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ANALYTICAL REPORT

Eurofins Lancaster Laboratories Environment Testing, LLC
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Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-98224-1
Client Project/Site: PFAS in DW by EPA 537.1

For:
MN Dept of Military Affairs Facilities Management Office
15000 Highway 115
Camp Ripley Building 2-1
Little Falls, Minnesota 56345-4173

Attn: Russell Howard

Authorized for release by:
10/3/2022 1:34:08 PM

Nicole Brown, Project Manager
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Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.
· QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
· 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 is 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.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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

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Nicole Brown
Project Manager
10/3/2022 1:34:08 PM

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Definitions/Glossary

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-98224-1
Project/Site: PFAS in DW by EPA 537.1

Qualifiers

LCMS

Qualifier	Qualifier Description
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
M	Manual integrated compound.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 410-98224-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-98224-1

Receipt
The samples were received on 9/16/2022 10:41 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 1.4°C

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

Detection Summary

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-98224-1
Project/Site: PFAS in DW by EPA 537.1

Client Sample ID: Bemidji 09-22 — Lab Sample ID: 410-98224-1

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	1.7		1.7	1.3	0.42	ng/L	1		EPA 537.1	Total/NA
Perfluorobutanesulfonic acid	2.0		1.7	1.3	0.42	ng/L	1		EPA 537.1	Total/NA
Perfluorohexanesulfonic acid	2.1		1.7	1.3	0.42	ng/L	1		EPA 537.1	Total/NA
Perfluorooctanesulfonic acid	1.3	J M	1.7	1.3	0.42	ng/L	1		EPA 537.1	Total/NA

Client Sample ID: FB-1 — Lab Sample ID: 410-98224-2

No Detections.

Client Sample ID: Duluth 09-22 — Lab Sample ID: 410-98224-3

No Detections.

Client Sample ID: FD-1 — Lab Sample ID: 410-98224-4

No Detections.

Client Sample ID: Brooklyn Park 09-22 — Lab Sample ID: 410-98224-5

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	1.4	J	1.8	1.3	0.44	ng/L	1		EPA 537.1	Total/NA
Perfluoroheptanoic acid	0.64	J	1.8	1.3	0.44	ng/L	1		EPA 537.1	Total/NA
Perfluorooctanoic acid	1.9	M	1.8	1.3	0.44	ng/L	1		EPA 537.1	Total/NA
Perfluorobutanesulfonic acid	2.0		1.8	1.3	0.44	ng/L	1		EPA 537.1	Total/NA
Perfluorohexanesulfonic acid	3.2	M	1.8	1.3	0.44	ng/L	1		EPA 537.1	Total/NA
Perfluorooctanesulfonic acid	2.7	M	1.8	1.3	0.44	ng/L	1		EPA 537.1	Total/NA

Client Sample ID: FB-2 — Lab Sample ID: 410-98224-6

No Detections.

Client Sample ID: Rosemount 09-22 — Lab Sample ID: 410-98224-7

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	0.78	J	1.7	1.3	0.42	ng/L	1		EPA 537.1	Total/NA
Perfluorooctanoic acid	2.1	M	1.7	1.3	0.42	ng/L	1		EPA 537.1	Total/NA
Perfluorobutanesulfonic acid	1.1	J	1.7	1.3	0.42	ng/L	1		EPA 537.1	Total/NA
Perfluorohexanesulfonic acid	1.6	J	1.7	1.3	0.42	ng/L	1		EPA 537.1	Total/NA
Perfluorooctanesulfonic acid	1.5	J M	1.7	1.3	0.42	ng/L	1		EPA 537.1	Total/NA

Client Sample ID: Litchfield 09-22 — Lab Sample ID: 410-98224-8

No Detections.

Client Sample ID: Morris 09-22 — Lab Sample ID: 410-98224-9

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.51	J	1.7	1.3	0.42	ng/L	1		EPA 537.1	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-98224-1
Project/Site: PFAS in DW by EPA 537.1

Client Sample ID: FB-3
Lab Sample ID: 410-98224-10

No Detections.

Client Sample ID: FD-2
Lab Sample ID: 410-98224-11

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.51	J	1.7	1.2	0.41	ng/L	1		EPA 537.1	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: Bemidji 09-22
Lab Sample ID: 410-98224-1

Date Collected: 09/13/22 12:23
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanoic acid	**1.7**		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
Perfluoroheptanoic acid	<1.3		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
Perfluorooctanoic acid	<1.3	M	1.7	1.3	0.42	ng/L		09/29/22 18:04	1
Perfluorononanoic acid	<1.3		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
Perfluorodecanoic acid	<1.3		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
Perfluorotridecanoic acid	<1.3		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
Perfluorotetradecanoic acid	<1.3		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
Perfluorobutanesulfonic acid	**2.0**		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
Perfluorohexanesulfonic acid	**2.1**		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
Perfluorooctanesulfonic acid	**1.3**	**J M**	1.7	1.3	0.42	ng/L		09/29/22 18:04	1
NEtFOSAA	<1.3		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
NMeFOSAA	<1.3		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
Perfluoroundecanoic acid	<1.3		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
Perfluorododecanoic acid	<1.3		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
HFPODA	<1.3		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
9Cl-PF3ONS	<1.3		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
11Cl-PF3OUdS	<1.3		1.7	1.3	0.42	ng/L		09/29/22 18:04	1
DONA	<1.3		1.7	1.3	0.42	ng/L		09/29/22 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*102*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:04*	*1*
13C2 PFHxA	*109*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:04*	*1*
13C3 HFPO-DA	*97*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:04*	*1*
d5-NEtFOSAA	*102*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:04*	*1*

Client Sample ID: FB-1
Lab Sample ID: 410-98224-2

Date Collected: 09/13/22 08:55
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
Perfluoroheptanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
Perfluorooctanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
Perfluorononanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
Perfluorodecanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
Perfluorotridecanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
Perfluorotetradecanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
Perfluorobutanesulfonic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
Perfluorohexanesulfonic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
Perfluorooctanesulfonic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
NEtFOSAA	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
NMeFOSAA	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
Perfluoroundecanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
Perfluorododecanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
HFPODA	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
9Cl-PF3ONS	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
11Cl-PF3OUdS	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1
DONA	<1.2		1.6	1.2	0.40	ng/L		09/29/22 18:16	1

Client Sample ID: FB-1
Lab Sample ID: 410-98224-2
Date Collected: 09/13/22 08:55
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*102*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:16*	*1*
13C2 PFHxA	*108*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:16*	*1*
13C3 HFPO-DA	*97*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:16*	*1*
d5-NEtFOSAA	*92*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:16*	*1*

Client Sample ID: Duluth 09-22
Lab Sample ID: 410-98224-3
Date Collected: 09/13/22 08:55
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanoic acid	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
Perfluoroheptanoic acid	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
Perfluorooctanoic acid	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
Perfluorononanoic acid	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
Perfluorodecanoic acid	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
Perfluorotridecanoic acid	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
Perfluorotetradecanoic acid	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
Perfluorobutanesulfonic acid	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
Perfluorohexanesulfonic acid	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
Perfluorooctanesulfonic acid	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
NEtFOSAA	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
NMeFOSAA	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
Perfluoroundecanoic acid	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
Perfluorododecanoic acid	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
HFPODA	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
9Cl-PF3ONS	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
11Cl-PF3OUdS	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1
DONA	<1.3		1.7	1.3	0.43	ng/L		09/29/22 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*104*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:27*	*1*
13C2 PFHxA	*110*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:27*	*1*
13C3 HFPO-DA	*98*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:27*	*1*
d5-NEtFOSAA	*97*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:27*	*1*

Client Sample ID: FD-1
Lab Sample ID: 410-98224-4
Date Collected: 09/13/22 00:00
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
Perfluoroheptanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
Perfluorooctanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
Perfluorononanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
Perfluorodecanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
Perfluorotridecanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
Perfluorotetradecanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
Perfluorobutanesulfonic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
Perfluorohexanesulfonic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1

Client Sample ID: FD-1
Lab Sample ID: 410-98224-4
Date Collected: 09/13/22 00:00
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018 (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorooctanesulfonic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
NEtFOSAA	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
NMeFOSAA	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
Perfluoroundecanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
Perfluorododecanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
HFPODA	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
9Cl-PF3ONS	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
11Cl-PF3OUdS	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1
DONA	<1.3		1.8	1.3	0.44	ng/L		09/29/22 08:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*107*		*70 - 130*	*09/26/22 10:52*	*09/29/22 08:05*	*1*
13C2 PFHxA	*118*		*70 - 130*	*09/26/22 10:52*	*09/29/22 08:05*	*1*
13C3 HFPO-DA	*103*		*70 - 130*	*09/26/22 10:52*	*09/29/22 08:05*	*1*
d5-NEtFOSAA	*97*		*70 - 130*	*09/26/22 10:52*	*09/29/22 08:05*	*1*

Client Sample ID: Brooklyn Park 09-22
Lab Sample ID: 410-98224-5
Date Collected: 09/14/22 11:04
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanoic acid	**1.4**	**J**	1.8	1.3	0.44	ng/L		09/29/22 18:39	1
Perfluoroheptanoic acid	**0.64**	**J**	1.8	1.3	0.44	ng/L		09/29/22 18:39	1
Perfluorooctanoic acid	**1.9**	**M**	1.8	1.3	0.44	ng/L		09/29/22 18:39	1
Perfluorononanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 18:39	1
Perfluorodecanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 18:39	1
Perfluorotridecanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 18:39	1
Perfluorotetradecanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 18:39	1
Perfluorobutanesulfonic acid	**2.0**		1.8	1.3	0.44	ng/L		09/29/22 18:39	1
Perfluorohexanesulfonic acid	**3.2**	**M**	1.8	1.3	0.44	ng/L		09/29/22 18:39	1
Perfluorooctanesulfonic acid	**2.7**	**M**	1.8	1.3	0.44	ng/L		09/29/22 18:39	1
NEtFOSAA	<1.3		1.8	1.3	0.44	ng/L		09/29/22 18:39	1
NMeFOSAA	<1.3		1.8	1.3	0.44	ng/L		09/29/22 18:39	1
Perfluoroundecanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 18:39	1
Perfluorododecanoic acid	<1.3		1.8	1.3	0.44	ng/L		09/29/22 18:39	1
HFPODA	<1.3		1.8	1.3	0.44	ng/L		09/29/22 18:39	1
9Cl-PF3ONS	<1.3		1.8	1.3	0.44	ng/L		09/29/22 18:39	1
11Cl-PF3OUdS	<1.3		1.8	1.3	0.44	ng/L		09/29/22 18:39	1
DONA	<1.3		1.8	1.3	0.44	ng/L		09/29/22 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*102*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:39*	*1*
13C2 PFHxA	*109*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:39*	*1*
13C3 HFPO-DA	*96*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:39*	*1*
d5-NEtFOSAA	*94*		*70 - 130*	*09/26/22 10:12*	*09/29/22 18:39*	*1*

Client Sample ID: FB-2
Lab Sample ID: 410-98224-6

Date Collected: 09/14/22 07:53
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
Perfluoroheptanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
Perfluorooctanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
Perfluorononanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
Perfluorodecanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
Perfluorotridecanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
Perfluorotetradecanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
Perfluorobutanesulfonic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
Perfluorohexanesulfonic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
Perfluorooctanesulfonic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
NEtFOSAA	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
NMeFOSAA	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
Perfluoroundecanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
Perfluorododecanoic acid	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
HFPODA	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
9Cl-PF3ONS	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
11Cl-PF3OUdS	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1
DONA	<1.2		1.6	1.2	0.40	ng/L		09/29/22 19:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*104*		*70 - 130*	*09/26/22 10:12*	*09/29/22 19:02*	*1*
13C2 PFHxA	*107*		*70 - 130*	*09/26/22 10:12*	*09/29/22 19:02*	*1*
13C3 HFPO-DA	*94*		*70 - 130*	*09/26/22 10:12*	*09/29/22 19:02*	*1*
d5-NEtFOSAA	*96*		*70 - 130*	*09/26/22 10:12*	*09/29/22 19:02*	*1*

Client Sample ID: Rosemount 09-22
Lab Sample ID: 410-98224-7

Date Collected: 09/14/22 10:06
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanoic acid	**0.78**	**J**	1.7	1.3	0.42	ng/L		09/29/22 19:14	1
Perfluoroheptanoic acid	<1.3		1.7	1.3	0.42	ng/L		09/29/22 19:14	1
Perfluorooctanoic acid	**2.1**	**M**	1.7	1.3	0.42	ng/L		09/29/22 19:14	1
Perfluorononanoic acid	<1.3		1.7	1.3	0.42	ng/L		09/29/22 19:14	1
Perfluorodecanoic acid	<1.3		1.7	1.3	0.42	ng/L		09/29/22 19:14	1
Perfluorotridecanoic acid	<1.3		1.7	1.3	0.42	ng/L		09/29/22 19:14	1
Perfluorotetradecanoic acid	<1.3		1.7	1.3	0.42	ng/L		09/29/22 19:14	1
Perfluorobutanesulfonic acid	**1.1**	**J**	1.7	1.3	0.42	ng/L		09/29/22 19:14	1
Perfluorohexanesulfonic acid	**1.6**	**J**	1.7	1.3	0.42	ng/L		09/29/22 19:14	1
Perfluorooctanesulfonic acid	**1.5**	**J M**	1.7	1.3	0.42	ng/L		09/29/22 19:14	1
NEtFOSAA	<1.3		1.7	1.3	0.42	ng/L		09/29/22 19:14	1
NMeFOSAA	<1.3		1.7	1.3	0.42	ng/L		09/29/22 19:14	1
Perfluoroundecanoic acid	<1.3		1.7	1.3	0.42	ng/L		09/29/22 19:14	1
Perfluorododecanoic acid	<1.3		1.7	1.3	0.42	ng/L		09/29/22 19:14	1
HFPODA	<1.3		1.7	1.3	0.42	ng/L		09/29/22 19:14	1
9Cl-PF3ONS	<1.3		1.7	1.3	0.42	ng/L		09/29/22 19:14	1
11Cl-PF3OUdS	<1.3		1.7	1.3	0.42	ng/L		09/29/22 19:14	1
DONA	<1.3		1.7	1.3	0.42	ng/L		09/29/22 19:14	1

Client Sample ID: Rosemount 09-22
Lab Sample ID: 410-98224-7

Date Collected: 09/14/22 10:06
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*109*		*70 - 130*	*09/26/22 10:12*	*09/29/22 19:14*	*1*
13C2 PFHxA	*114*		*70 - 130*	*09/26/22 10:12*	*09/29/22 19:14*	*1*
13C3 HFPO-DA	*100*		*70 - 130*	*09/26/22 10:12*	*09/29/22 19:14*	*1*
d5-NEtFOSAA	*94*		*70 - 130*	*09/26/22 10:12*	*09/29/22 19:14*	*1*

Client Sample ID: Litchfield 09-22
Lab Sample ID: 410-98224-8

Date Collected: 09/14/22 07:53
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanoic acid	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
Perfluoroheptanoic acid	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
Perfluorooctanoic acid	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
Perfluorononanoic acid	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
Perfluorodecanoic acid	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
Perfluorotridecanoic acid	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
Perfluorotetradecanoic acid	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
Perfluorobutanesulfonic acid	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
Perfluorohexanesulfonic acid	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
Perfluorooctanesulfonic acid	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
NEtFOSAA	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
NMeFOSAA	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
Perfluoroundecanoic acid	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
Perfluorododecanoic acid	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
HFPODA	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
9Cl-PF3ONS	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
11Cl-PF3OUdS	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1
DONA	<1.2		1.7	1.2	0.41	ng/L		09/29/22 19:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*105*		*70 - 130*	*09/26/22 10:12*	*09/29/22 19:25*	*1*
13C2 PFHxA	*109*		*70 - 130*	*09/26/22 10:12*	*09/29/22 19:25*	*1*
13C3 HFPO-DA	*96*		*70 - 130*	*09/26/22 10:12*	*09/29/22 19:25*	*1*
d5-NEtFOSAA	*98*		*70 - 130*	*09/26/22 10:12*	*09/29/22 19:25*	*1*

Client Sample ID: Morris 09-22
Lab Sample ID: 410-98224-9

Date Collected: 09/15/22 08:40
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanoic acid	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
Perfluoroheptanoic acid	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
Perfluorooctanoic acid	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
Perfluorononanoic acid	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
Perfluorodecanoic acid	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
Perfluorotridecanoic acid	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
Perfluorotetradecanoic acid	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
Perfluorobutanesulfonic acid	**0.51**	**J**	1.7	1.3	0.42	ng/L		10/02/22 19:34	1
Perfluorohexanesulfonic acid	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1

Client Sample ID: Morris 09-22
Lab Sample ID: 410-98224-9

Date Collected: 09/15/22 08:40
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018 (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorooctanesulfonic acid	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
NEtFOSAA	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
NMeFOSAA	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
Perfluoroundecanoic acid	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
Perfluorododecanoic acid	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
HFPODA	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
9Cl-PF3ONS	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
11Cl-PF3OUdS	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1
DONA	<1.3		1.7	1.3	0.42	ng/L		10/02/22 19:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*102*		*70 - 130*	*09/28/22 15:26*	*10/02/22 19:34*	*1*
13C2 PFHxA	*103*		*70 - 130*	*09/28/22 15:26*	*10/02/22 19:34*	*1*
13C3 HFPO-DA	*98*		*70 - 130*	*09/28/22 15:26*	*10/02/22 19:34*	*1*
d5-NEtFOSAA	*89*		*70 - 130*	*09/28/22 15:26*	*10/02/22 19:34*	*1*

Client Sample ID: FB-3
Lab Sample ID: 410-98224-10

Date Collected: 09/15/22 08:40
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanoic acid	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
Perfluoroheptanoic acid	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
Perfluorooctanoic acid	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
Perfluorononanoic acid	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
Perfluorodecanoic acid	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
Perfluorotridecanoic acid	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
Perfluorotetradecanoic acid	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
Perfluorobutanesulfonic acid	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
Perfluorohexanesulfonic acid	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
Perfluorooctanesulfonic acid	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
NEtFOSAA	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
NMeFOSAA	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
Perfluoroundecanoic acid	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
Perfluorododecanoic acid	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
HFPODA	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
9Cl-PF3ONS	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
11Cl-PF3OUdS	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1
DONA	<1.2		1.6	1.2	0.41	ng/L		10/02/22 19:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*108*		*70 - 130*	*09/28/22 15:26*	*10/02/22 19:46*	*1*
13C2 PFHxA	*117*		*70 - 130*	*09/28/22 15:26*	*10/02/22 19:46*	*1*
13C3 HFPO-DA	*110*		*70 - 130*	*09/28/22 15:26*	*10/02/22 19:46*	*1*
d5-NEtFOSAA	*89*		*70 - 130*	*09/28/22 15:26*	*10/02/22 19:46*	*1*

Client Sample ID: FD-2
Date Collected: 09/15/22 00:00
Date Received: 09/16/22 10:41

Lab Sample ID: 410-98224-11
Matrix: Drinking Water

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanoic acid	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
Perfluoroheptanoic acid	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
Perfluorooctanoic acid	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
Perfluorononanoic acid	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
Perfluorodecanoic acid	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
Perfluorotridecanoic acid	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
Perfluorotetradecanoic acid	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
Perfluorobutanesulfonic acid	**0.51**	**J**	1.7	1.2	0.41	ng/L		10/02/22 19:57	1
Perfluorohexanesulfonic acid	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
Perfluorooctanesulfonic acid	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
NEtFOSAA	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
NMeFOSAA	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
Perfluoroundecanoic acid	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
Perfluorododecanoic acid	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
HFPODA	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
9Cl-PF3ONS	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
11Cl-PF3OUdS	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1
DONA	<1.2		1.7	1.2	0.41	ng/L		10/02/22 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*103*		*70 - 130*	*09/28/22 15:26*	*10/02/22 19:57*	*1*
13C2 PFHxA	*112*		*70 - 130*	*09/28/22 15:26*	*10/02/22 19:57*	*1*
13C3 HFPO-DA	*104*		*70 - 130*	*09/28/22 15:26*	*10/02/22 19:57*	*1*
d5-NEtFOSAA	*88*		*70 - 130*	*09/28/22 15:26*	*10/02/22 19:57*	*1*

Surrogate Summary

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-98224-1
Project/Site: PFAS in DW by EPA 537.1

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		PFDA	PFHxA	HFPODA	d5NEFOS
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
410-98224-1	Bemidji 09-22	102	109	97	102
410-98224-2	FB-1	102	108	97	92
410-98224-3	Duluth 09-22	104	110	98	97
410-98224-4	FD-1	107	118	103	97
410-98224-5	Brooklyn Park 09-22	102	109	96	94
410-98224-6	FB-2	104	107	94	96
410-98224-7	Rosemount 09-22	109	114	100	94
410-98224-8	Litchfield 09-22	105	109	96	98
410-98224-9	Morris 09-22	102	103	98	89
410-98224-10	FB-3	108	117	110	89
410-98224-11	FD-2	103	112	104	88
LCS 410-299781/2-A	Lab Control Sample	108	106	94	89
LCS 410-299799/2-A	Lab Control Sample	106	102	89	101
LCS 410-300910/2-A	Lab Control Sample	105	102	98	96
LCSD 410-299781/3-A	Lab Control Sample Dup	107	104	92	96
LCSD 410-299799/3-A	Lab Control Sample Dup	107	103	88	91
LCSD 410-300910/3-A	Lab Control Sample Dup	101	104	99	90
MB 410-299781/1-A	Method Blank	100	103	93	101
MB 410-299799/1-A	Method Blank	102	107	93	99
MB 410-300910/1-A	Method Blank	101	106	99	85

Surrogate Legend

PFDA = 13C2 PFDA
PFHxA = 13C2 PFHxA
HFPODA = 13C3 HFPO-DA
d5NEFOS = d5-NEtFOSAA

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Lab Sample ID: MB 410-299781/1-A
Matrix: Drinking Water
Analysis Batch: 301403

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299781

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
Perfluoroheptanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
Perfluorooctanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
Perfluorononanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
Perfluorodecanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
Perfluorotridecanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
Perfluorotetradecanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
Perfluorobutanesulfonic acid	<1.5	M	2.0	1.5	0.50	ng/L		09/29/22 16:09	1
Perfluorohexanesulfonic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
Perfluorooctanesulfonic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
NEtFOSAA	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
NMeFOSAA	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
Perfluoroundecanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
Perfluorododecanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
HFPODA	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
9Cl-PF3ONS	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
11Cl-PF3OUdS	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1
DONA	<1.5		2.0	1.5	0.50	ng/L		09/29/22 16:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*100*		*70 - 130*	*09/26/22 10:12*	*09/29/22 16:09*	*1*
13C2 PFHxA	*103*		*70 - 130*	*09/26/22 10:12*	*09/29/22 16:09*	*1*
13C3 HFPO-DA	*93*		*70 - 130*	*09/26/22 10:12*	*09/29/22 16:09*	*1*
d5-NEtFOSAA	*101*		*70 - 130*	*09/26/22 10:12*	*09/29/22 16:09*	*1*

Lab Sample ID: LCS 410-299781/2-A
Matrix: Drinking Water
Analysis Batch: 301403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299781

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid	80.0	76.7		ng/L		96	70 - 130
Perfluoroheptanoic acid	80.0	81.5	E	ng/L		102	70 - 130
Perfluorooctanoic acid	80.0	78.6		ng/L		98	70 - 130
Perfluorononanoic acid	80.0	81.9	E	ng/L		102	70 - 130
Perfluorodecanoic acid	80.0	82.7	E	ng/L		103	70 - 130
Perfluorotridecanoic acid	80.0	79.2		ng/L		99	70 - 130
Perfluorotetradecanoic acid	80.0	74.6		ng/L		93	70 - 130
Perfluorobutanesulfonic acid	70.8	60.2		ng/L		85	70 - 130
Perfluorohexanesulfonic acid	73.0	73.1	E	ng/L		100	70 - 130
Perfluorooctanesulfonic acid	74.0	71.7	M	ng/L		97	70 - 130
NEtFOSAA	80.0	69.2		ng/L		86	70 - 130
NMeFOSAA	80.0	75.8		ng/L		95	70 - 130
Perfluoroundecanoic acid	80.0	83.3	E	ng/L		104	70 - 130
Perfluorododecanoic acid	80.0	79.7		ng/L		100	70 - 130
HFPODA	80.0	75.2		ng/L		94	70 - 130
9Cl-PF3ONS	74.4	72.3		ng/L		97	70 - 130
11Cl-PF3OUdS	74.4	73.4		ng/L		99	70 - 130
DONA	75.6	88.2	E	ng/L		117	70 - 130

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018 (Continued)

Lab Sample ID: LCS 410-299781/2-A
Matrix: Drinking Water
Analysis Batch: 301403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299781

Surrogate	LCS %Recovery	LCS Qualifier	Limits
13C2 PFDA	108		70 - 130
13C2 PFHxA	106		70 - 130
13C3 HFPO-DA	94		70 - 130
d5-NEtFOSAA	89		70 - 130

Lab Sample ID: LCSD 410-299781/3-A
Matrix: Drinking Water
Analysis Batch: 301403

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299781

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid			80.0	76.9		ng/L		96	70 - 130	0	30
Perfluoroheptanoic acid			80.0	82.5	E	ng/L		103	70 - 130	1	30
Perfluorooctanoic acid			80.0	80.1	E	ng/L		100	70 - 130	2	30
Perfluorononanoic acid			80.0	83.6	E	ng/L		104	70 - 130	2	30
Perfluorodecanoic acid			80.0	84.6	E	ng/L		106	70 - 130	2	30
Perfluorotridecanoic acid			80.0	79.4		ng/L		99	70 - 130	0	30
Perfluorotetradecanoic acid			80.0	75.2		ng/L		94	70 - 130	1	30
Perfluorobutanesulfonic acid			70.8	65.1		ng/L		92	70 - 130	8	30
Perfluorohexanesulfonic acid			73.0	75.7	E	ng/L		104	70 - 130	4	30
Perfluorooctanesulfonic acid			74.0	77.1	E	ng/L		104	70 - 130	7	30
NEtFOSAA			80.0	72.5		ng/L		91	70 - 130	5	30
NMeFOSAA			80.0	82.6	E	ng/L		103	70 - 130	9	30
Perfluoroundecanoic acid			80.0	83.3	E	ng/L		104	70 - 130	0	30
Perfluorododecanoic acid			80.0	82.6	E	ng/L		103	70 - 130	4	30
HFPODA			80.0	75.2		ng/L		94	70 - 130	0	30
9Cl-PF3ONS			74.4	74.9	E	ng/L		101	70 - 130	4	30
11Cl-PF3OUdS			74.4	82.8	E	ng/L		111	70 - 130	12	30
DONA			75.6	87.7	E	ng/L		116	70 - 130	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
13C2 PFDA	107		70 - 130
13C2 PFHxA	104		70 - 130
13C3 HFPO-DA	92		70 - 130
d5-NEtFOSAA	96		70 - 130

Lab Sample ID: MB 410-299799/1-A
Matrix: Drinking Water
Analysis Batch: 300853

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299799

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
Perfluoroheptanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
Perfluorooctanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
Perfluorononanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
Perfluorodecanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
Perfluorotridecanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
Perfluorotetradecanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
Perfluorobutanesulfonic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018 (Continued)

Lab Sample ID: MB 410-299799/1-A
Matrix: Drinking Water
Analysis Batch: 300853

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299799

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanesulfonic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
Perfluorooctanesulfonic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
NEtFOSAA	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
NMeFOSAA	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
Perfluoroundecanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
Perfluorododecanoic acid	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
HFPODA	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
9Cl-PF3ONS	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
11Cl-PF3OUdS	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1
DONA	<1.5		2.0	1.5	0.50	ng/L		09/29/22 03:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*102*		*70 - 130*	*09/26/22 10:52*	*09/29/22 03:28*	*1*
13C2 PFHxA	*107*		*70 - 130*	*09/26/22 10:52*	*09/29/22 03:28*	*1*
13C3 HFPO-DA	*93*		*70 - 130*	*09/26/22 10:52*	*09/29/22 03:28*	*1*
d5-NEtFOSAA	*99*		*70 - 130*	*09/26/22 10:52*	*09/29/22 03:28*	*1*

Lab Sample ID: LCS 410-299799/2-A
Matrix: Drinking Water
Analysis Batch: 300853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299799

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid	20.5	18.9		ng/L		92	70 - 130
Perfluoroheptanoic acid	20.5	20.6		ng/L		101	70 - 130
Perfluorooctanoic acid	20.5	20.4		ng/L		99	70 - 130
Perfluorononanoic acid	20.5	20.1		ng/L		98	70 - 130
Perfluorodecanoic acid	20.5	20.4		ng/L		99	70 - 130
Perfluorotridecanoic acid	20.5	20.0		ng/L		98	70 - 130
Perfluorotetradecanoic acid	20.5	18.7		ng/L		91	70 - 130
Perfluorobutanesulfonic acid	18.1	15.6		ng/L		86	70 - 130
Perfluorohexanesulfonic acid	18.7	19.6		ng/L		105	70 - 130
Perfluorooctanesulfonic acid	19.0	19.1		ng/L		101	70 - 130
NEtFOSAA	20.5	16.9		ng/L		83	70 - 130
NMeFOSAA	20.5	19.4		ng/L		95	70 - 130
Perfluoroundecanoic acid	20.5	21.8		ng/L		106	70 - 130
Perfluorododecanoic acid	20.5	19.9		ng/L		97	70 - 130
HFPODA	20.5	18.2		ng/L		89	70 - 130
9Cl-PF3ONS	19.0	18.3		ng/L		96	70 - 130
11Cl-PF3OUdS	19.0	20.4		ng/L		107	70 - 130
DONA	19.4	21.6		ng/L		112	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFDA	*106*		*70 - 130*
13C2 PFHxA	*102*		*70 - 130*
13C3 HFPO-DA	*89*		*70 - 130*
d5-NEtFOSAA	*101*		*70 - 130*

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018 (Continued)

Lab Sample ID: LCSD 410-299799/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Drinking Water
Prep Type: Total/NA
Analysis Batch: 300853
Prep Batch: 299799

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid			20.5	20.2		ng/L		98	70 - 130	7	30
Perfluoroheptanoic acid			20.5	21.7		ng/L		106	70 - 130	5	30
Perfluorooctanoic acid			20.5	20.7		ng/L		101	70 - 130	2	30
Perfluorononanoic acid			20.5	21.4		ng/L		104	70 - 130	6	30
Perfluorodecanoic acid			20.5	21.5		ng/L		105	70 - 130	6	30
Perfluorotridecanoic acid			20.5	21.1		ng/L		103	70 - 130	5	30
Perfluorotetradecanoic acid			20.5	20.0		ng/L		98	70 - 130	6	30
Perfluorobutanesulfonic acid			18.1	17.1		ng/L		95	70 - 130	9	30
Perfluorohexanesulfonic acid			18.7	20.2		ng/L		108	70 - 130	3	30
Perfluorooctanesulfonic acid			19.0	20.0		ng/L		106	70 - 130	5	30
NEtFOSAA			20.5	18.8		ng/L		92	70 - 130	11	30
NMeFOSAA			20.5	20.3		ng/L		99	70 - 130	5	30
Perfluoroundecanoic acid			20.5	21.3		ng/L		104	70 - 130	2	30
Perfluorododecanoic acid			20.5	20.9		ng/L		102	70 - 130	5	30
HFPODA			20.5	18.7		ng/L		92	70 - 130	3	30
9Cl-PF3ONS			19.0	19.2		ng/L		101	70 - 130	5	30
11Cl-PF3OUdS			19.0	19.5		ng/L		102	70 - 130	4	30
DONA			19.4	22.7		ng/L		117	70 - 130	5	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFDA	*107*		*70 - 130*
13C2 PFHxA	*103*		*70 - 130*
13C3 HFPO-DA	*88*		*70 - 130*
d5-NEtFOSAA	*91*		*70 - 130*

Lab Sample ID: MB 410-300910/1-A
Client Sample ID: Method Blank
Matrix: Drinking Water
Prep Type: Total/NA
Analysis Batch: 302200
Prep Batch: 300910

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Perfluorohexanoic acid	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
Perfluoroheptanoic acid	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
Perfluorooctanoic acid	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
Perfluorononanoic acid	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
Perfluorodecanoic acid	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
Perfluorotridecanoic acid	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
Perfluorotetradecanoic acid	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
Perfluorobutanesulfonic acid	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
Perfluorohexanesulfonic acid	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
Perfluorooctanesulfonic acid	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
NEtFOSAA	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
NMeFOSAA	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
Perfluoroundecanoic acid	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
Perfluorododecanoic acid	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
HFPODA	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
9Cl-PF3ONS	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
11Cl-PF3OUdS	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1
DONA	<1.5		2.0	1.5	0.50	ng/L		10/02/22 18:13	1

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018 (Continued)

Lab Sample ID: MB 410-300910/1-A
Matrix: Drinking Water
Analysis Batch: 302200

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 300910

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	101		70 - 130	09/28/22 15:26	10/02/22 18:13	1
13C2 PFHxA	106		70 - 130	09/28/22 15:26	10/02/22 18:13	1
13C3 HFPO-DA	99		70 - 130	09/28/22 15:26	10/02/22 18:13	1
d5-NEtFOSAA	85		70 - 130	09/28/22 15:26	10/02/22 18:13	1

Lab Sample ID: LCS 410-300910/2-A
Matrix: Drinking Water
Analysis Batch: 302200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 300910

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid	20.5	19.4		ng/L		95	70 - 130
Perfluoroheptanoic acid	20.5	19.9		ng/L		97	70 - 130
Perfluorooctanoic acid	20.5	19.8		ng/L		97	70 - 130
Perfluorononanoic acid	20.5	19.8		ng/L		97	70 - 130
Perfluorodecanoic acid	20.5	19.6		ng/L		96	70 - 130
Perfluorotridecanoic acid	20.5	17.6		ng/L		86	70 - 130
Perfluorotetradecanoic acid	20.5	18.2		ng/L		89	70 - 130
Perfluorobutanesulfonic acid	18.1	14.5		ng/L		80	70 - 130
Perfluorohexanesulfonic acid	18.7	17.4		ng/L		93	70 - 130
Perfluorooctanesulfonic acid	19.0	17.3		ng/L		92	70 - 130
NEtFOSAA	20.5	19.1		ng/L		93	70 - 130
NMeFOSAA	20.5	18.5		ng/L		90	70 - 130
Perfluoroundecanoic acid	20.5	21.1		ng/L		103	70 - 130
Perfluorododecanoic acid	20.5	19.5		ng/L		95	70 - 130
HFPODA	20.5	19.4		ng/L		94	70 - 130
9Cl-PF3ONS	19.0	16.7		ng/L		88	70 - 130
11Cl-PF3OUdS	19.0	16.5		ng/L		87	70 - 130
DONA	19.4	19.6		ng/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
13C2 PFDA	105		70 - 130
13C2 PFHxA	102		70 - 130
13C3 HFPO-DA	98		70 - 130
d5-NEtFOSAA	96		70 - 130

Lab Sample ID: LCSD 410-300910/3-A
Matrix: Drinking Water
Analysis Batch: 302200

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 300910

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid	20.5	20.1		ng/L		98	70 - 130	4	30
Perfluoroheptanoic acid	20.5	20.8		ng/L		102	70 - 130	5	30
Perfluorooctanoic acid	20.5	20.6		ng/L		101	70 - 130	4	30
Perfluorononanoic acid	20.5	21.0		ng/L		103	70 - 130	6	30
Perfluorodecanoic acid	20.5	20.4		ng/L		100	70 - 130	4	30
Perfluorotridecanoic acid	20.5	17.9		ng/L		87	70 - 130	1	30
Perfluorotetradecanoic acid	20.5	17.0		ng/L		83	70 - 130	7	30
Perfluorobutanesulfonic acid	18.1	15.6		ng/L		86	70 - 130	7	30

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018 (Continued)

Lab Sample ID: LCSD 410-300910/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Drinking Water
Prep Type: Total/NA
Analysis Batch: 302200
Prep Batch: 300910

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid			18.7	17.9		ng/L		96	70 - 130	3	30
Perfluorooctanesulfonic acid			19.0	17.8		ng/L		94	70 - 130	3	30
NEtFOSAA			20.5	18.0		ng/L		88	70 - 130	6	30
NMeFOSAA			20.5	20.2		ng/L		99	70 - 130	9	30
Perfluoroundecanoic acid			20.5	19.7		ng/L		96	70 - 130	7	30
Perfluorododecanoic acid			20.5	19.9		ng/L		97	70 - 130	2	30
HFPODA			20.5	20.1		ng/L		98	70 - 130	4	30
9Cl-PF3ONS			19.0	17.2		ng/L		90	70 - 130	3	30
11Cl-PF3OUdS			19.0	17.0		ng/L		89	70 - 130	3	30
DONA			19.4	20.1		ng/L		104	70 - 130	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFDA	*101*		*70 - 130*
13C2 PFHxA	*104*		*70 - 130*
13C3 HFPO-DA	*99*		*70 - 130*
d5-NEtFOSAA	*90*		*70 - 130*

LCMS

Prep Batch: 299781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-98224-1	Bemidji 09-22	Total/NA	Drinking Water	EPA 537.1	
410-98224-2	FB-1	Total/NA	Drinking Water	EPA 537.1	
410-98224-3	Duluth 09-22	Total/NA	Drinking Water	EPA 537.1	
410-98224-5	Brooklyn Park 09-22	Total/NA	Drinking Water	EPA 537.1	
410-98224-6	FB-2	Total/NA	Drinking Water	EPA 537.1	
410-98224-7	Rosemount 09-22	Total/NA	Drinking Water	EPA 537.1	
410-98224-8	Litchfield 09-22	Total/NA	Drinking Water	EPA 537.1	
MB 410-299781/1-A	Method Blank	Total/NA	Drinking Water	EPA 537.1	
LCS 410-299781/2-A	Lab Control Sample	Total/NA	Drinking Water	EPA 537.1	
LCSD 410-299781/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	EPA 537.1	

Prep Batch: 299799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-98224-4	FD-1	Total/NA	Drinking Water	EPA 537.1	
MB 410-299799/1-A	Method Blank	Total/NA	Drinking Water	EPA 537.1	
LCS 410-299799/2-A	Lab Control Sample	Total/NA	Drinking Water	EPA 537.1	
LCSD 410-299799/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	EPA 537.1	

Analysis Batch: 300853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-98224-4	FD-1	Total/NA	Drinking Water	EPA 537.1	299799
MB 410-299799/1-A	Method Blank	Total/NA	Drinking Water	EPA 537.1	299799
LCS 410-299799/2-A	Lab Control Sample	Total/NA	Drinking Water	EPA 537.1	299799
LCSD 410-299799/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	EPA 537.1	299799

Prep Batch: 300910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-98224-9	Morris 09-22	Total/NA	Drinking Water	EPA 537.1	
410-98224-10	FB-3	Total/NA	Drinking Water	EPA 537.1	
410-98224-11	FD-2	Total/NA	Drinking Water	EPA 537.1	
MB 410-300910/1-A	Method Blank	Total/NA	Drinking Water	EPA 537.1	
LCS 410-300910/2-A	Lab Control Sample	Total/NA	Drinking Water	EPA 537.1	
LCSD 410-300910/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	EPA 537.1	

Analysis Batch: 301403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-98224-1	Bemidji 09-22	Total/NA	Drinking Water	EPA 537.1	299781
410-98224-2	FB-1	Total/NA	Drinking Water	EPA 537.1	299781
410-98224-3	Duluth 09-22	Total/NA	Drinking Water	EPA 537.1	299781
410-98224-5	Brooklyn Park 09-22	Total/NA	Drinking Water	EPA 537.1	299781
410-98224-6	FB-2	Total/NA	Drinking Water	EPA 537.1	299781
410-98224-7	Rosemount 09-22	Total/NA	Drinking Water	EPA 537.1	299781
410-98224-8	Litchfield 09-22	Total/NA	Drinking Water	EPA 537.1	299781
MB 410-299781/1-A	Method Blank	Total/NA	Drinking Water	EPA 537.1	299781
LCS 410-299781/2-A	Lab Control Sample	Total/NA	Drinking Water	EPA 537.1	299781
LCSD 410-299781/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	EPA 537.1	299781

Analysis Batch: 302200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-98224-9	Morris 09-22	Total/NA	Drinking Water	EPA 537.1	300910
410-98224-10	FB-3	Total/NA	Drinking Water	EPA 537.1	300910

LCMS (Continued)

Analysis Batch: 302200 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-98224-11	FD-2	Total/NA	Drinking Water	EPA 537.1	300910
MB 410-300910/1-A	Method Blank	Total/NA	Drinking Water	EPA 537.1	300910
LCS 410-300910/2-A	Lab Control Sample	Total/NA	Drinking Water	EPA 537.1	300910
LCSD 410-300910/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	EPA 537.1	300910

Lab Chronicle

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-98224-1
Project/Site: PFAS in DW by EPA 537.1

Client Sample ID: Bemidji 09-22
Lab Sample ID: 410-98224-1
Date Collected: 09/13/22 12:23
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA 537.1			299781	HQ8B	ELLE	09/26/22 10:12
Total/NA	Analysis	EPA 537.1		1	301403	PY4D	ELLE	09/29/22 18:04

Client Sample ID: FB-1
Lab Sample ID: 410-98224-2
Date Collected: 09/13/22 08:55
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA 537.1			299781	HQ8B	ELLE	09/26/22 10:12
Total/NA	Analysis	EPA 537.1		1	301403	PY4D	ELLE	09/29/22 18:16

Client Sample ID: Duluth 09-22
Lab Sample ID: 410-98224-3
Date Collected: 09/13/22 08:55
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA 537.1			299781	HQ8B	ELLE	09/26/22 10:12
Total/NA	Analysis	EPA 537.1		1	301403	PY4D	ELLE	09/29/22 18:27

Client Sample ID: FD-1
Lab Sample ID: 410-98224-4
Date Collected: 09/13/22 00:00
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA 537.1			299799	HQ8B	ELLE	09/26/22 10:52
Total/NA	Analysis	EPA 537.1		1	300853	DCS9	ELLE	09/29/22 08:05

Client Sample ID: Brooklyn Park 09-22
Lab Sample ID: 410-98224-5
Date Collected: 09/14/22 11:04
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA 537.1			299781	HQ8B	ELLE	09/26/22 10:12
Total/NA	Analysis	EPA 537.1		1	301403	PY4D	ELLE	09/29/22 18:39

Client Sample ID: FB-2
Lab Sample ID: 410-98224-6
Date Collected: 09/14/22 07:53
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA 537.1			299781	HQ8B	ELLE	09/26/22 10:12
Total/NA	Analysis	EPA 537.1		1	301403	PY4D	ELLE	09/29/22 19:02

Lab Chronicle

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-98224-1
Project/Site: PFAS in DW by EPA 537.1

Client Sample ID: Rosemount 09-22
Lab Sample ID: 410-98224-7
Date Collected: 09/14/22 10:06
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA 537.1			299781	HQ8B	ELLE	09/26/22 10:12
Total/NA	Analysis	EPA 537.1		1	301403	PY4D	ELLE	09/29/22 19:14

Client Sample ID: Litchfield 09-22
Lab Sample ID: 410-98224-8
Date Collected: 09/14/22 07:53
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA 537.1			299781	HQ8B	ELLE	09/26/22 10:12
Total/NA	Analysis	EPA 537.1		1	301403	PY4D	ELLE	09/29/22 19:25

Client Sample ID: Morris 09-22
Lab Sample ID: 410-98224-9
Date Collected: 09/15/22 08:40
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA 537.1			300910	QLP7	ELLE	09/28/22 15:26
Total/NA	Analysis	EPA 537.1		1	302200	DCS9	ELLE	10/02/22 19:34

Client Sample ID: FB-3
Lab Sample ID: 410-98224-10
Date Collected: 09/15/22 08:40
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA 537.1			300910	QLP7	ELLE	09/28/22 15:26
Total/NA	Analysis	EPA 537.1		1	302200	DCS9	ELLE	10/02/22 19:46

Client Sample ID: FD-2
Lab Sample ID: 410-98224-11
Date Collected: 09/15/22 00:00
Matrix: Drinking Water
Date Received: 09/16/22 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA 537.1			300910	QLP7	ELLE	09/28/22 15:26
Total/NA	Analysis	EPA 537.1		1	302200	DCS9	ELLE	10/02/22 19:57

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-98224-1
Project/Site: PFAS in DW by EPA 537.1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

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

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-22
Minnesota	NELAP	042-999-487	12-31-22

Method Summary

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-98224-1
Project/Site: PFAS in DW by EPA 537.1

Method	Method Description	Protocol	Laboratory
EPA 537.1	EPA 537.1, Ver 1.0 Nov 2018	EPA	ELLE
EPA 537.1	EPA 537.1, ver. 1.0 Nov. 2018	EPA	ELLE

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-98224-1
Project/Site: PFAS in DW by EPA 537.1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-98224-1	Bemidji 09-22	Drinking Water	09/13/22 12:23	09/16/22 10:41
410-98224-2	FB-1	Drinking Water	09/13/22 08:55	09/16/22 10:41
410-98224-3	Duluth 09-22	Drinking Water	09/13/22 08:55	09/16/22 10:41
410-98224-4	FD-1	Drinking Water	09/13/22 00:00	09/16/22 10:41
410-98224-5	Brooklyn Park 09-22	Drinking Water	09/14/22 11:04	09/16/22 10:41
410-98224-6	FB-2	Drinking Water	09/14/22 07:53	09/16/22 10:41
410-98224-7	Rosemount 09-22	Drinking Water	09/14/22 10:06	09/16/22 10:41
410-98224-8	Litchfield 09-22	Drinking Water	09/14/22 07:53	09/16/22 10:41
410-98224-9	Morris 09-22	Drinking Water	09/15/22 08:40	09/16/22 10:41
410-98224-10	FB-3	Drinking Water	09/15/22 08:40	09/16/22 10:41
410-98224-11	FD-2	Drinking Water	09/15/22 00:00	09/16/22 10:41

Chain of Custody Record

eurofins Environment Testing America

410-98224 Chain of Custody

Client Contact: Russell Howard	Sampler: Russell Howard/Joe La Force	Lab PM: Brown, Nicole	Carrier Tracking No(s):
Phone:	Phone: 320-616-2617/320-616-2621	E-Mail: Nicole.Brown@et.eurofinsus.com	State of Origin: MN
Company: MN Dept of Military Affairs Facilities Management Office	PWSID:		
Address: 15000 Highway 115 Camp Ripley Building 2-1	Due Date Requested:		
City: Little Falls	TAT Requested (days):		
State, Zip: MN, 56345-4173	Compliance Project: Δ Yes Δ No		
Phone: 214-300-5496(Tel)	PO # (Required)		
Email: russell.d.howard7.nfg@army.mil	WO #		
Project Name: PFAS in DW by EPA 537.1	Project #: 41007393		
Site:	SSOW#:		

COC No: 410-63912-18289.2
Page: Page 2 of 1
Job #:

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	537.1_DW - DW EPA 537.1 List of 18	Total Number of containers	Special Instructions/Note:
			Preservation Code:				Y		
Bemidji 09-22	9/13/22	1223	G	DW			X		
FB-1	9/13/22	0955							
Duluth 09-22	9/13/22	0955							
FD-1	9/13/22								
Brooklyn Park 09-22	9/14/22	1104							
FB-2	9/14/22	0753							
Rosemount 09-22	9/14/22	1000							
Litchfield 09-22	9/14/22	0753							
Morris 09-22	9/15/22	0940							
FB-3	9/15/22	0840							
FD-2	9/15/22		G	DW			X		

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: RP	Date/Time: 9/15/22 1140	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 9/16/22 1041	Company

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1.4

CC

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: MN Dept of Military Affairs Facilities Management Office

Job Number: 410-98224-1

Login Number: 98224
List Number: 1
Creator: Leakway, Christian

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
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	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	N/A	Not present.
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	