



ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

USACE-WAD/PFAS

JOB NUMBER

380-38881-1

Eurofins Eaton Analytical Pomona

Job Notes

Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis.

Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

Test results relate only to the sample(s) tested.

Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report includes ISO/IEC 17025 and non-ISO 17025 accredited methods.

Compliance Statement

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

Authorization



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Definitions/Glossary

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
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/PFAS

Job ID: 380-38881-1

Job ID: 380-38881-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative
380-38881-1

Receipt

The samples were received on 2/28/2023 8:25 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

PFAS

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

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Detection Summary

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

Client Sample ID: 18

Lab Sample ID: 380-38881-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.9		1.9	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.0		1.9	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.0		1.9	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.6		1.9	ng/L	1		533	Total/NA

Client Sample ID: JS

Lab Sample ID: 380-38881-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	1.9		1.9	ng/L	1		533	Total/NA
Perfluorobutanoic acid (PFBA)	5.7		1.9	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.7		1.9	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.4		1.9	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	1.9		1.9	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	3.5		1.9	ng/L	1		533	Total/NA

Client Sample ID: 18 Field Blank

Lab Sample ID: 380-38881-3

No Detections.

Client Sample ID: JS Field Blank

Lab Sample ID: 380-38881-4

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

Client Sample ID: 18

Lab Sample ID: 380-38881-1

Date Collected: 02/27/23 09:37

Matrix: Drinking Water

Date Received: 02/28/23 08:25

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluorobutanoic acid (PFBA)	4.9		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluorodecanoic acid (PFDA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluorohexanoic acid (PFHxA)	2.0		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluorononanoic acid (PFNA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluorooctanesulfonic acid (PFOS)	2.0		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluorooctanoic acid (PFOA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluoropentanoic acid (PFPeA)	2.6		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:33	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	65		50 - 200	03/22/23 06:25	03/23/23 18:33	1
13C2-4:2-FTS	102		50 - 200	03/22/23 06:25	03/23/23 18:33	1
13C2-6:2-FTS	101		50 - 200	03/22/23 06:25	03/23/23 18:33	1
13C2-8:2-FTS	99		50 - 200	03/22/23 06:25	03/23/23 18:33	1
13C3 HFPO-DA	105		50 - 200	03/22/23 06:25	03/23/23 18:33	1
13C3 PFBS	95		50 - 200	03/22/23 06:25	03/23/23 18:33	1
13C3 PFHxS	94		50 - 200	03/22/23 06:25	03/23/23 18:33	1
13C4 PFBA	90		50 - 200	03/22/23 06:25	03/23/23 18:33	1
13C4 PFHpA	84		50 - 200	03/22/23 06:25	03/23/23 18:33	1
13C5 PFHxA	85		50 - 200	03/22/23 06:25	03/23/23 18:33	1
13C5 PFPeA	102		50 - 200	03/22/23 06:25	03/23/23 18:33	1
13C6 PFDA	66		50 - 200	03/22/23 06:25	03/23/23 18:33	1
13C7 PFUnA	63		50 - 200	03/22/23 06:25	03/23/23 18:33	1

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Client Sample Results

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

Client Sample ID: 18

Lab Sample ID: 380-38881-1

Date Collected: 02/27/23 09:37

Matrix: Drinking Water

Date Received: 02/28/23 08:25

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	82		50 - 200	03/22/23 06:25	03/23/23 18:33	1
13C8 PFOS	92		50 - 200	03/22/23 06:25	03/23/23 18:33	1
13C9 PFNA	74		50 - 200	03/22/23 06:25	03/23/23 18:33	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		03/09/23 07:27	03/09/23 22:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		03/09/23 07:27	03/09/23 22:55	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		03/09/23 07:27	03/09/23 22:55	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		03/09/23 07:27	03/09/23 22:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	115		70 - 130	03/09/23 07:27	03/09/23 22:55	1
13C2 PFHxA	115		70 - 130	03/09/23 07:27	03/09/23 22:55	1
13C3 HFPO-DA	111		70 - 130	03/09/23 07:27	03/09/23 22:55	1
d5-NETFOSAA	118		70 - 130	03/09/23 07:27	03/09/23 22:55	1

Client Sample ID: JS

Lab Sample ID: 380-38881-2

Date Collected: 02/27/23 11:30

Matrix: Drinking Water

Date Received: 02/28/23 08:25

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 e-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
9-Chlorohexadecafluoro-3-oxanonane e-1-sulfonic acid	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluorobutanesulfonic acid (PFBS)	1.9		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluorobutanoic acid (PFBA)	5.7		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluorodecanoic acid (PFDA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluorododecanoic acid (PFDaA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1

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Client Sample Results

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

Client Sample ID: JS

Lab Sample ID: 380-38881-2

Date Collected: 02/27/23 11:30

Matrix: Drinking Water

Date Received: 02/28/23 08:25

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		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluorohexanoic acid (PFHxA)	2.7		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluorononanoic acid (PFNA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluorooctanesulfonic acid (PFOS)	2.4		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluorooctanoic acid (PFOA)	1.9		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluoropentanoic acid (PFPeA)	3.5		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	ng/L		03/22/23 06:25	03/23/23 18:47	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	85		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C2-4:2-FTS	105		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C2-6:2-FTS	101		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C2-8:2-FTS	99		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C3 HFPO-DA	117		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C3 PFBS	95		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C3 PFHxS	96		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C4 PFBA	94		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C4 PFHpA	91		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C5 PFHxA	91		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C5 PFPeA	110		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C6 PFDA	86		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C7 PFUnA	85		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C8 PFOA	91		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C8 PFOS	93		50 - 200	03/22/23 06:25	03/23/23 18:47	1
13C9 PFNA	89		50 - 200	03/22/23 06:25	03/23/23 18:47	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		1.9	ng/L		03/09/23 07:27	03/09/23 22:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	ng/L		03/09/23 07:27	03/09/23 22:45	1
Perfluorotetradecanoic acid (PFTA)	ND		1.9	ng/L		03/09/23 07:27	03/09/23 22:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	ng/L		03/09/23 07:27	03/09/23 22:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	130		70 - 130	03/09/23 07:27	03/09/23 22:45	1
13C2 PFHxA	124		70 - 130	03/09/23 07:27	03/09/23 22:45	1
13C3 HFPO-DA	120		70 - 130	03/09/23 07:27	03/09/23 22:45	1
d5-NEtFOSAA	116		70 - 130	03/09/23 07:27	03/09/23 22:45	1

Client Sample Results

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

Client Sample ID: 18 Field Blank

Lab Sample ID: 380-38881-3

Date Collected: 02/27/23 09:37

Matrix: Drinking Water

Date Received: 02/28/23 08:25

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluorobutanoic acid (PFBA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluorodecanoic acid (PFDA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluorononanoic acid (PFNA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluorooctanoic acid (PFOA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluoropentanoic acid (PFPeA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:10	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	89		50 - 200	03/22/23 06:25	03/24/23 23:10	1
13C2-4:2-FTS	88		50 - 200	03/22/23 06:25	03/24/23 23:10	1
13C2-6:2-FTS	89		50 - 200	03/22/23 06:25	03/24/23 23:10	1
13C2-8:2-FTS	96		50 - 200	03/22/23 06:25	03/24/23 23:10	1
13C3 HFPO-DA	94		50 - 200	03/22/23 06:25	03/24/23 23:10	1
13C3 PFBS	95		50 - 200	03/22/23 06:25	03/24/23 23:10	1
13C3 PFHxS	96		50 - 200	03/22/23 06:25	03/24/23 23:10	1
13C4 PFBA	94		50 - 200	03/22/23 06:25	03/24/23 23:10	1
13C4 PFHpA	94		50 - 200	03/22/23 06:25	03/24/23 23:10	1
13C5 PFHxA	93		50 - 200	03/22/23 06:25	03/24/23 23:10	1
13C5 PFPeA	92		50 - 200	03/22/23 06:25	03/24/23 23:10	1
13C6 PFDA	93		50 - 200	03/22/23 06:25	03/24/23 23:10	1
13C7 PFUnA	91		50 - 200	03/22/23 06:25	03/24/23 23:10	1

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Client Sample Results

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

Client Sample ID: 18 Field Blank

Lab Sample ID: 380-38881-3

Date Collected: 02/27/23 09:37

Matrix: Drinking Water

Date Received: 02/28/23 08:25

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	03/22/23 06:25	03/24/23 23:10	1
13C8 PFOS	94		50 - 200	03/22/23 06:25	03/24/23 23:10	1
13C9 PFNA	95		50 - 200	03/22/23 06:25	03/24/23 23:10	1

Client Sample ID: JS Field Blank

Lab Sample ID: 380-38881-4

Date Collected: 02/27/23 11:30

Matrix: Drinking Water

Date Received: 02/28/23 08:25

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane e-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
9-Chlorohexadecafluoro-3-oxanonane e-1-sulfonic acid	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluorobutanoic acid (PFBA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluorodecanoic acid (PFDA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluorononanoic acid (PFNA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluorooctanoic acid (PFOA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluoropentanoic acid (PFPeA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	ng/L		03/22/23 06:25	03/24/23 23:24	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	89		50 - 200	03/22/23 06:25	03/24/23 23:24	1
13C2-4:2-FTS	87		50 - 200	03/22/23 06:25	03/24/23 23:24	1
13C2-6:2-FTS	87		50 - 200	03/22/23 06:25	03/24/23 23:24	1
13C2-8:2-FTS	94		50 - 200	03/22/23 06:25	03/24/23 23:24	1

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Client Sample Results

Client: USACE WAD
 Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

Client Sample ID: JS Field Blank

Lab Sample ID: 380-38881-4

Date Collected: 02/27/23 11:30

Matrix: Drinking Water

Date Received: 02/28/23 08:25

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	03/22/23 06:25	03/24/23 23:24	1
13C3 PFBS	93		50 - 200	03/22/23 06:25	03/24/23 23:24	1
13C3 PFHxS	96		50 - 200	03/22/23 06:25	03/24/23 23:24	1
13C4 PFBA	94		50 - 200	03/22/23 06:25	03/24/23 23:24	1
13C4 PFHpA	94		50 - 200	03/22/23 06:25	03/24/23 23:24	1
13C5 PFHxA	93		50 - 200	03/22/23 06:25	03/24/23 23:24	1
13C5 PFPeA	91		50 - 200	03/22/23 06:25	03/24/23 23:24	1
13C6 PFDA	92		50 - 200	03/22/23 06:25	03/24/23 23:24	1
13C7 PFUnA	90		50 - 200	03/22/23 06:25	03/24/23 23:24	1
13C8 PFOA	93		50 - 200	03/22/23 06:25	03/24/23 23:24	1
13C8 PFOS	93		50 - 200	03/22/23 06:25	03/24/23 23:24	1
13C9 PFNA	94		50 - 200	03/22/23 06:25	03/24/23 23:24	1

Surrogate Summary

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

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)			
		PFDA (70-130)	PFHxA (70-130)	HFPODA (70-130)	d5NEFOS (70-130)
380-38881-1	18	115	115	111	118
380-38881-2	JS	130	124	120	116
810-54805-B-1-A MS	Matrix Spike	113	117	119	106
810-54825-B-1-A DU	Duplicate	122	123	122	124
LCS 810-50905/3-A	Lab Control Sample	119	120	119	113
LLCS 810-50905/2-A	Lab Control Sample	125	121	117	125
MBL 810-50905/1-A	Method Blank	119	114	110	118

Surrogate Legend

PFDA = 13C2 PFDA

PFHxA = 13C2 PFHxA

HFPODA = 13C3 HFPO-DA

d5NEFOS = d5-NEtFOSAA

Isotope Dilution Summary

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

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)
380-38712-D-1-A DU	Duplicate	39 *5-	96	93	91	102	92	94	90
380-38881-1	18	65	102	101	99	105	95	94	90
380-38881-2	JS	85	105	101	99	117	95	96	94
380-38881-3	18 Field Blank	89	88	89	96	94	95	96	94
380-38881-4	JS Field Blank	89	87	87	94	83	93	96	94
810-55026-B-1-A MS	Matrix Spike	40 *5-	97	96	94	95	94	91	84
LCS 810-52507/3-A	Lab Control Sample	88	96	99	94	95	95	93	92
LLCS 810-52507/2-A	Lab Control Sample	85	94	91	89	85	94	93	94
LLCS 810-52507/2-A	Lab Control Sample	84	89	90	88	89	94	94	95
MBL 810-52507/1-A	Method Blank	85	95	97	93	109	96	95	95

		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)
380-38712-D-1-A DU	Duplicate	83	84	93	43 *5-	35 *5-	75	88	61
380-38881-1	18	84	85	102	66	63	82	92	74
380-38881-2	JS	91	91	110	86	85	91	93	89
380-38881-3	18 Field Blank	94	93	92	93	91	94	94	95
380-38881-4	JS Field Blank	94	93	91	92	90	93	93	94
810-55026-B-1-A MS	Matrix Spike	79	80	80	45 *5-	37 *5-	74	90	62
LCS 810-52507/3-A	Lab Control Sample	92	92	91	90	89	93	89	91
LLCS 810-52507/2-A	Lab Control Sample	94	94	93	88	87	94	90	93
LLCS 810-52507/2-A	Lab Control Sample	94	94	93	88	85	93	89	93
MBL 810-52507/1-A	Method Blank	95	94	94	90	87	95	91	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/PFAS

Job ID: 380-38881-1

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

Lab Sample ID: MBL 810-52507/1-A
Matrix: Drinking Water
Analysis Batch: 52677

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 52507

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
11-Chloroeicosafuoro-3-oxaundecane e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
9-Chlorohexadecafluoro-3-oxanonane e-1-sulfonic acid	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		03/22/23 06:25	03/23/23 15:39	1

Isotope Dilution	MBL	MBL	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C2 PFDoA	85		50 - 200	03/22/23 06:25	03/23/23 15:39	1
13C2-4:2-FTS	95		50 - 200	03/22/23 06:25	03/23/23 15:39	1
13C2-6:2-FTS	97		50 - 200	03/22/23 06:25	03/23/23 15:39	1
13C2-8:2-FTS	93		50 - 200	03/22/23 06:25	03/23/23 15:39	1
13C3 HFPO-DA	109		50 - 200	03/22/23 06:25	03/23/23 15:39	1
13C3 PFBS	96		50 - 200	03/22/23 06:25	03/23/23 15:39	1
13C3 PFHxS	95		50 - 200	03/22/23 06:25	03/23/23 15:39	1
13C4 PFBA	95		50 - 200	03/22/23 06:25	03/23/23 15:39	1
13C4 PFHpA	95		50 - 200	03/22/23 06:25	03/23/23 15:39	1
13C5 PFHxA	94		50 - 200	03/22/23 06:25	03/23/23 15:39	1
13C5 PFPeA	94		50 - 200	03/22/23 06:25	03/23/23 15:39	1
13C6 PFDA	90		50 - 200	03/22/23 06:25	03/23/23 15:39	1

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QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

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

Lab Sample ID: MBL 810-52507/1-A
Matrix: Drinking Water
Analysis Batch: 52677

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 52507

Isotope Dilution	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C7 PFUnA	87		50 - 200	03/22/23 06:25	03/23/23 15:39	1
13C8 PFOA	95		50 - 200	03/22/23 06:25	03/23/23 15:39	1
13C8 PFOS	91		50 - 200	03/22/23 06:25	03/23/23 15:39	1
13C9 PFNA	93		50 - 200	03/22/23 06:25	03/23/23 15:39	1

Lab Sample ID: LCS 810-52507/3-A
Matrix: Drinking Water
Analysis Batch: 52677

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 52507

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	192	201		ng/L		105	70 - 130
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	188	194		ng/L		103	70 - 130
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	190	198		ng/L		104	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	189	189		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	187	184		ng/L		98	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	200	216		ng/L		108	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	200	231		ng/L		116	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	178	175		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	200	196		ng/L		98	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	200	197		ng/L		98	70 - 130
Perfluorobutanesulfonic acid (PFBS)	178	176		ng/L		99	70 - 130
Perfluorobutanoic acid (PFBA)	200	199		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	200	200		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA)	200	202		ng/L		101	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	191	195		ng/L		102	70 - 130
Perfluoroheptanoic acid (PFHpA)	200	199		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	183	178		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	200	199		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	200	199		ng/L		100	70 - 130
Perfluorooctanesulfonic acid (PFOS)	186	185		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	200	198		ng/L		99	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	188	190		ng/L		101	70 - 130
Perfluoropentanoic acid (PFPeA)	200	201		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	200	200		ng/L		100	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

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

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C2 PFDoA	88		50 - 200
13C2-4:2-FTS	96		50 - 200
13C2-6:2-FTS	99		50 - 200
13C2-8:2-FTS	94		50 - 200
13C3 HFPO-DA	95		50 - 200
13C3 PFBS	95		50 - 200
13C3 PFHxS	93		50 - 200
13C4 PFBA	92		50 - 200
13C4 PFHpA	92		50 - 200
13C5 PFHxA	92		50 - 200
13C5 PFPeA	91		50 - 200
13C6 PFDA	90		50 - 200
13C7 PFUnA	89		50 - 200
13C8 PFOA	93		50 - 200
13C8 PFOS	89		50 - 200
13C9 PFNA	91		50 - 200

Lab Sample ID: LLCS 810-52507/2-A

Matrix: Drinking Water

Analysis Batch: 52677

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 52507

Analyte	Spike Added	LLCS	LLCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.89	1.71	J	ng/L		91	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.92	2.11		ng/L		110	50 - 150
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	1.88	1.97	J	ng/L		105	50 - 150
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	1.90	2.10		ng/L		110	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.82	J	ng/L		96	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.87	1.71	J	ng/L		92	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.65		ng/L		132	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.99	J	ng/L		100	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	1.78	1.71	J	ng/L		96	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.93	J	ng/L		97	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.91	J	ng/L		96	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.78	1.70	J	ng/L		96	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.16		ng/L		108	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.96	J	ng/L		98	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.08		ng/L		104	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.91	1.83	J	ng/L		96	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.96	J	ng/L		98	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	1.72	J	ng/L		94	50 - 150

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QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

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

Lab Sample ID: LLCS 810-52507/2-A

Matrix: Drinking Water

Analysis Batch: 52677

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 52507

Analyte	Spike	LLCS	LLCS	Unit	D	%Rec	%Rec Limits
	Added	Result	Qualifier				
Perfluorohexanoic acid (PFHxA)	2.00	2.02		ng/L		101	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.95	J	ng/L		97	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	1.81	J	ng/L		97	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.01		ng/L		100	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.87	J	ng/L		99	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.17		ng/L		108	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.95	J	ng/L		98	50 - 150

Isotope Dilution	LLCS	LLCS	Limits
	%Recovery	Qualifier	
13C2 PFDoA	85		50 - 200
13C2-4:2-FTS	94		50 - 200
13C2-6:2-FTS	91		50 - 200
13C2-8:2-FTS	89		50 - 200
13C3 HFPO-DA	85		50 - 200
13C3 PFBS	94		50 - 200
13C3 PFHxS	93		50 - 200
13C4 PFBA	94		50 - 200
13C4 PFHpA	94		50 - 200
13C5 PFHxA	94		50 - 200
13C5 PFPeA	93		50 - 200
13C6 PFDA	88		50 - 200
13C7 PFUnA	87		50 - 200
13C8 PFOA	94		50 - 200
13C8 PFOS	90		50 - 200
13C9 PFNA	93		50 - 200

Lab Sample ID: LLCS 810-52507/2-A

Matrix: Drinking Water

Analysis Batch: 52802

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 52507

Analyte	Spike	LLCS	LLCS	Unit	D	%Rec	%Rec Limits
	Added	Result	Qualifier				
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.89	1.72	J	ng/L		91	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.92	2.10		ng/L		109	50 - 150
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	1.88	2.03		ng/L		108	50 - 150
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	1.90	2.00		ng/L		105	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.83	J	ng/L		97	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.87	1.77	J	ng/L		95	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.13		ng/L		106	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.39		ng/L		120	50 - 150

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QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

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

Lab Sample ID: LLCS 810-52507/2-A

Matrix: Drinking Water

Analysis Batch: 52802

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 52507

Analyte	Spike Added	LLCS	LLCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	1.78	1.65	J	ng/L		93	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.87	J	ng/L		94	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.88	J	ng/L		94	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.78	1.69	J	ng/L		95	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.25		ng/L		113	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.94	J	ng/L		97	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.14		ng/L		107	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.91	1.92	J	ng/L		100	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.92	J	ng/L		96	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	1.75	J	ng/L		96	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.97	J	ng/L		99	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.94	J	ng/L		97	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	1.78	J	ng/L		96	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.10		ng/L		105	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.77	J	ng/L		94	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.20		ng/L		110	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.00		ng/L		100	50 - 150

Isotope Dilution	LLCS	LLCS	Limits
	%Recovery	Qualifier	
13C2 PFDoA	84		50 - 200
13C2-4:2-FTS	89		50 - 200
13C2-6:2-FTS	90		50 - 200
13C2-8:2-FTS	88		50 - 200
13C3 HFPO-DA	89		50 - 200
13C3 PFBS	94		50 - 200
13C3 PFHxS	94		50 - 200
13C4 PFBA	95		50 - 200
13C4 PFHpA	94		50 - 200
13C5 PFHxA	94		50 - 200
13C5 PFPeA	93		50 - 200
13C6 PFDA	88		50 - 200
13C7 PFUnA	85		50 - 200
13C8 PFOA	93		50 - 200
13C8 PFOS	89		50 - 200
13C9 PFNA	93		50 - 200

QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

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

Lab Sample ID: 810-55026-B-1-A MS

Client Sample ID: Matrix Spike

Matrix: Drinking Water

Prep Type: Total/NA

Analysis Batch: 52677

Prep Batch: 52507

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		178	174		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		181	194		ng/L		107	70 - 130
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		177	189		ng/L		107	70 - 130
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		179	189		ng/L		106	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		178	173		ng/L		97	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		176	173		ng/L		98	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		188	205		ng/L		109	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		188	226		ng/L		120	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		168	171		ng/L		102	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		188	185		ng/L		98	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		188	186		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	ND		167	167		ng/L		100	70 - 130
Perfluorobutanoic acid (PFBA)	5.6		188	195		ng/L		101	70 - 130
Perfluorodecanoic acid (PFDA)	ND		188	190		ng/L		101	70 - 130
Perfluorododecanoic acid (PFDoA)	ND		188	193		ng/L		103	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	ND		180	183		ng/L		102	70 - 130
Perfluoroheptanoic acid (PFHpA)	3.1		188	191		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	ND		172	175		ng/L		102	70 - 130
Perfluorohexanoic acid (PFHxA)	4.2		188	196		ng/L		102	70 - 130
Perfluorononanoic acid (PFNA)	ND		188	191		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.5		175	178		ng/L		101	70 - 130
Perfluorooctanoic acid (PFOA)	4.7		188	194		ng/L		101	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	ND		177	183		ng/L		104	70 - 130
Perfluoropentanoic acid (PFPeA)	4.5		188	195		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	ND		188	190		ng/L		101	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C2 PFDoA	40	*5-	50 - 200
13C2-4:2-FTS	97		50 - 200
13C2-6:2-FTS	96		50 - 200
13C2-8:2-FTS	94		50 - 200
13C3 HFPO-DA	95		50 - 200
13C3 PFBS	94		50 - 200
13C3 PFHxS	91		50 - 200

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QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

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

Lab Sample ID: 810-55026-B-1-A MS

Matrix: Drinking Water

Analysis Batch: 52677

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 52507

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C4 PFBA	84		50 - 200
13C4 PFHpA	79		50 - 200
13C5 PFHxA	80		50 - 200
13C5 PFPeA	80		50 - 200
13C6 PFDA	45	*5-	50 - 200
13C7 PFUnA	37	*5-	50 - 200
13C8 PFOA	74		50 - 200
13C8 PFOS	90		50 - 200
13C9 PFNA	62		50 - 200

Lab Sample ID: 380-38712-D-1-A DU

Matrix: Drinking Water

Analysis Batch: 52677

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 52507

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		ND		ng/L		NC	30	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		ND		ng/L		NC	30	
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		ND		ng/L		NC	30	
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		ND		ng/L		NC	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		ND		ng/L		NC	30	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		ND		ng/L		NC	30	
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		ND		ng/L		NC	30	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		ND		ng/L		NC	30	
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		ND		ng/L		NC	30	
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		ND		ng/L		NC	30	
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		ND		ng/L		NC	30	
Perfluorobutanesulfonic acid (PFBS)	3.4		3.64		ng/L		6	30	
Perfluorobutanoic acid (PFBA)	3.4		3.61		ng/L		5	30	
Perfluorodecanoic acid (PFDA)	ND		ND		ng/L		NC	30	
Perfluorododecanoic acid (PFDoA)	ND		ND		ng/L		NC	30	
Perfluoroheptanesulfonic acid (PFHpS)	ND		ND		ng/L		NC	30	
Perfluoroheptanoic acid (PFHpA)	ND		ND		ng/L		NC	30	
Perfluorohexanesulfonic acid (PFHxS)	ND		ND		ng/L		NC	30	
Perfluorohexanoic acid (PFHxA)	ND		ND		ng/L		NC	30	
Perfluorononanoic acid (PFNA)	ND		ND		ng/L		NC	30	
Perfluorooctanesulfonic acid (PFOS)	9.7		10.3		ng/L		7	30	

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QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

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

Lab Sample ID: 380-38712-D-1-A DU
Matrix: Drinking Water
Analysis Batch: 52677

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 52507

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Perfluorooctanoic acid (PFOA)	7.9		8.34		ng/L		5	30
Perfluoropentanesulfonic acid (PFPeS)	ND		ND		ng/L		NC	30
Perfluoropentanoic acid (PFPeA)	ND		ND		ng/L		NC	30
Perfluoroundecanoic acid (PFUnA)	ND		ND		ng/L		NC	30
	<i>DU</i>	<i>DU</i>						
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>					
13C2 PFD _o A	39	*5-	50 - 200					
13C2-4:2-FTS	96		50 - 200					
13C2-6:2-FTS	93		50 - 200					
13C2-8:2-FTS	91		50 - 200					
13C3 HFPO-DA	102		50 - 200					
13C3 PFBS	92		50 - 200					
13C3 PFH _x S	94		50 - 200					
13C4 PFBA	90		50 - 200					
13C4 PFHpA	83		50 - 200					
13C5 PFH _x A	84		50 - 200					
13C5 PFPeA	93		50 - 200					
13C6 PFDA	43	*5-	50 - 200					
13C7 PFUnA	35	*5-	50 - 200					
13C8 PFOA	75		50 - 200					
13C8 PFOS	88		50 - 200					
13C9 PFNA	61		50 - 200					

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

Lab Sample ID: MBL 810-50905/1-A
Matrix: Drinking Water
Analysis Batch: 50979

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50905

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		03/09/23 07:27	03/09/23 19:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		03/09/23 07:27	03/09/23 19:24	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		03/09/23 07:27	03/09/23 19:24	1
Perfluorotridecanoic acid (PFTTrDA)	ND		2.0	ng/L		03/09/23 07:27	03/09/23 19:24	1
	<i>MBL</i>	<i>MBL</i>						
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C2 PFDA	119		70 - 130			03/09/23 07:27	03/09/23 19:24	1
13C2 PFH _x A	114		70 - 130			03/09/23 07:27	03/09/23 19:24	1
13C3 HFPO-DA	110		70 - 130			03/09/23 07:27	03/09/23 19:24	1
d5-NEtFOSAA	118		70 - 130			03/09/23 07:27	03/09/23 19:24	1

QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

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

Lab Sample ID: LCS 810-50905/3-A
Matrix: Drinking Water
Analysis Batch: 50979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50905

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamide doacetic acid (NEtFOSAA)	200	210		ng/L		105	70 - 130
N-methylperfluorooctanesulfonamide doacetic acid (NMeFOSAA)	200	210		ng/L		105	70 - 130
Perfluorotetradecanoic acid (PFTA)	200	193		ng/L		97	70 - 130
Perfluorotridecanoic acid (PFTrDA)	200	203		ng/L		101	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
13C2 PFDA	119		70 - 130
13C2 PFHxA	120		70 - 130
13C3 HFPO-DA	119		70 - 130
d5-NEtFOSAA	113		70 - 130

Lab Sample ID: LLCS 810-50905/2-A
Matrix: Drinking Water
Analysis Batch: 50979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50905

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamide doacetic acid (NEtFOSAA)	2.00	2.61		ng/L		131	50 - 150
N-methylperfluorooctanesulfonamide doacetic acid (NMeFOSAA)	2.00	2.61		ng/L		130	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.38		ng/L		119	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.50		ng/L		125	50 - 150

Surrogate	LLCS LLCS		Limits
	%Recovery	Qualifier	
13C2 PFDA	125		70 - 130
13C2 PFHxA	121		70 - 130
13C3 HFPO-DA	117		70 - 130
d5-NEtFOSAA	125		70 - 130

Lab Sample ID: 810-54805-B-1-A MS
Matrix: Drinking Water
Analysis Batch: 50979

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 50905

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamide doacetic acid (NEtFOSAA)	ND		94.2	101		ng/L		107	70 - 130
N-methylperfluorooctanesulfonamide doacetic acid (NMeFOSAA)	ND		94.2	96.7		ng/L		103	70 - 130
Perfluorotetradecanoic acid (PFTA)	ND		94.2	89.0		ng/L		95	70 - 130
Perfluorotridecanoic acid (PFTrDA)	ND		94.2	101		ng/L		107	70 - 130

QC Sample Results

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

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

Lab Sample ID: 810-54805-B-1-A MS

Matrix: Drinking Water

Analysis Batch: 50979

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 50905

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
13C2 PFDA	113		70 - 130
13C2 PFHxA	117		70 - 130
13C3 HFPO-DA	119		70 - 130
d5-NEtFOSAA	106		70 - 130

Lab Sample ID: 810-54825-B-1-A DU

Matrix: Drinking Water

Analysis Batch: 50979

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 50905

Analyte	Sample Sample		DU DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	ND		ND		ng/L		NC	30
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	ND		ND		ng/L		NC	30
Perfluorotetradecanoic acid (PFTA)	ND		ND		ng/L		NC	30
Perfluorotridecanoic acid (PFTrDA)	ND		ND		ng/L		NC	30

Surrogate	DU DU		Limits
	%Recovery	Qualifier	
13C2 PFDA	122		70 - 130
13C2 PFHxA	123		70 - 130
13C3 HFPO-DA	122		70 - 130
d5-NEtFOSAA	124		70 - 130

QC Association Summary

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

LCMS

Prep Batch: 50905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-38881-1	18	Total/NA	Drinking Water	537.1 DW	
380-38881-2	JS	Total/NA	Drinking Water	537.1 DW	
MBL 810-50905/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW	
LCS 810-50905/3-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
LLCS 810-50905/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
810-54805-B-1-A MS	Matrix Spike	Total/NA	Drinking Water	537.1 DW	
810-54825-B-1-A DU	Duplicate	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 50979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-38881-1	18	Total/NA	Drinking Water	537.1	50905
380-38881-2	JS	Total/NA	Drinking Water	537.1	50905
MBL 810-50905/1-A	Method Blank	Total/NA	Drinking Water	537.1	50905
LCS 810-50905/3-A	Lab Control Sample	Total/NA	Drinking Water	537.1	50905
LLCS 810-50905/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1	50905
810-54805-B-1-A MS	Matrix Spike	Total/NA	Drinking Water	537.1	50905
810-54825-B-1-A DU	Duplicate	Total/NA	Drinking Water	537.1	50905

Prep Batch: 52507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-38881-1	18	Total/NA	Drinking Water	533	
380-38881-2	JS	Total/NA	Drinking Water	533	
380-38881-3	18 Field Blank	Total/NA	Drinking Water	533	
380-38881-4	JS Field Blank	Total/NA	Drinking Water	533	
MBL 810-52507/1-A	Method Blank	Total/NA	Drinking Water	533	
LCS 810-52507/3-A	Lab Control Sample	Total/NA	Drinking Water	533	
LLCS 810-52507/2-A	Lab Control Sample	Total/NA	Drinking Water	533	
810-55026-B-1-A MS	Matrix Spike	Total/NA	Drinking Water	533	
380-38712-D-1-A DU	Duplicate	Total/NA	Drinking Water	533	

Analysis Batch: 52677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-38881-1	18	Total/NA	Drinking Water	533	52507
380-38881-2	JS	Total/NA	Drinking Water	533	52507
MBL 810-52507/1-A	Method Blank	Total/NA	Drinking Water	533	52507
LCS 810-52507/3-A	Lab Control Sample	Total/NA	Drinking Water	533	52507
LLCS 810-52507/2-A	Lab Control Sample	Total/NA	Drinking Water	533	52507
810-55026-B-1-A MS	Matrix Spike	Total/NA	Drinking Water	533	52507
380-38712-D-1-A DU	Duplicate	Total/NA	Drinking Water	533	52507

Analysis Batch: 52802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-38881-3	18 Field Blank	Total/NA	Drinking Water	533	52507
380-38881-4	JS Field Blank	Total/NA	Drinking Water	533	52507
LLCS 810-52507/2-A	Lab Control Sample	Total/NA	Drinking Water	533	52507

Lab Chronicle

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

Client Sample ID: 18

Lab Sample ID: 380-38881-1

Date Collected: 02/27/23 09:37

Matrix: Drinking Water

Date Received: 02/28/23 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			52507	NR	EA SB	03/22/23 06:25
Total/NA	Analysis	533		1	52677	CM	EA SB	03/23/23 18:33
Total/NA	Prep	537.1 DW			50905	AD	EA SB	03/09/23 07:27
Total/NA	Analysis	537.1		1	50979	MH	EA SB	03/09/23 22:55

Client Sample ID: JS

Lab Sample ID: 380-38881-2

Date Collected: 02/27/23 11:30

Matrix: Drinking Water

Date Received: 02/28/23 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			52507	NR	EA SB	03/22/23 06:25
Total/NA	Analysis	533		1	52677	CM	EA SB	03/23/23 18:47
Total/NA	Prep	537.1 DW			50905	AD	EA SB	03/09/23 07:27
Total/NA	Analysis	537.1		1	50979	MH	EA SB	03/09/23 22:45

Client Sample ID: 18 Field Blank

Lab Sample ID: 380-38881-3

Date Collected: 02/27/23 09:37

Matrix: Drinking Water

Date Received: 02/28/23 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			52507	NR	EA SB	03/22/23 06:25
Total/NA	Analysis	533		1	52802	CM	EA SB	03/24/23 23:10

Client Sample ID: JS Field Blank

Lab Sample ID: 380-38881-4

Date Collected: 02/27/23 11:30

Matrix: Drinking Water

Date Received: 02/28/23 08:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			52507	NR	EA SB	03/22/23 06:25
Total/NA	Analysis	533		1	52802	CM	EA SB	03/24/23 23:24

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Accreditation/Certification Summary

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

Laboratory: Eurofins Eaton Analytical South Bend

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	ISO/IEC 17025	5794.01	07-31-24
Alabama	State	40700	06-30-23
Alaska	State	IN00035	06-30-23
Arizona	State	AZ0432	07-26-23
Arkansas (DW)	State	EPA IN00035	06-30-23
California	State	2920	06-30-23
Colorado	State	IN00035	02-29-24
Connecticut	State	PH-0132	03-31-22 *
Delaware (DW)	State	IN00035	06-30-23
Florida	NELAP	E87775	06-30-23
Georgia (DW)	State	929	06-30-23
Hawaii	State	IN035	06-30-23
Idaho (DW)	State	IN00035	12-31-23
IL Dept. of Public Health (Micro)	State	17767	06-30-23
Illinois	NELAP	200001	09-30-23
Indiana	State	C-71-01	12-31-25
Indiana (Micro)	State	M-76-07	12-31-25
Iowa	State	IA Lab #098	11-01-23
Kansas	NELAP	E-10233	10-31-23
Kentucky (DW)	State	KY90056	12-31-23
Louisiana (DW)	State	LA014	12-31-23
Maine	State	IN00035	05-01-23
Maryland	State	209	03-31-23
Massachusetts	State	M-IN035	06-30-23
MI - RadChem Recognition	State	9926	06-30-23
Michigan	State	9926	03-31-23
Minnesota	NELAP	1989807	12-31-23
Mississippi	State	IN00035	06-30-22 *
Missouri	State	880	09-30-24
Montana (DW)	State	CERT0026	01-02-24
Nebraska	State	NE-OS-05-04	06-30-23
Nevada	State	IN000352021-2	07-31-23
New Hampshire	NELAP	2124	11-05-23
New Jersey	NELAP	IN598	06-30-23
New Mexico	State	IN00035	06-30-23
New York	NELAP	11398	03-29-23
North Carolina (DW)	State	18700	07-31-23
North Dakota	State	R-035	06-30-23
Ohio	State	87775	06-30-23
Oklahoma	NELAP	D9508	08-31-23
Oregon	NELAP	4156	09-16-23
Pennsylvania	NELAP	68-00466	04-03-23
Puerto Rico	State	IN00035	04-01-24
Rhode Island	State	LAO00343	12-30-23
South Carolina	State	95005001	06-30-23
South Dakota (DW)	State	IN00035	06-30-23
Tennessee	State	TN02973	06-30-23
Texas	NELAP	T104704187-22-16	12-31-23
Texas	TCEQ Water Supply	TX207	06-30-23
USEPA Reg X SDWA	US Federal Programs	IN00035	08-20-22 *

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

Eurofins Eaton Analytical Pomona

Accreditation/Certification Summary

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

Laboratory: Eurofins Eaton Analytical South Bend (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
USEPA UCMR 5	US Federal Programs	IN00035	12-31-25
Utah	NELAP	IN00035	07-31-23
Vermont	State	VT-8775	11-15-23
Virginia	NELAP	460275	03-14-24
Washington	State	C837	01-01-24
West Virginia (DW)	State	9927 C	12-31-23
Wisconsin	State	999766900	08-31-23
Wisconsin (Micro)	State	10121	12-31-22 *
Wyoming	State	8TMS-L	06-30-23

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



Method Summary

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

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

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777



Sample Summary

Client: USACE WAD
Project/Site: USACE-WAD/PFAS

Job ID: 380-38881-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-38881-1	18	Drinking Water	02/27/23 09:37	02/28/23 08:25
380-38881-2	JS	Drinking Water	02/27/23 11:30	02/28/23 08:25
380-38881-3	18 Field Blank	Drinking Water	02/27/23 09:37	02/28/23 08:25
380-38881-4	JS Field Blank	Drinking Water	02/27/23 11:30	02/28/23 08:25

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

Monrovia, CA (Suite 100)
 750 Royal Oaks Drive Suite 100
 Monrovia, CA 91016
 Phone (626) 388-1100

Chain of Custody Record



Client Information
 Client Contact: Robert Hoffa
 Company: USACE WAD
 Address: 5900 Mac Arthur Boulevard
 City: Washington
 State Zip: DC, 20016
 Phone: 202-587-9139(Tel)
 Email: robert.p.hoffa@usace.army.mil
 Project Name: USACE-WAD
 Site: Washington, DC

Sampler: R. Hoffa
 Phone: 202-345-5928
 Lab PVI: French, Thomas D
 E-Mail: Tom.French@et.eurofins.com
 Carrier Tracking No(s):
 State of Origin:
 COC No: 380-21598-6090.1
 Page: Page 1 of 1
 Job #:

Due Date Requested:
 TAT Requested (days):
 Compliance Project: Yes No
 PO #: W912DR21F0303
 WO #:
 Project #: 38002019
 SSOW#:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (Water, Soil, Overstool, BT-Tissue, Ash)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Reservation Codes:	Special Instructions/Note:
18	2/27/23	0937	G	Drinking Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	537.1_DW_PREC - EPA 537.1 Short List 533 - All Analytes	M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	Bottle order is from Monrovia lab
JS	2/27/23	1130	G	Drinking Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			3
Field Reagent Blank - 18	2/27/23	0937	G	Drinking Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			1
Field Reagent Blank - JS	2/27/23	1130	G	Drinking Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			1

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Dispose By Lab Archive For _____ Months

Special Instructions/Note:
 Initial Temp: 4.8
 Corrected Temp: 5.0
 IR Gun # 18

Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: _____ Date/Time: _____ Company: _____
 Relinquished by: R. Hoffa Date/Time: 2/27/23 1230 Company: USACE

Custody Seals Intact: Yes No
 Custody Seal No.: _____
 Cooler Temperature(s) °C and Other Remarks: _____

Method of Shipment: _____ Date/Time: _____ Company: _____
 Received by: _____ Date/Time: 2.28.23 1015 Company: _____

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: USACE WAD

Job Number: 380-38881-1

Login Number: 38881

List Source: Eurofins Eaton Analytical Pomona

List Number: 1

Creator: Waichulaitis, Stephen R

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

Login Sample Receipt Checklist

Client: USACE WAD

Job Number: 380-38881-1

Login Number: 38881

List Source: Eurofins Eaton Analytical South Bend

List Number: 2

List Creation: 02/28/23 12:05 PM

Creator: DePriest, Kellie

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	

