA)	ND		60.1	56.5		ng/L		91	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	ND		60.1	57.6		ng/L		96	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	ND		60.1	54.8		ng/L		91	70 - 130	1	30
Perfluoroheptanesulfonic acid (PFHpS)	ND		60.1	56.3		ng/L		94	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	ND		60.1	55.8		ng/L		92	70 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)	ND		60.1	57.7		ng/L		94	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	ND		60.1	55.3		ng/L		90	70 - 130	3	30
Perfluorononanoic acid (PFNA)	ND		60.1	58.2		ng/L		97	70 - 130	7	30
Perfluorooctanesulfonic acid (PFOS)	ND		60.1	55.8		ng/L		90	70 - 130	1	30

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QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

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

Lab Sample ID: 380-60464-P-1-B MSD
Matrix: Drinking Water
Analysis Batch: 55204

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 54980

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorooctanoic acid (PFOA)	ND		60.1	55.6		ng/L		91	70 - 130	4	30
Perfluoropentanesulfonic acid (PFPeS)	ND		60.1	59.7		ng/L		99	70 - 130	11	30
Perfluoropentanoic acid (PFPeA)	ND		60.1	55.2		ng/L		90	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	ND		60.1	54.2		ng/L		90	70 - 130	0	30
Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits								
13C2 PFDoA	90		50 - 200								
13C2-4:2-FTS	88		50 - 200								
13C2-6:2-FTS	86		50 - 200								
13C2-8:2-FTS	83		50 - 200								
13C3 HFPO-DA	89		50 - 200								
13C3 PFBS	95		50 - 200								
13C3 PFHxS	93		50 - 200								
13C4 PFBA	92		50 - 200								
13C4 PFHpA	90		50 - 200								
13C5 PFHxA	92		50 - 200								
13C5 PFPeA	102		50 - 200								
13C6 PFDA	90		50 - 200								
13C7 PFUnA	88		50 - 200								
13C8 PFOA	93		50 - 200								
13C8 PFOS	97		50 - 200								
13C9 PFNA	94		50 - 200								

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

Lab Sample ID: MBL 380-54972/21-A
Matrix: Drinking Water
Analysis Batch: 55192

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 54972

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		09/08/23 10:40	09/11/23 23:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		09/08/23 10:40	09/11/23 23:58	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		09/08/23 10:40	09/11/23 23:58	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		09/08/23 10:40	09/11/23 23:58	1
Surrogate	MBL %Recovery	MBL Qualifier	Limits					
13C2 PFDA	114		70 - 130	Prepared	Analyzed	Dil Fac		
13C2 PFHxA	118		70 - 130	09/08/23 10:40	09/11/23 23:58	1		
13C3-GenX	115		70 - 130	09/08/23 10:40	09/11/23 23:58	1		
d5-NEtFOSAA	112		70 - 130	09/08/23 10:40	09/11/23 23:58	1		

QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

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

Lab Sample ID: LCS 380-54972/23-A
Matrix: Drinking Water
Analysis Batch: 55192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54972

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.0	23.4		ng/L		94	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.0	23.0		ng/L		92	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.0	22.3		ng/L		89	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.0	22.4		ng/L		89	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
13C2 PFDA	108		70 - 130
13C2 PFHxA	112		70 - 130
13C3-GenX	108		70 - 130
d5-NEtFOSAA	103		70 - 130

Lab Sample ID: LCSD 380-54972/24-A
Matrix: Drinking Water
Analysis Batch: 55192

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 54972

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	26.2		ng/L		105	70 - 130	11	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	25.9		ng/L		103	70 - 130	12	30
Perfluorotetradecanoic acid (PFTA)	25.1	25.1		ng/L		100	70 - 130	12	30
Perfluorotridecanoic acid (PFTrDA)	25.1	26.4		ng/L		105	70 - 130	17	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
13C2 PFDA	110		70 - 130
13C2 PFHxA	114		70 - 130
13C3-GenX	113		70 - 130
d5-NEtFOSAA	102		70 - 130

Lab Sample ID: MRL 380-54972/22-A
Matrix: Drinking Water
Analysis Batch: 55192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54972

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.89	J	ng/L		94	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.01		ng/L		100	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.11		ng/L		105	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.01		ng/L		100	50 - 150

QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

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

Lab Sample ID: MRL 380-54972/22-A
Matrix: Drinking Water
Analysis Batch: 55192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54972

<i>Surrogate</i>	<i>MRL %Recovery</i>	<i>MRL Qualifier</i>	<i>Limits</i>
13C2 PFDA	103		70 - 130
13C2 PFHxA	106		70 - 130
13C3-GenX	104		70 - 130
d5-NEtFOSAA	97		70 - 130

Lab Sample ID: 380-61310-1 MS
Matrix: Drinking Water
Analysis Batch: 55192

Client Sample ID: 18
Prep Type: Total/NA
Prep Batch: 54972

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.01	ND		ng/L		98	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.01	ND		ng/L		95	70 - 130
Perfluorotetradecanoic acid (PFTA)	ND		2.01	2.20		ng/L		109	70 - 130
Perfluorotridecanoic acid (PFTrDA)	ND		2.01	ND		ng/L		97	70 - 130

<i>Surrogate</i>	<i>MS %Recovery</i>	<i>MS Qualifier</i>	<i>Limits</i>
13C2 PFDA	104		70 - 130
13C2 PFHxA	104		70 - 130
13C3-GenX	102		70 - 130
d5-NEtFOSAA	97		70 - 130

Lab Sample ID: 380-61310-1 MSD
Matrix: Drinking Water
Analysis Batch: 55192

Client Sample ID: 18
Prep Type: Total/NA
Prep Batch: 54972

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>Limit</i>
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.00	2.04		ng/L		102	70 - 130	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.00	2.09		ng/L		104	70 - 130	9	30
Perfluorotetradecanoic acid (PFTA)	ND		2.00	2.19		ng/L		109	70 - 130	0	30
Perfluorotridecanoic acid (PFTrDA)	ND		2.00	2.04		ng/L		102	70 - 130	4	30

<i>Surrogate</i>	<i>MSD %Recovery</i>	<i>MSD Qualifier</i>	<i>Limits</i>
13C2 PFDA	113		70 - 130
13C2 PFHxA	112		70 - 130
13C3-GenX	109		70 - 130
d5-NEtFOSAA	102		70 - 130

QC Association Summary

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

LCMS

Prep Batch: 54972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61310-1	18	Total/NA	Drinking Water	537.1 DW	
380-61310-2	JS	Total/NA	Drinking Water	537.1 DW	
MBL 380-54972/21-A	Method Blank	Total/NA	Drinking Water	537.1 DW	
LCS 380-54972/23-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
LCSD 380-54972/24-A	Lab Control Sample Dup	Total/NA	Drinking Water	537.1 DW	
MRL 380-54972/22-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
380-61310-1 MS	18	Total/NA	Drinking Water	537.1 DW	
380-61310-1 MSD	18	Total/NA	Drinking Water	537.1 DW	

Prep Batch: 54980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61310-1	18	Total/NA	Drinking Water	533	
380-61310-2	JS	Total/NA	Drinking Water	533	
380-61310-3	Field Reagent Blank - 18	Total/NA	Drinking Water	533	
380-61310-4	Field Reagent Blank - JS	Total/NA	Drinking Water	533	
MBL 380-54980/21-A	Method Blank	Total/NA	Drinking Water	533	
LCS 380-54980/23-A	Lab Control Sample	Total/NA	Drinking Water	533	
LCSD 380-54980/24-A	Lab Control Sample Dup	Total/NA	Drinking Water	533	
MRL 380-54980/22-A	Lab Control Sample	Total/NA	Drinking Water	533	
380-60464-O-1-B MS	Matrix Spike	Total/NA	Drinking Water	533	
380-60464-P-1-B MSD	Matrix Spike Duplicate	Total/NA	Drinking Water	533	

Analysis Batch: 55192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61310-1	18	Total/NA	Drinking Water	537.1	54972
380-61310-2	JS	Total/NA	Drinking Water	537.1	54972
MBL 380-54972/21-A	Method Blank	Total/NA	Drinking Water	537.1	54972
LCS 380-54972/23-A	Lab Control Sample	Total/NA	Drinking Water	537.1	54972
LCSD 380-54972/24-A	Lab Control Sample Dup	Total/NA	Drinking Water	537.1	54972
MRL 380-54972/22-A	Lab Control Sample	Total/NA	Drinking Water	537.1	54972
380-61310-1 MS	18	Total/NA	Drinking Water	537.1	54972
380-61310-1 MSD	18	Total/NA	Drinking Water	537.1	54972

Analysis Batch: 55204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61310-1	18	Total/NA	Drinking Water	533	54980
380-61310-2	JS	Total/NA	Drinking Water	533	54980
380-61310-3	Field Reagent Blank - 18	Total/NA	Drinking Water	533	54980
380-61310-4	Field Reagent Blank - JS	Total/NA	Drinking Water	533	54980
MBL 380-54980/21-A	Method Blank	Total/NA	Drinking Water	533	54980
LCS 380-54980/23-A	Lab Control Sample	Total/NA	Drinking Water	533	54980
LCSD 380-54980/24-A	Lab Control Sample Dup	Total/NA	Drinking Water	533	54980
MRL 380-54980/22-A	Lab Control Sample	Total/NA	Drinking Water	533	54980
380-60464-O-1-B MS	Matrix Spike	Total/NA	Drinking Water	533	54980
380-60464-P-1-B MSD	Matrix Spike Duplicate	Total/NA	Drinking Water	533	54980

Lab Chronicle

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

Client Sample ID: 18

Date Collected: 08/30/23 06:00

Date Received: 08/31/23 10:35

Lab Sample ID: 380-61310-1

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			54980	UMV1	EA POM	09/08/23 11:01
Total/NA	Analysis	533		1	55204	UKYM	EA POM	09/11/23 16:17
Total/NA	Prep	537.1 DW			54972	U7RS	EA POM	09/08/23 10:40
Total/NA	Analysis	537.1		1	55192	UKYM	EA POM	09/12/23 00:37

Client Sample ID: JS

Date Collected: 08/30/23 07:30

Date Received: 08/31/23 10:35

Lab Sample ID: 380-61310-2

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			54980	UMV1	EA POM	09/08/23 11:01
Total/NA	Analysis	533		1	55204	UKYM	EA POM	09/11/23 16:28
Total/NA	Prep	537.1 DW			54972	U7RS	EA POM	09/08/23 10:40
Total/NA	Analysis	537.1		1	55192	UKYM	EA POM	09/12/23 03:14

Client Sample ID: Field Reagent Blank - 18

Date Collected: 08/30/23 06:00

Date Received: 08/31/23 10:35

Lab Sample ID: 380-61310-3

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			54980	UMV1	EA POM	09/08/23 11:01
Total/NA	Analysis	533		1	55204	UKYM	EA POM	09/11/23 16:38

Client Sample ID: Field Reagent Blank - JS

Date Collected: 08/30/23 07:30

Date Received: 08/31/23 10:35

Lab Sample ID: 380-61310-4

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			54980	UMV1	EA POM	09/08/23 11:01
Total/NA	Analysis	533		1	55204	UKYM	EA POM	09/11/23 16:48

Laboratory References:

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

Accreditation/Certification Summary

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

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
Maryland	State	224	03-31-24
<p>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.</p>			
Analysis Method	Prep Method	Matrix	Analyte
533	533	Drinking Water	11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
533	533	Drinking Water	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)
533	533	Drinking Water	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)
533	533	Drinking Water	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)
533	533	Drinking Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
533	533	Drinking Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid
533	533	Drinking Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)
533	533	Drinking Water	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
533	533	Drinking Water	Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)
533	533	Drinking Water	Perfluoro-3-methoxypropanoic acid (PFMPA)
533	533	Drinking Water	Perfluoro-4-methoxybutanoic acid (PFMBA)
533	533	Drinking Water	Perfluorobutanesulfonic acid (PFBS)
533	533	Drinking Water	Perfluorobutanoic acid (PFBA)
533	533	Drinking Water	Perfluorodecanoic acid (PFDA)
533	533	Drinking Water	Perfluorododecanoic acid (PFDoA)
533	533	Drinking Water	Perfluoroheptanesulfonic acid (PFHpS)
533	533	Drinking Water	Perfluoroheptanoic acid (PFHpA)
533	533	Drinking Water	Perfluorohexanesulfonic acid (PFHxS)
533	533	Drinking Water	Perfluorohexanoic acid (PFHxA)
533	533	Drinking Water	Perfluorononanoic acid (PFNA)
533	533	Drinking Water	Perfluorooctanesulfonic acid (PFOS)
533	533	Drinking Water	Perfluorooctanoic acid (PFOA)
533	533	Drinking Water	Perfluoropentanesulfonic acid (PFPeS)
533	533	Drinking Water	Perfluoropentanoic acid (PFPeA)
533	533	Drinking Water	Perfluoroundecanoic acid (PFUnA)
537.1	537.1 DW	Drinking Water	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537.1	537.1 DW	Drinking Water	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537.1	537.1 DW	Drinking Water	Perfluorotetradecanoic acid (PFTA)
537.1	537.1 DW	Drinking Water	Perfluorotridecanoic acid (PFTTrDA)
Utah	NELAP	CA00006	02-29-24

Method Summary

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
537.1	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA POM
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA POM

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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



Sample Summary

Client: USACE WAD
Project/Site: USACE-WAD

Job ID: 380-61310-1

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
380-61310-1	18	Drinking Water	08/30/23 06:00	08/31/23 10:35
380-61310-2	JS	Drinking Water	08/30/23 07:30	08/31/23 10:35
380-61310-3	Field Reagent Blank - 18	Drinking Water	08/30/23 06:00	08/31/23 10:35
380-61310-4	Field Reagent Blank - JS	Drinking Water	08/30/23 07:30	08/31/23 10:35

- 1
- 2
- 3
- 4
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- 6
- 7
- 8
- 9
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- 11
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- 14
- 15
- 16

Bottle Order Information

Bottle Order: USACE-WAD PFAS Quarterly
 Bottle Order #: 6090
 Request From Client: 8/10/2023
 Date Order Posted: 12/19/2022 9:48:43AM
 Order Status: Ready To Process
 Prepared By: Thomas French
Deliver By Date: 8/18/2023 11:59:00PM
 Lab Project Number: 38002019
 PWSID:

Order Completion Information

Creator: Thomas French
 Filled by:
 Sent Date:
 Sent Via:
 Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
2	3	6	Plastic 250ml - Trizma	Trizma	537.1_DW_PREC - EPA 537.1 Short List	Drinking W	Normal		
2	3	6	Plastic 250ml - Ammonium Acetate	Ammonium Acetate	533 - All Analytes	Drinking W	Normal		
2	1	2	Plastic 250ml - Reagent Water	None	537.1_DW_PREC - EPA 537.1 Short List	Drinking W	Field Reagent E		
2	1	2	Plastic 250ml - Trizma	Trizma	537.1_DW_PREC - EPA 537.1 Short List	Drinking W	Field Reagent E		
2	1	2	Plastic 250ml - Reagent Water	None	533 - All Analytes	Drinking W	Field Reagent E		
2	1	2	Plastic 250ml - Ammonium Acetate	Ammonium Acetate	533 - All Analytes	Drinking W	Field Reagent E		

Total Bottle Summary

Bottle Type Description

Plastic 250ml - Reagent Water 4
 Plastic 250ml - Trizma 8
 Plastic 250ml - Ammonium Acetate 8

Preservative

None
 Trizma
 Ammonium Acetate

Bottle Count

4
 8
 8

Total Bottles: 20

Notes to Field Staff:



Scan QR code for field sampler instructions

Health and Safety Notes:

Preservative

Ammonium Acetate

Trizma

Caution! May cause eye, skin, and respiratory tract irritation. Avoid skin and eye contact if contact is made, FLUSH IMMEDIATELY with water.

CAUTION! May cause eye, skin, and respiratory tract irritation

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.



Relinquished By	Company	Date	Time	Received By	Company	Seal # Seal # Seal # Seal #
Relinquished By	Company	Date	Time	Received By	Company	Seal # Seal # Seal # Seal #

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.



Shipping Order Form - Bottle Order



Environment Testing



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

Shipping Order ID: 40054

Ship Via: FedEx

Due On: 8/18/2023 11:59:00PM

When To Ship: 8/10/2023

Ship To Information

Project Manager: Thomas French
Em: Tom.French@et.eurofins.com
Company Name: USACE WAD
Attention: Robert Hoffa
Address 1: 5900 Mac Arthur Boulevard
Address 2:
Address 3:
City: Washington
State: DC
Zip: 20016
Phone #: 202-587-9141
Project Ref: USACE-WAD

Notes to Bottle/Shipping Department

Bags for use of wet ice for sample refrigeration upon return shipment.

Shipping Method: Pack by sample set (affixed TALS labels)

- Ready to Fill
- Preprinted COC
- Number of COC Copies:
- Seals on Bottle
- Seals on Coolers
- Priority
- Return Shipment Labels
- Prepaid Return
- Eurofins Eaton Analytical Pomona
- Short Hold Times
- Temperature Control
- Rush

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.



Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.



Login Sample Receipt Checklist

Client: USACE WAD

Job Number: 380-61310-1

Login Number: 61310

List Source: Eurofins Eaton Analytical Pomona

List Number: 1

Creator: Orozco, Jocelyn

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