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ANALYTICAL REPORT

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

Laboratory Job ID: 410-5821-1
Client Project/Site: PFC Investigation
Sampling Event: (GSES) General System Evaluation Samples

For:
Merrimack Village District
2 Greens Pond Road
Merrimack, New Hampshire 03054

Attn: Jill Lavoie

Authorized for release by:
7/31/2020 11:17:33 AM

Mary Kate Izzo, 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 data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. 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.

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Mary Kate Izzo
Project Manager
7/31/2020 11:17:33 AM

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Definitions/Glossary

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-5821-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
*5	Isotope dilution analyte is outside acceptance limits.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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: 410-5821-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative
410-5821-1

Comments
No additional comments.

Receipt
The samples were received on 6/26/2020 10:44 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.2º C.

LCMS
Method 537 (modified): The recovery for the labeled isotope(s) in the following samples: MVD-7(R)/1531010_007 (410-5821-8), MVD-8(R)/1531010_009 (410-5821-9) and MVD-TP/1531010_508 (410-5821-10) is outside the QC acceptance limits as noted on the QC Summary. The following action was taken: These samples were re-extracted within the required holding time and the recovery for the labeled isotope(s) is again outside the QC acceptance limits.

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

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

Detection Summary

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-5821-1

Client Sample ID: MVD-2(T)/1531010_008 — Lab Sample ID: 410-5821-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	2.9		1.7	0.42	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.5		1.7	0.42	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	12		1.7	0.42	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.2		1.7	0.42	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.82	J	1.7	0.42	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.9		1.7	0.42	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanoic acid (PFBA)	2.4	J	4.2	1.7	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	2.0		1.7	0.42	ng/L	1		T-WI14355 r12	Total/NA

Client Sample ID: MVD-3(T)/1531010_003 — Lab Sample ID: 410-5821-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	8.4		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	5.8		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	20		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorononanoic acid (PFNA)	0.78	J	1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.0		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.73	J	1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanoic acid (PFBA)	5.1		4.3	1.7	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	6.8		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA

Client Sample ID: MVD-7(R)/1531010_007 — Lab Sample ID: 410-5821-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	2.3		1.7	0.41	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.3		1.7	0.41	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	19		1.7	0.41	ng/L	1		T-WI14355 r12	Total/NA
Perfluorononanoic acid (PFNA)	0.52	J	1.7	0.41	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.8		1.7	0.41	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.5	J	1.7	0.41	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.7	I	1.7	0.41	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanoic acid (PFBA)	2.1	J	4.1	1.7	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	1.9		1.7	0.41	ng/L	1		T-WI14355 r12	Total/NA

Client Sample ID: MVD-8(R)/1531010_009 — Lab Sample ID: 410-5821-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	2.3		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.4		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	18		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.5	J	1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.2	J	1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.5	J	1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanoic acid (PFBA)	1.9	J	4.3	1.7	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	1.9		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA

Client Sample ID: MVD-TP/1531010_508 — Lab Sample ID: 410-5821-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	2.4		1.7	0.42	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.9		1.7	0.42	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	19		1.7	0.42	ng/L	1		T-WI14355 r12	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample ID: MVD-TP/1531010_508 (Continued)

Lab Sample ID: 410-5821-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	1.7		1.7	0.42	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.4	J	1.7	0.42	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		1.7	0.42	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanoic acid (PFBA)	2.2	J	4.2	1.7	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	2.0		1.7	0.42	ng/L	1		T-WI14355 r12	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-5821-1

Client Sample ID: MVD-2(T)/1531010_008
Date Collected: 06/25/20 11:38
Date Received: 06/26/20 10:44

Lab Sample ID: 410-5821-6
Matrix: Water

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**2.9**		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluoroheptanoic acid (PFHpA)	**2.5**		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluorooctanoic acid (PFOA)	**12**		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluorobutanesulfonic acid (PFBS)	**2.2**		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluorohexanesulfonic acid (PFHxS)	**0.82**	**J**	1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluorooctanesulfonic acid (PFOS)	**1.9**		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
NEtFOSAA	ND		2.5	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
NMeFOSAA	ND		1.7	0.50	ng/L		06/29/20 11:25	07/01/20 04:45	1
10:2 Fluorotelomer sulfonic acid	ND		4.2	0.84	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.5	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.5	0.84	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluoro-n-octadecanoic acid (PFODA)	ND	*1	2.5	0.84	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluorobutanoic acid (PFBA)	**2.4**	**J**	4.2	1.7	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluoropentanoic acid (PFPA)	**2.0**		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
NMeFOSE	ND		2.5	0.84	ng/L		06/29/20 11:25	07/01/20 04:45	1
NMeFOSA	ND		2.5	0.84	ng/L		06/29/20 11:25	07/01/20 04:45	1
NEtFOSE	ND		2.5	0.84	ng/L		06/29/20 11:25	07/01/20 04:45	1
NEtFOSA	ND		4.2	0.84	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 04:45	1
6:2 Fluorotelomer sulfonic acid	ND		4.2	1.7	ng/L		06/29/20 11:25	07/01/20 04:45	1
8:2 Fluorotelomer sulfonic acid	ND		2.5	0.84	ng/L		06/29/20 11:25	07/01/20 04:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*116*		*22 - 169*	*06/29/20 11:25*	*07/01/20 04:45*	*1*
M2-8:2 FTS	*93*		*37 - 169*	*06/29/20 11:25*	*07/01/20 04:45*	*1*
M2-6:2 FTS	*101*		*29 - 182*	*06/29/20 11:25*	*07/01/20 04:45*	*1*
13C5 PFHxA	*85*		*36 - 137*	*06/29/20 11:25*	*07/01/20 04:45*	*1*
13C4 PFHpA	*86*		*33 - 140*	*06/29/20 11:25*	*07/01/20 04:45*	*1*
13C8 PFOA	*91*		*52 - 124*	*06/29/20 11:25*	*07/01/20 04:45*	*1*
13C9 PFNA	*91*		*48 - 130*	*06/29/20 11:25*	*07/01/20 04:45*	*1*
13C6 PFDA	*84*		*50 - 124*	*06/29/20 11:25*	*07/01/20 04:45*	*1*
13C7 PFUnA	*78*		*44 - 128*	*06/29/20 11:25*	*07/01/20 04:45*	*1*
13C2-PFDoDA	*73*		*36 - 127*	*06/29/20 11:25*	*07/01/20 04:45*	*1*

Client Sample ID: MVD-2(T)/1531010_008

Lab Sample ID: 410-5821-6

Date Collected: 06/25/20 11:38
Matrix: Water
Date Received: 06/26/20 10:44

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	67		21 - 134	06/29/20 11:25	07/01/20 04:45	1
13C3 PFBS	92		23 - 175	06/29/20 11:25	07/01/20 04:45	1
13C3 PFHxS	85		35 - 143	06/29/20 11:25	07/01/20 04:45	1
13C8 PFOS	81		52 - 121	06/29/20 11:25	07/01/20 04:45	1
d3-NMeFOSAA	82		36 - 143	06/29/20 11:25	07/01/20 04:45	1
d5-NEtFOSAA	91		42 - 149	06/29/20 11:25	07/01/20 04:45	1
13C8 FOSA	79		10 - 134	06/29/20 11:25	07/01/20 04:45	1
13C4 PFBA	87		43 - 130	06/29/20 11:25	07/01/20 04:45	1
13C5 PFPeA	95		38 - 150	06/29/20 11:25	07/01/20 04:45	1
d7-N-MeFOSE-M	61		10 - 137	06/29/20 11:25	07/01/20 04:45	1
d3-NMePFOSA	27		10 - 107	06/29/20 11:25	07/01/20 04:45	1
d9-N-EtFOSE-M	59		10 - 135	06/29/20 11:25	07/01/20 04:45	1
d5-NEtPFOSA	23		10 - 107	06/29/20 11:25	07/01/20 04:45	1

Client Sample ID: MVD-3(T)/1531010_003

Lab Sample ID: 410-5821-7

Date Collected: 06/25/20 10:55
Matrix: Water
Date Received: 06/26/20 10:44

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**8.4**		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluoroheptanoic acid (PFHpA)	**5.8**		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluorooctanoic acid (PFOA)	**20**		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluorononanoic acid (PFNA)	**0.78**	**J**	1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluorobutanesulfonic acid (PFBS)	**4.0**		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluorohexanesulfonic acid (PFHxS)	**0.73**	**J**	1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluorooctanesulfonic acid (PFOS)	**2.2**		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
NEtFOSAA	ND		2.6	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
NMeFOSAA	ND		1.7	0.51	ng/L		06/29/20 11:25	07/01/20 04:54	1
10:2 Fluorotelomer sulfonic acid	ND		4.3	0.86	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.6	0.86	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluoro-n-octadecanoic acid (PFODA)	ND	*1	2.6	0.86	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluorobutanoic acid (PFBA)	**5.1**		4.3	1.7	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluoropentanoic acid (PFPA)	**6.8**		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
NMeFOSE	ND		2.6	0.86	ng/L		06/29/20 11:25	07/01/20 04:54	1

Client Sample ID: MVD-3(T)/1531010_003

Lab Sample ID: 410-5821-7

Date Collected: 06/25/20 10:55
Date Received: 06/26/20 10:44

Matrix: Water

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		2.6	0.86	ng/L		06/29/20 11:25	07/01/20 04:54	1
NEtFOSE	ND		2.6	0.86	ng/L		06/29/20 11:25	07/01/20 04:54	1
NEtFOSA	ND		4.3	0.86	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 04:54	1
6:2 Fluorotelomer sulfonic acid	ND		4.3	1.7	ng/L		06/29/20 11:25	07/01/20 04:54	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.86	ng/L		06/29/20 11:25	07/01/20 04:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*119*		*22 - 169*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
M2-8:2 FTS	*98*		*37 - 169*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
M2-6:2 FTS	*101*		*29 - 182*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
13C5 PFHxA	*84*		*36 - 137*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
13C4 PFHpA	*87*		*33 - 140*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
13C8 PFOA	*87*		*52 - 124*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
13C9 PFNA	*91*		*48 - 130*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
13C6 PFDA	*84*		*50 - 124*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
13C7 PFUnA	*76*		*44 - 128*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
13C2-PFDoDA	*63*		*36 - 127*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
13C2 PFTeDA	*35*		*21 - 134*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
13C3 PFBS	*105*		*23 - 175*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
13C3 PFHxS	*82*		*35 - 143*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
13C8 PFOS	*88*		*52 - 121*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
d3-NMeFOSAA	*84*		*36 - 143*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
d5-NEtFOSAA	*94*		*42 - 149*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
13C8 FOSA	*82*		*10 - 134*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
13C4 PFBA	*91*		*43 - 130*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
13C5 PFPeA	*103*		*38 - 150*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
d7-N-MeFOSE-M	*71*		*10 - 137*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
d3-NMePFOSA	*37*		*10 - 107*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
d9-N-EtFOSE-M	*67*		*10 - 135*	*06/29/20 11:25*	*07/01/20 04:54*	*1*
d5-NEtPFOSA	*33*		*10 - 107*	*06/29/20 11:25*	*07/01/20 04:54*	*1*

Client Sample ID: MVD-7(R)/1531010_007

Lab Sample ID: 410-5821-8

Date Collected: 06/25/20 11:07
Date Received: 06/26/20 10:44

Matrix: Water

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**2.3**		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluoroheptanoic acid (PFHpA)	**3.3**		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluorooctanoic acid (PFOA)	**19**		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluorononanoic acid (PFNA)	**0.52**	**J**	1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluorobutanesulfonic acid (PFBS)	**1.8**		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluorohexanesulfonic acid (PFHxS)	**1.5**	**J**	1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-5821-1

Client Sample ID: MVD-7(R)/1531010_007
Date Collected: 06/25/20 11:07
Date Received: 06/26/20 10:44

Lab Sample ID: 410-5821-8
Matrix: Water

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**2.7**	**I**	1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
NEtFOSAA	ND		2.5	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
NMeFOSAA	ND		1.7	0.50	ng/L		06/29/20 11:25	07/01/20 05:03	1
10:2 Fluorotelomer sulfonic acid	ND		4.1	0.83	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.5	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.5	0.83	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluoro-n-octadecanoic acid (PFODA)	ND	*1	2.5	0.83	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluorobutanoic acid (PFBA)	**2.1**	**J**	4.1	1.7	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluoropentanoic acid (PFPA)	**1.9**		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
NMeFOSE	ND		2.5	0.83	ng/L		06/29/20 11:25	07/01/20 05:03	1
NMeFOSA	ND		2.5	0.83	ng/L		06/29/20 11:25	07/01/20 05:03	1
NEtFOSE	ND		2.5	0.83	ng/L		06/29/20 11:25	07/01/20 05:03	1
NEtFOSA	ND		4.1	0.83	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.41	ng/L		06/29/20 11:25	07/01/20 05:03	1
6:2 Fluorotelomer sulfonic acid	ND		4.1	1.7	ng/L		06/29/20 11:25	07/01/20 05:03	1
8:2 Fluorotelomer sulfonic acid	ND		2.5	0.83	ng/L		06/29/20 11:25	07/01/20 05:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*118*		*22 - 169*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
M2-8:2 FTS	*107*		*37 - 169*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
M2-6:2 FTS	*108*		*29 - 182*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
13C5 PFHxA	*86*		*36 - 137*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
13C4 PFHpA	*82*		*33 - 140*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
13C8 PFOA	*87*		*52 - 124*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
13C9 PFNA	*95*		*48 - 130*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
13C6 PFDA	*93*		*50 - 124*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
13C7 PFUnA	*85*		*44 - 128*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
13C2-PFDoDA	*69*		*36 - 127*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
13C2 PFTeDA	*22*		*21 - 134*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
13C3 PFBS	*100*		*23 - 175*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
13C3 PFHxS	*81*		*35 - 143*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
13C8 PFOS	*85*		*52 - 121*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
d3-NMeFOSAA	*96*		*36 - 143*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
d5-NEtFOSAA	*98*		*42 - 149*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
13C8 FOSA	*75*		*10 - 134*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
13C4 PFBA	*89*		*43 - 130*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
13C5 PFPeA	*100*		*38 - 150*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
d7-N-MeFOSE-M	*23*		*10 - 137*	*06/29/20 11:25*	*07/01/20 05:03*	*1*
d3-NMePFOSA	*2*	*5	*10 - 107*	*06/29/20 11:25*	*07/01/20 05:03*	*1*

Client Sample ID: MVD-7(R)/1531010_007

Lab Sample ID: 410-5821-8

Date Collected: 06/25/20 11:07

Matrix: Water

Date Received: 06/26/20 10:44

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d9-N-EtFOSE-M	18		10 - 135	06/29/20 11:25	07/01/20 05:03	1
d5-NEtPFOSA	1	*5	10 - 107	06/29/20 11:25	07/01/20 05:03	1

Client Sample ID: MVD-8(R)/1531010_009

Lab Sample ID: 410-5821-9

Date Collected: 06/25/20 11:12

Matrix: Water

Date Received: 06/26/20 10:44

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**2.3**		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluoroheptanoic acid (PFHpA)	**2.4**		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluorooctanoic acid (PFOA)	**18**		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluorobutanesulfonic acid (PFBS)	**1.5**	**J**	1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluorohexanesulfonic acid (PFHxS)	**1.2**	**J**	1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluorooctanesulfonic acid (PFOS)	**1.5**	**J**	1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
NEtFOSAA	ND		2.6	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
NMeFOSAA	ND		1.7	0.51	ng/L		06/29/20 11:25	07/01/20 05:12	1
10:2 Fluorotelomer sulfonic acid	ND		4.3	0.86	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.6	0.86	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluoro-n-octadecanoic acid (PFODA)	ND	*1	2.6	0.86	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluorobutanoic acid (PFBA)	**1.9**	**J**	4.3	1.7	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluoropentanoic acid (PFPA)	**1.9**		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
NMeFOSE	ND		2.6	0.86	ng/L		06/29/20 11:25	07/01/20 05:12	1
NMeFOSA	ND		2.6	0.86	ng/L		06/29/20 11:25	07/01/20 05:12	1
NEtFOSE	ND		2.6	0.86	ng/L		06/29/20 11:25	07/01/20 05:12	1
NEtFOSA	ND		4.3	0.86	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.43	ng/L		06/29/20 11:25	07/01/20 05:12	1
6:2 Fluorotelomer sulfonic acid	ND		4.3	1.7	ng/L		06/29/20 11:25	07/01/20 05:12	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.86	ng/L		06/29/20 11:25	07/01/20 05:12	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-4:2 FTS	120		22 - 169	06/29/20 11:25	07/01/20 05:12	1
M2-8:2 FTS	106		37 - 169	06/29/20 11:25	07/01/20 05:12	1

Client Sample ID: MVD-8(R)/1531010_009

Lab Sample ID: 410-5821-9

Date Collected: 06/25/20 11:12
Matrix: Water
Date Received: 06/26/20 10:44

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	105		29 - 182	06/29/20 11:25	07/01/20 05:12	1
13C5 PFHxA	80		36 - 137	06/29/20 11:25	07/01/20 05:12	1
13C4 PFHpA	84		33 - 140	06/29/20 11:25	07/01/20 05:12	1
13C8 PFOA	84		52 - 124	06/29/20 11:25	07/01/20 05:12	1
13C9 PFNA	92		48 - 130	06/29/20 11:25	07/01/20 05:12	1
13C6 PFDA	87		50 - 124	06/29/20 11:25	07/01/20 05:12	1
13C7 PFUnA	85		44 - 128	06/29/20 11:25	07/01/20 05:12	1
13C2-PFDoDA	78		36 - 127	06/29/20 11:25	07/01/20 05:12	1
13C2 PFTeDA	54		21 - 134	06/29/20 11:25	07/01/20 05:12	1
13C3 PFBS	103		23 - 175	06/29/20 11:25	07/01/20 05:12	1
13C3 PFHxS	79		35 - 143	06/29/20 11:25	07/01/20 05:12	1
13C8 PFOS	88		52 - 121	06/29/20 11:25	07/01/20 05:12	1
d3-NMeFOSAA	93		36 - 143	06/29/20 11:25	07/01/20 05:12	1
d5-NEtFOSAA	104		42 - 149	06/29/20 11:25	07/01/20 05:12	1
13C8 FOSA	75		10 - 134	06/29/20 11:25	07/01/20 05:12	1
13C4 PFBA	91		43 - 130	06/29/20 11:25	07/01/20 05:12	1
13C5 PFPeA	98		38 - 150	06/29/20 11:25	07/01/20 05:12	1
d7-N-MeFOSE-M	37		10 - 137	06/29/20 11:25	07/01/20 05:12	1
d3-NMePFOSA	8	*5	10 - 107	06/29/20 11:25	07/01/20 05:12	1
d9-N-EtFOSE-M	33		10 - 135	06/29/20 11:25	07/01/20 05:12	1
d5-NEtPFOSA	6	*5	10 - 107	06/29/20 11:25	07/01/20 05:12	1

Client Sample ID: MVD-TP/1531010_508

Lab Sample ID: 410-5821-10

Date Collected: 06/25/20 11:18
Matrix: Water
Date Received: 06/26/20 10:44

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**2.4**		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluoroheptanoic acid (PFHpA)	**2.9**		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluorooctanoic acid (PFOA)	**19**		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluorobutanesulfonic acid (PFBS)	**1.7**		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluorohexanesulfonic acid (PFHxS)	**1.4**	**J**	1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluorooctanesulfonic acid (PFOS)	**2.2**		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
NEtFOSAA	ND		2.5	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
NMeFOSAA	ND		1.7	0.51	ng/L		06/29/20 11:25	07/01/20 05:21	1
10:2 Fluorotelomer sulfonic acid	ND		4.2	0.84	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1

Client Sample ID: MVD-TP/1531010_508

Date Collected: 06/25/20 11:18
Date Received: 06/26/20 10:44

Lab Sample ID: 410-5821-10

Matrix: Water

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanesulfonic acid (PFDoS)	ND		2.5	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.5	0.84	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluoro-n-octadecanoic acid (PFODA)	ND	*1	2.5	0.84	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluorobutanoic acid (PFBA)	**2.2**	**J**	4.2	1.7	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluoropentanoic acid (PFPA)	**2.0**		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
NMeFOSE	ND		2.5	0.84	ng/L		06/29/20 11:25	07/01/20 05:21	1
NMeFOSA	ND		2.5	0.84	ng/L		06/29/20 11:25	07/01/20 05:21	1
NEtFOSE	ND		2.5	0.84	ng/L		06/29/20 11:25	07/01/20 05:21	1
NEtFOSA	ND		4.2	0.84	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.42	ng/L		06/29/20 11:25	07/01/20 05:21	1
6:2 Fluorotelomer sulfonic acid	ND		4.2	1.7	ng/L		06/29/20 11:25	07/01/20 05:21	1
8:2 Fluorotelomer sulfonic acid	ND		2.5	0.84	ng/L		06/29/20 11:25	07/01/20 05:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*109*		*22 - 169*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
M2-8:2 FTS	*107*		*37 - 169*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
M2-6:2 FTS	*101*		*29 - 182*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
13C5 PFHxA	*78*		*36 - 137*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
13C4 PFHpA	*76*		*33 - 140*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
13C8 PFOA	*80*		*52 - 124*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
13C9 PFNA	*82*		*48 - 130*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
13C6 PFDA	*82*		*50 - 124*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
13C7 PFUnA	*63*		*44 - 128*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
13C2-PFDoDA	*33*	**5*	*36 - 127*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
13C2 PFTeDA	*8*	**5*	*21 - 134*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
13C3 PFBS	*103*		*23 - 175*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
13C3 PFHxS	*76*		*35 - 143*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
13C8 PFOS	*80*		*52 - 121*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
d3-NMeFOSAA	*85*		*36 - 143*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
d5-NEtFOSAA	*95*		*42 - 149*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
13C8 FOSA	*78*		*10 - 134*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
13C4 PFBA	*87*		*43 - 130*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
13C5 PFPeA	*97*		*38 - 150*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
d7-N-MeFOSE-M	*47*		*10 - 137*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
d3-NMePFOSA	*15*		*10 - 107*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
d9-N-EtFOSE-M	*40*		*10 - 135*	*06/29/20 11:25*	*07/01/20 05:21*	*1*
d5-NEtPFOSA	*13*		*10 - 107*	*06/29/20 11:25*	*07/01/20 05:21*	*1*

Isotope Dilution Summary

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-5821-1

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (22-169)	M282FTS (37-169)	M262FTS (29-182)	13C5PHA (36-137)	C4PFHA (33-140)	C8PFOA (52-124)	C9PFNA (48-130)	C6PFDA (50-124)
410-5821-6	MVD-2(T)/1531010_008	116	93	101	85	86	91	91	84
410-5821-7	MVD-3(T)/1531010_003	119	98	101	84	87	87	91	84
410-5821-8	MVD-7(R)/1531010_007	118	107	108	86	82	87	95	93
410-5821-9	MVD-8(R)/1531010_009	120	106	105	80	84	84	92	87
410-5821-10	MVD-TP/1531010_508	109	107	101	78	76	80	82	82
LCS 410-17612/2-A	Lab Control Sample	106	99	101	85	86	89	91	93
LCS 410-18696/2-A	Lab Control Sample	96	86	98	88	92	88	84	80
LCSD 410-17612/3-A	Lab Control Sample Dup	92	99	94	84	91	88	89	88
LCSD 410-18696/3-A	Lab Control Sample Dup	94	88	92	87	82	81	78	82
MB 410-17612/1-A	Method Blank	87	107	96	75	81	81	81	78
MB 410-18696/1-A	Method Blank	100	88	100	95	89	89	93	81

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	13C7PUA (44-128)	PFDoDA (36-127)	PFTDA (21-134)	C3PFBS (23-175)	C3PFHS (35-143)	C8PFOS (52-121)	d3NMFOS (36-143)	d5NEFOS (42-149)
410-5821-6	MVD-2(T)/1531010_008	78	73	67	92	85	81	82	91
410-5821-7	MVD-3(T)/1531010_003	76	63	35	105	82	88	84	94
410-5821-8	MVD-7(R)/1531010_007	85	69	22	100	81	85	96	98
410-5821-9	MVD-8(R)/1531010_009	85	78	54	103	79	88	93	104
410-5821-10	MVD-TP/1531010_508	63	33 *5	8 *5	103	76	80	85	95
LCS 410-17612/2-A	Lab Control Sample	90	88	87	87	86	86	96	103
LCS 410-18696/2-A	Lab Control Sample	84	88	86	80	90	82	95	105
LCSD 410-17612/3-A	Lab Control Sample Dup	91	90	86	84	87	85	95	104
LCSD 410-18696/3-A	Lab Control Sample Dup	91	89	90	76	83	81	106	117
MB 410-17612/1-A	Method Blank	78	75	66	80	80	80	85	89
MB 410-18696/1-A	Method Blank	86	89	89	78	89	90	95	115

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	PFOSA (10-134)	PFBA (43-130)	PFPeA (38-150)	NMFM (10-137)	d3NMFSA (10-107)	NEFM (10-135)	d5NPFSA (10-107)
410-5821-6	MVD-2(T)/1531010_008	79	87	95	61	27	59	23
410-5821-7	MVD-3(T)/1531010_003	82	91	103	71	37	67	33
410-5821-8	MVD-7(R)/1531010_007	75	89	100	23	2 *5	18	1 *5
410-5821-9	MVD-8(R)/1531010_009	75	91	98	37	8 *5	33	6 *5
410-5821-10	MVD-TP/1531010_508	78	87	97	47	15	40	13
LCS 410-17612/2-A	Lab Control Sample	87	89	88	78	35	73	31
LCS 410-18696/2-A	Lab Control Sample	88	84	79	88	41	78	40
LCSD 410-17612/3-A	Lab Control Sample Dup	85	86	87	82	44	77	40
LCSD 410-18696/3-A	Lab Control Sample Dup	86	83	82	90	47	87	44
MB 410-17612/1-A	Method Blank	71	78	75	63	29	59	25
MB 410-18696/1-A	Method Blank	90	85	86	83	44	82	46

Surrogate Legend

M242FTS = M2-4:2 FTS
M282FTS = M2-8:2 FTS
M262FTS = M2-6:2 FTS
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA

Isotope Dilution Summary

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-5821-1

13C7PUA = 13C7 PFUnA
PFDoDA = 13C2-PFDoDA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
NMFM = d7-N-MeFOSE-M
d3NMFSA = d3-NMePFOSA
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12

Lab Sample ID: MB 410-17612/1-A
Matrix: Water
Analysis Batch: 18171

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17612

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
NEtFOSAA	ND		3.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
NMeFOSAA	ND		2.0	0.60	ng/L		06/29/20 11:25	07/01/20 04:00	1
10:2 Fluorotelomer sulfonic acid	ND		5.0	1.0	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		3.0	1.0	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		3.0	1.0	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluorobutanoic acid (PFBA)	ND		5.0	2.0	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluoropentanoic acid (PFPA)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
NMeFOSE	ND		3.0	1.0	ng/L		06/29/20 11:25	07/01/20 04:00	1
NMeFOSA	ND		3.0	1.0	ng/L		06/29/20 11:25	07/01/20 04:00	1
NEtFOSE	ND		3.0	1.0	ng/L		06/29/20 11:25	07/01/20 04:00	1
NEtFOSA	ND		5.0	1.0	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
4:2 Fluorotelomer sulfonic acid	ND		2.0	0.50	ng/L		06/29/20 11:25	07/01/20 04:00	1
6:2 Fluorotelomer sulfonic acid	ND		5.0	2.0	ng/L		06/29/20 11:25	07/01/20 04:00	1
8:2 Fluorotelomer sulfonic acid	ND		3.0	1.0	ng/L		06/29/20 11:25	07/01/20 04:00	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*87*		*22 - 169*	*06/29/20 11:25*	*07/01/20 04:00*	*1*
M2-8:2 FTS	*107*		*37 - 169*	*06/29/20 11:25*	*07/01/20 04:00*	*1*
M2-6:2 FTS	*96*		*29 - 182*	*06/29/20 11:25*	*07/01/20 04:00*	*1*
13C5 PFHxA	*75*		*36 - 137*	*06/29/20 11:25*	*07/01/20 04:00*	*1*
13C4 PFHpA	*81*		*33 - 140*	*06/29/20 11:25*	*07/01/20 04:00*	*1*
13C8 PFOA	*81*		*52 - 124*	*06/29/20 11:25*	*07/01/20 04:00*	*1*
13C9 PFNA	*81*		*48 - 130*	*06/29/20 11:25*	*07/01/20 04:00*	*1*
13C6 PFDA	*78*		*50 - 124*	*06/29/20 11:25*	*07/01/20 04:00*	*1*
13C7 PFUnA	*78*		*44 - 128*	*06/29/20 11:25*	*07/01/20 04:00*	*1*
13C2-PFDoDA	*75*		*36 - 127*	*06/29/20 11:25*	*07/01/20 04:00*	*1*
13C2 PFTeDA	*66*		*21 - 134*	*06/29/20 11:25*	*07/01/20 04:00*	*1*

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12 (Continued)

Lab Sample ID: MB 410-17612/1-A
Matrix: Water
Analysis Batch: 18171

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17612

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	80		23 - 175	06/29/20 11:25	07/01/20 04:00	1
13C3 PFHxS	80		35 - 143	06/29/20 11:25	07/01/20 04:00	1
13C8 PFOS	80		52 - 121	06/29/20 11:25	07/01/20 04:00	1
d3-NMeFOSAA	85		36 - 143	06/29/20 11:25	07/01/20 04:00	1
d5-NEtFOSAA	89		42 - 149	06/29/20 11:25	07/01/20 04:00	1
13C8 FOSA	71		10 - 134	06/29/20 11:25	07/01/20 04:00	1
13C4 PFBA	78		43 - 130	06/29/20 11:25	07/01/20 04:00	1
13C5 PFPeA	75		38 - 150	06/29/20 11:25	07/01/20 04:00	1
d7-N-MeFOSE-M	63		10 - 137	06/29/20 11:25	07/01/20 04:00	1
d3-NMePFOSA	29		10 - 107	06/29/20 11:25	07/01/20 04:00	1
d9-N-EtFOSE-M	59		10 - 135	06/29/20 11:25	07/01/20 04:00	1
d5-NEtPFOSA	25		10 - 107	06/29/20 11:25	07/01/20 04:00	1

Lab Sample ID: LCS 410-17612/2-A
Matrix: Water
Analysis Batch: 18171

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17612

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanoic acid (PFHxA)	25.6	25.8		ng/L		101	69 - 139
Perfluoroheptanoic acid (PFHpA)	25.6	25.7		ng/L		101	69 - 144
Perfluorooctanoic acid (PFOA)	25.6	23.1		ng/L		90	67 - 139
Perfluorononanoic acid (PFNA)	25.6	25.3		ng/L		99	66 - 144
Perfluorodecanoic acid (PFDA)	25.6	24.9		ng/L		97	66 - 141
Perfluorotridecanoic acid (PFTrDA)	25.6	28.2		ng/L		110	66 - 146
Perfluorotetradecanoic acid (PFTeA)	25.6	24.9		ng/L		97	69 - 141
Perfluorobutanesulfonic acid (PFBS)	22.6	21.5		ng/L		95	67 - 135
Perfluorohexanesulfonic acid (PFHxS)	24.2	23.5		ng/L		97	63 - 132
Perfluorooctanesulfonic acid (PFOS)	24.5	20.8		ng/L		85	53 - 129
NEtFOSAA	25.6	25.2		ng/L		98	53 - 140
NMeFOSAA	25.6	27.4		ng/L		107	59 - 141
Perfluoropentanesulfonic acid (PFPeS)	24.0	25.1		ng/L		104	73 - 134
Perfluoroheptanesulfonic Acid (PFHpS)	24.4	25.5		ng/L		105	67 - 138
Perfluorononanesulfonic acid (PFNS)	24.6	25.8		ng/L		105	70 - 137
Perfluorodecanesulfonic acid (PFDS)	24.7	25.0		ng/L		101	62 - 135
Perfluorododecanesulfonic acid (PFDoS)	24.8	22.8		ng/L		92	57 - 134
Perfluorooctanesulfonamide (PFOSA)	25.6	26.5		ng/L		103	67 - 126
Perfluoro-n-hexadecanoic acid (PFHxDA)	25.6	25.1		ng/L		98	60 - 148
Perfluoro-n-octadecanoic acid (PFODA)	25.6	22.1		ng/L		86	47 - 159
Perfluorobutanoic acid (PFBA)	25.6	26.2		ng/L		102	63 - 160

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12 (Continued)

Lab Sample ID: LCS 410-17612/2-A
Matrix: Water
Analysis Batch: 18171

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17612

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoropentanoic acid (PFPA)	25.6	25.1		ng/L		98	73 - 135
NMeFOSE	25.6	25.8		ng/L		101	61 - 133
NMeFOSA	25.6	26.1		ng/L		102	49 - 134
NEtFOSE	25.6	25.7		ng/L		100	56 - 130
NEtFOSA	25.6	26.7		ng/L		104	56 - 136
Perfluorododecanoic acid (PFDoA)	25.6	25.2		ng/L		98	65 - 143
Perfluoroundecanoic acid (PFUnA)	25.6	25.8		ng/L		101	66 - 140
4:2 Fluorotelomer sulfonic acid	23.9	22.9		ng/L		96	61 - 131
6:2 Fluorotelomer sulfonic acid	24.3	23.5		ng/L		97	56 - 140
8:2 Fluorotelomer sulfonic acid	24.5	26.1		ng/L		106	58 - 143

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
M2-4:2 FTS	*106*		*22 - 169*
M2-8:2 FTS	*99*		*37 - 169*
M2-6:2 FTS	*101*		*29 - 182*
13C5 PFHxA	*85*		*36 - 137*
13C4 PFHpA	*86*		*33 - 140*
13C8 PFOA	*89*		*52 - 124*
13C9 PFNA	*91*		*48 - 130*
13C6 PFDA	*93*		*50 - 124*
13C7 PFUnA	*90*		*44 - 128*
13C2-PFDoDA	*88*		*36 - 127*
13C2 PFTeDA	*87*		*21 - 134*
13C3 PFBS	*87*		*23 - 175*
13C3 PFHxS	*86*		*35 - 143*
13C8 PFOS	*86*		*52 - 121*
d3-NMeFOSAA	*96*		*36 - 143*
d5-NEtFOSAA	*103*		*42 - 149*
13C8 FOSA	*87*		*10 - 134*
13C4 PFBA	*89*		*43 - 130*
13C5 PFPeA	*88*		*38 - 150*
d7-N-MeFOSE-M	*78*		*10 - 137*
d3-NMePFOSA	*35*		*10 - 107*
d9-N-EtFOSE-M	*73*		*10 - 135*
d5-NEtPFOSA	*31*		*10 - 107*

Lab Sample ID: LCSD 410-17612/3-A
Matrix: Water
Analysis Batch: 18171

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 17612

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	25.6	25.8		ng/L		101	69 - 139	0	30
Perfluoroheptanoic acid (PFHpA)	25.6	23.7		ng/L		93	69 - 144	8	30
Perfluorooctanoic acid (PFOA)	25.6	23.9		ng/L		93	67 - 139	3	30
Perfluorononanoic acid (PFNA)	25.6	24.9		ng/L		97	66 - 144	2	30
Perfluorodecanoic acid (PFDA)	25.6	25.3		ng/L		99	66 - 141	2	30
Perfluorotridecanoic acid (PFTrDA)	25.6	24.8		ng/L		97	66 - 146	13	30

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12 (Continued)

Lab Sample ID: LCSD 410-17612/3-A
Matrix: Water
Analysis Batch: 18171

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 17612

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorotetradecanoic acid (PFTeA)			25.6	25.6		ng/L		100	69 - 141	3	30
Perfluorobutanesulfonic acid (PFBS)			22.6	22.4		ng/L		99	67 - 135	4	30
Perfluorohexanesulfonic acid (PFHxS)			24.2	22.2		ng/L		92	63 - 132	5	30
Perfluorooctanesulfonic acid (PFOS)			24.5	21.7		ng/L		89	53 - 129	4	30
NEtFOSAA			25.6	24.6		ng/L		96	53 - 140	2	30
NMeFOSAA			25.6	27.4		ng/L		107	59 - 141	0	30
Perfluoropentanesulfonic acid (PFPeS)			24.0	25.4		ng/L		106	73 - 134	1	30
Perfluoroheptanesulfonic Acid (PFHpS)			24.4	24.9		ng/L		102	67 - 138	2	30
Perfluorononanesulfonic acid (PFNS)			24.6	26.4		ng/L		107	70 - 137	2	30
Perfluorodecanesulfonic acid (PFDS)			24.7	24.8		ng/L		100	62 - 135	1	30
Perfluorododecanesulfonic acid (PFDoS)			24.8	23.8		ng/L		96	57 - 134	4	30
Perfluorooctanesulfonamide (PFOSA)			25.6	28.4		ng/L		111	67 - 126	7	30
Perfluoro-n-hexadecanoic acid (PFHxDA)			25.6	23.4		ng/L		92	60 - 148	7	30
Perfluoro-n-octadecanoic acid (PFODA)			25.6	14.7	*1	ng/L		57	47 - 159	40	30
Perfluorobutanoic acid (PFBA)			25.6	26.6		ng/L		104	63 - 160	2	30
Perfluoropentanoic acid (PFPA)			25.6	26.7		ng/L		104	73 - 135	6	30
NMeFOSE			25.6	25.9		ng/L		101	61 - 133	0	30
NMeFOSA			25.6	27.2		ng/L		106	49 - 134	4	30
NEtFOSE			25.6	26.0		ng/L		102	56 - 130	1	30
NEtFOSA			25.6	28.0		ng/L		109	56 - 136	5	30
Perfluorododecanoic acid (PFDoA)			25.6	24.5		ng/L		96	65 - 143	3	30
Perfluoroundecanoic acid (PFUnA)			25.6	23.5		ng/L		92	66 - 140	9	30
4:2 Fluorotelomer sulfonic acid			23.9	25.7		ng/L		107	61 - 131	12	30
6:2 Fluorotelomer sulfonic acid			24.3	25.2		ng/L		104	56 - 140	7	30
8:2 Fluorotelomer sulfonic acid			24.5	25.1		ng/L		102	58 - 143	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
M2-4:2 FTS	*92*		*22 - 169*
M2-8:2 FTS	*99*		*37 - 169*
M2-6:2 FTS	*94*		*29 - 182*
13C5 PFHxA	*84*		*36 - 137*
13C4 PFHpA	*91*		*33 - 140*
13C8 PFOA	*88*		*52 - 124*
13C9 PFNA	*89*		*48 - 130*
13C6 PFDA	*88*		*50 - 124*
13C7 PFUnA	*91*		*44 - 128*
13C2-PFDoDA	*90*		*36 - 127*
13C2 PFTeDA	*86*		*21 - 134*

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12 (Continued)

Lab Sample ID: LCSD 410-17612/3-A
Matrix: Water
Analysis Batch: 18171

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 17612

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C3 PFBS	84		23 - 175
13C3 PFHxS	87		35 - 143
13C8 PFOS	85		52 - 121
d3-NMeFOSAA	95		36 - 143
d5-NEtFOSAA	104		42 - 149
13C8 FOSA	85		10 - 134
13C4 PFBA	86		43 - 130
13C5 PFPeA	87		38 - 150
d7-N-MeFOSE-M	82		10 - 137
d3-NMePFOSA	44		10 - 107
d9-N-EtFOSE-M	77		10 - 135
d5-NEtPFOSA	40		10 - 107

Lab Sample ID: MB 410-18696/1-A
Matrix: Water
Analysis Batch: 20942

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18696

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
NEtFOSAA	ND		3.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
NMeFOSAA	ND		2.0	0.60	ng/L		07/01/20 18:00	07/10/20 03:28	1
10:2 Fluorotelomer sulfonic acid	ND		5.0	1.0	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		3.0	1.0	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		3.0	1.0	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluorobutanoic acid (PFBA)	ND		5.0	2.0	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluoropentanoic acid (PFPA)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
NMeFOSE	ND		3.0	1.0	ng/L		07/01/20 18:00	07/10/20 03:28	1
NMeFOSA	ND		3.0	1.0	ng/L		07/01/20 18:00	07/10/20 03:28	1
NEtFOSE	ND		3.0	1.0	ng/L		07/01/20 18:00	07/10/20 03:28	1
NEtFOSA	ND		5.0	1.0	ng/L		07/01/20 18:00	07/10/20 03:28	1

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12 (Continued)

Lab Sample ID: MB 410-18696/1-A
Matrix: Water
Analysis Batch: 20942

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18696

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
4:2 Fluorotelomer sulfonic acid	ND		2.0	0.50	ng/L		07/01/20 18:00	07/10/20 03:28	1
6:2 Fluorotelomer sulfonic acid	ND		5.0	2.0	ng/L		07/01/20 18:00	07/10/20 03:28	1
8:2 Fluorotelomer sulfonic acid	ND		3.0	1.0	ng/L		07/01/20 18:00	07/10/20 03:28	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*100*		*22 - 169*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
M2-8:2 FTS	*88*		*37 - 169*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
M2-6:2 FTS	*100*		*29 - 182*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
13C5 PFHxA	*95*		*36 - 137*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
13C4 PFHpA	*89*		*33 - 140*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
13C8 PFOA	*89*		*52 - 124*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
13C9 PFNA	*93*		*48 - 130*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
13C6 PFDA	*81*		*50 - 124*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
13C7 PFUnA	*86*		*44 - 128*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
13C2-PFDoDA	*89*		*36 - 127*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
13C2 PFTeDA	*89*		*21 - 134*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
13C3 PFBS	*78*		*23 - 175*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
13C3 PFHxS	*89*		*35 - 143*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
13C8 PFOS	*90*		*52 - 121*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
d3-NMeFOSAA	*95*		*36 - 143*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
d5-NEtFOSAA	*115*		*42 - 149*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
13C8 FOSA	*90*		*10 - 134*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
13C4 PFBA	*85*		*43 - 130*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
13C5 PFPeA	*86*		*38 - 150*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
d7-N-MeFOSE-M	*83*		*10 - 137*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
d3-NMePFOSA	*44*		*10 - 107*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
d9-N-EtFOSE-M	*82*		*10 - 135*	*07/01/20 18:00*	*07/10/20 03:28*	*1*
d5-NEtPFOSA	*46*		*10 - 107*	*07/01/20 18:00*	*07/10/20 03:28*	*1*

Lab Sample ID: LCS 410-18696/2-A
Matrix: Water
Analysis Batch: 20942

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18696

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanoic acid (PFHxA)	25.6	26.6		ng/L		104	69 - 139
Perfluoroheptanoic acid (PFHpA)	25.6	26.0		ng/L		101	69 - 144
Perfluorooctanoic acid (PFOA)	25.6	25.8		ng/L		101	67 - 139
Perfluorononanoic acid (PFNA)	25.6	26.3		ng/L		103	66 - 144
Perfluorodecanoic acid (PFDA)	25.6	26.8		ng/L		105	66 - 141
Perfluorotridecanoic acid (PFTrDA)	25.6	26.0		ng/L		102	66 - 146
Perfluorotetradecanoic acid (PFTeA)	25.6	28.1		ng/L		110	69 - 141
Perfluorobutanesulfonic acid (PFBS)	22.6	23.0		ng/L		102	67 - 135
Perfluorohexanesulfonic acid (PFHxS)	24.2	22.4		ng/L		93	63 - 132

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12 (Continued)

Lab Sample ID: LCS 410-18696/2-A
Matrix: Water
Analysis Batch: 20942

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18696

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	24.5	23.0		ng/L		94	53 - 129
NEtFOSAA	25.6	28.7		ng/L		112	53 - 140
NMeFOSAA	25.6	30.3		ng/L		118	59 - 141
Perfluoropentanesulfonic acid (PFPeS)	24.0	25.6		ng/L		107	73 - 134
Perfluoroheptanesulfonic Acid (PFHpS)	24.4	24.6		ng/L		101	67 - 138
Perfluorononanesulfonic acid (PFNS)	24.6	27.0		ng/L		110	70 - 137
Perfluorodecanesulfonic acid (PFDS)	24.7	26.4		ng/L		107	62 - 135
Perfluorododecanesulfonic acid (PFDoS)	24.8	24.5		ng/L		99	57 - 134
Perfluorooctanesulfonamide (PFOSA)	25.6	27.2		ng/L		106	67 - 126
Perfluoro-n-hexadecanoic acid (PFHxDA)	25.6	27.7		ng/L		108	60 - 148
Perfluoro-n-octadecanoic acid (PFODA)	25.6	26.1		ng/L		102	47 - 159
Perfluorobutanoic acid (PFBA)	25.6	27.9		ng/L		109	63 - 160
Perfluoropentanoic acid (PFPA)	25.6	28.7		ng/L		112	73 - 135
NMeFOSE	25.6	24.8		ng/L		97	61 - 133
NMeFOSA	25.6	26.6		ng/L		104	49 - 134
NEtFOSE	25.6	26.5		ng/L		103	56 - 130
NEtFOSA	25.6	29.2		ng/L		114	56 - 136
Perfluorododecanoic acid (PFDoA)	25.6	28.2		ng/L		110	65 - 143
Perfluoroundecanoic acid (PFUnA)	25.6	27.1	I	ng/L		106	66 - 140
4:2 Fluorotelomer sulfonic acid	23.9	28.0		ng/L		117	61 - 131
6:2 Fluorotelomer sulfonic acid	24.3	26.5		ng/L		109	56 - 140
8:2 Fluorotelomer sulfonic acid	24.5	30.0		ng/L		122	58 - 143

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
M2-4:2 FTS	*96*		*22 - 169*
M2-8:2 FTS	*86*		*37 - 169*
M2-6:2 FTS	*98*		*29 - 182*
13C5 PFHxA	*88*		*36 - 137*
13C4 PFHpA	*92*		*33 - 140*
13C8 PFOA	*88*		*52 - 124*
13C9 PFNA	*84*		*48 - 130*
13C6 PFDA	*80*		*50 - 124*
13C7 PFUnA	*84*		*44 - 128*
13C2-PFDoDA	*88*		*36 - 127*
13C2 PFTeDA	*86*		*21 - 134*
13C3 PFBS	*80*		*23 - 175*
13C3 PFHxS	*90*		*35 - 143*
13C8 PFOS	*82*		*52 - 121*
d3-NMeFOSAA	*95*		*36 - 143*
d5-NEtFOSAA	*105*		*42 - 149*

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12 (Continued)

Lab Sample ID: LCS 410-18696/2-A
Matrix: Water
Analysis Batch: 20942

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18696

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C8 FOSA	*88*		*10 - 134*
13C4 PFBA	*84*		*43 - 130*
13C5 PFPeA	*79*		*38 - 150*
d7-N-MeFOSE-M	*88*		*10 - 137*
d3-NMePFOSA	*41*		*10 - 107*
d9-N-EtFOSE-M	*78*		*10 - 135*
d5-NEtPFOSA	*40*		*10 - 107*

Lab Sample ID: LCSD 410-18696/3-A
Matrix: Water
Analysis Batch: 20942

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18696

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)			25.6	27.6		ng/L		108	69 - 139	4	30
Perfluoroheptanoic acid (PFHpA)			25.6	30.1		ng/L		118	69 - 144	15	30
Perfluorooctanoic acid (PFOA)			25.6	29.7		ng/L		116	67 - 139	14	30
Perfluorononanoic acid (PFNA)			25.6	28.9		ng/L		113	66 - 144	9	30
Perfluorodecanoic acid (PFDA)			25.6	27.9		ng/L		109	66 - 141	4	30
Perfluorotridecanoic acid (PFTrDA)			25.6	27.3		ng/L		107	66 - 146	5	30
Perfluorotetradecanoic acid (PFTeA)			25.6	28.7		ng/L		112	69 - 141	2	30
Perfluorobutanesulfonic acid (PFBS)			22.6	23.9		ng/L		106	67 - 135	4	30
Perfluorohexanesulfonic acid (PFHxS)			24.2	24.9		ng/L		103	63 - 132	11	30
Perfluorooctanesulfonic acid (PFOS)			24.5	22.9		ng/L		93	53 - 129	1	30
NEtFOSAA			25.6	25.7		ng/L		100	53 - 140	11	30
NMeFOSAA			25.6	28.8		ng/L		113	59 - 141	5	30
Perfluoropentanesulfonic acid (PFPeS)			24.0	27.6		ng/L		115	73 - 134	7	30
Perfluoroheptanesulfonic Acid (PFHpS)			24.4	27.2		ng/L		112	67 - 138	10	30
Perfluorononanesulfonic acid (PFNS)			24.6	27.1		ng/L		110	70 - 137	1	30
Perfluorodecanesulfonic acid (PFDS)			24.7	27.5		ng/L		111	62 - 135	4	30
Perfluorododecanesulfonic acid (PFDoS)			24.8	25.4		ng/L		102	57 - 134	3	30
Perfluorooctanesulfonamide (PFOSA)			25.6	31.9		ng/L		125	67 - 126	16	30
Perfluoro-n-hexadecanoic acid (PFHxDA)			25.6	28.7		ng/L		112	60 - 148	3	30
Perfluoro-n-octadecanoic acid (PFODA)			25.6	27.8		ng/L		109	47 - 159	6	30
Perfluorobutanoic acid (PFBA)			25.6	29.3		ng/L		114	63 - 160	5	30
Perfluoropentanoic acid (PFPA)			25.6	28.2		ng/L		110	73 - 135	2	30
NMeFOSE			25.6	27.6		ng/L		108	61 - 133	11	30
NMeFOSA			25.6	29.2		ng/L		114	49 - 134	9	30
NEtFOSE			25.6	26.0		ng/L		102	56 - 130	2	30
NEtFOSA			25.6	30.0		ng/L		117	56 - 136	3	30

Method: T-WI14355 r12 - SOP T-PFAS-WI14355 Rev.12 (Continued)

Lab Sample ID: LCSD 410-18696/3-A
Matrix: Water
Analysis Batch: 20942

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18696

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorododecanoic acid (PFDoA)			25.6	27.9		ng/L		109	65 - 143	1	30
Perfluoroundecanoic acid (PFUnA)			25.6	25.8		ng/L		101	66 - 140	5	30
4:2 Fluorotelomer sulfonic acid			23.9	29.0		ng/L		121	61 - 131	4	30
6:2 Fluorotelomer sulfonic acid			24.3	29.1		ng/L		120	56 - 140	9	30
8:2 Fluorotelomer sulfonic acid			24.5	31.0		ng/L		126	58 - 143	3	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
M2-4:2 FTS	*94*		*22 - 169*
M2-8:2 FTS	*88*		*37 - 169*
M2-6:2 FTS	*92*		*29 - 182*
13C5 PFHxA	*87*		*36 - 137*
13C4 PFHpA	*82*		*33 - 140*
13C8 PFOA	*81*		*52 - 124*
13C9 PFNA	*78*		*48 - 130*
13C6 PFDA	*82*		*50 - 124*
13C7 PFUnA	*91*		*44 - 128*
13C2-PFDoDA	*89*		*36 - 127*
13C2 PFTeDA	*90*		*21 - 134*
13C3 PFBS	*76*		*23 - 175*
13C3 PFHxS	*83*		*35 - 143*
13C8 PFOS	*81*		*52 - 121*
d3-NMeFOSAA	*106*		*36 - 143*
d5-NEtFOSAA	*117*		*42 - 149*
13C8 FOSA	*86*		*10 - 134*
13C4 PFBA	*83*		*43 - 130*
13C5 PFPeA	*82*		*38 - 150*
d7-N-MeFOSE-M	*90*		*10 - 137*
d3-NMePFOSA	*47*		*10 - 107*
d9-N-EtFOSE-M	*87*		*10 - 135*
d5-NEtPFOSA	*44*		*10 - 107*

LCMS

Prep Batch: 17612

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5821-6	MVD-2(T)/1531010_008	Total/NA	Water	T-WI14355 r12	
410-5821-7	MVD-3(T)/1531010_003	Total/NA	Water	T-WI14355 r12	
410-5821-8	MVD-7(R)/1531010_007	Total/NA	Water	T-WI14355 r12	
410-5821-9	MVD-8(R)/1531010_009	Total/NA	Water	T-WI14355 r12	
410-5821-10	MVD-TP/1531010_508	Total/NA	Water	T-WI14355 r12	
MB 410-17612/1-A	Method Blank	Total/NA	Water	T-WI14355 r12	
LCS 410-17612/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r12	
LCSD 410-17612/3-A	Lab Control Sample Dup	Total/NA	Water	T-WI14355 r12	

Analysis Batch: 18171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5821-6	MVD-2(T)/1531010_008	Total/NA	Water	T-WI14355 r12	17612
410-5821-7	MVD-3(T)/1531010_003	Total/NA	Water	T-WI14355 r12	17612
410-5821-8	MVD-7(R)/1531010_007	Total/NA	Water	T-WI14355 r12	17612
410-5821-9	MVD-8(R)/1531010_009	Total/NA	Water	T-WI14355 r12	17612
410-5821-10	MVD-TP/1531010_508	Total/NA	Water	T-WI14355 r12	17612
MB 410-17612/1-A	Method Blank	Total/NA	Water	T-WI14355 r12	17612
LCS 410-17612/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r12	17612
LCSD 410-17612/3-A	Lab Control Sample Dup	Total/NA	Water	T-WI14355 r12	17612

Prep Batch: 18696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5821-8	MVD-7(R)/1531010_007	Total/NA	Water	T-WI14355 r12	
410-5821-9 - RE	MVD-8(R)/1531010_009	Total/NA	Water	T-WI14355 r12	
410-5821-10 - RE	MVD-TP/1531010_508	Total/NA	Water	T-WI14355 r12	
MB 410-18696/1-A	Method Blank	Total/NA	Water	T-WI14355 r12	
LCS 410-18696/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r12	
LCSD 410-18696/3-A	Lab Control Sample Dup	Total/NA	Water	T-WI14355 r12	

Analysis Batch: 20942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-5821-8	MVD-7(R)/1531010_007	Total/NA	Water	T-WI14355 r12	18696
410-5821-9 - RE	MVD-8(R)/1531010_009	Total/NA	Water	T-WI14355 r12	18696
410-5821-10 - RE	MVD-TP/1531010_508	Total/NA	Water	T-WI14355 r12	18696
MB 410-18696/1-A	Method Blank	Total/NA	Water	T-WI14355 r12	18696
LCS 410-18696/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r12	18696
LCSD 410-18696/3-A	Lab Control Sample Dup	Total/NA	Water	T-WI14355 r12	18696

Lab Chronicle

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-5821-1

Client Sample ID: MVD-2(T)/1531010_008

Lab Sample ID: 410-5821-6
Date Collected: 06/25/20 11:38
Matrix: Water
Date Received: 06/26/20 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			17612	06/29/20 11:25	AZ9E	ELLE
Total/NA	Analysis	T-WI14355 r12		1	18171	07/01/20 04:45	UUV6	ELLE

Client Sample ID: MVD-3(T)/1531010_003

Lab Sample ID: 410-5821-7
Date Collected: 06/25/20 10:55
Matrix: Water
Date Received: 06/26/20 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			17612	06/29/20 11:25	AZ9E	ELLE
Total/NA	Analysis	T-WI14355 r12		1	18171	07/01/20 04:54	UUV6	ELLE

Client Sample ID: MVD-7(R)/1531010_007

Lab Sample ID: 410-5821-8
Date Collected: 06/25/20 11:07
Matrix: Water
Date Received: 06/26/20 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			18696	07/01/20 18:00	QLP7	ELLE
Total/NA	Analysis	T-WI14355 r12		1	20942	07/10/20 03:55	OLN7	ELLE
Total/NA	Prep	T-WI14355 r12			17612	06/29/20 11:25	AZ9E	ELLE
Total/NA	Analysis	T-WI14355 r12		1	18171	07/01/20 05:03	UUV6	ELLE

Client Sample ID: MVD-8(R)/1531010_009

Lab Sample ID: 410-5821-9
Date Collected: 06/25/20 11:12
Matrix: Water
Date Received: 06/26/20 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12	RE		18696	07/01/20 18:00	QLP7	ELLE
Total/NA	Analysis	T-WI14355 r12	RE	1	20942	07/10/20 04:04	OLN7	ELLE
Total/NA	Prep	T-WI14355 r12			17612	06/29/20 11:25	AZ9E	ELLE
Total/NA	Analysis	T-WI14355 r12		1	18171	07/01/20 05:12	UUV6	ELLE

Client Sample ID: MVD-TP/1531010_508

Lab Sample ID: 410-5821-10
Date Collected: 06/25/20 11:18
Matrix: Water
Date Received: 06/26/20 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12	RE		18696	07/01/20 18:00	QLP7	ELLE
Total/NA	Analysis	T-WI14355 r12	RE	1	20942	07/10/20 04:13	OLN7	ELLE
Total/NA	Prep	T-WI14355 r12			17612	06/29/20 11:25	AZ9E	ELLE
Total/NA	Analysis	T-WI14355 r12		1	18171	07/01/20 05:21	UUV6	ELLE

Laboratory References:

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

Accreditation/Certification Summary

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-5821-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

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

Authority	Program	Identification Number	Expiration Date
New Hampshire	NELAP	273019	01-10-21

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

Analysis Method	Prep Method	Matrix	Analyte
T-WI14355 r12	T-WI14355 r12	Water	10:2 Fluorotelomer sulfonic acid
T-WI14355 r12	T-WI14355 r12	Water	4:2 Fluorotelomer sulfonic acid
T-WI14355 r12	T-WI14355 r12	Water	6:2 Fluorotelomer sulfonic acid
T-WI14355 r12	T-WI14355 r12	Water	8:2 Fluorotelomer sulfonic acid
T-WI14355 r12	T-WI14355 r12	Water	NEtFOSA
T-WI14355 r12	T-WI14355 r12	Water	NEtFOSAA
T-WI14355 r12	T-WI14355 r12	Water	NEtFOSE
T-WI14355 r12	T-WI14355 r12	Water	NMeFOSA
T-WI14355 r12	T-WI14355 r12	Water	NMeFOSAA
T-WI14355 r12	T-WI14355 r12	Water	NMeFOSE
T-WI14355 r12	T-WI14355 r12	Water	Perfluorobutanesulfonic acid (PFBS)
T-WI14355 r12	T-WI14355 r12	Water	Perfluorobutanoic acid (PFBA)
T-WI14355 r12	T-WI14355 r12	Water	Perfluorodecanesulfonic acid (PFDS)
T-WI14355 r12	T-WI14355 r12	Water	Perfluorodecanoic acid (PFDA)
T-WI14355 r12	T-WI14355 r12	Water	Perfluorododecanesulfonic acid (PFDoS)
T-WI14355 r12	T-WI14355 r12	Water	Perfluorododecanoic acid (PFDoA)
T-WI14355 r12	T-WI14355 r12	Water	Perfluoroheptanesulfonic Acid (PFHpS)
T-WI14355 r12	T-WI14355 r12	Water	Perfluoroheptanoic acid (PFHpA)
T-WI14355 r12	T-WI14355 r12	Water	Perfluorohexanesulfonic acid (PFHxS)
T-WI14355 r12	T-WI14355 r12	Water	Perfluorohexanoic acid (PFHxA)
T-WI14355 r12	T-WI14355 r12	Water	Perfluoro-n-hexadecanoic acid (PFHxDA)
T-WI14355 r12	T-WI14355 r12	Water	Perfluoro-n-octadecanoic acid (PFODA)
T-WI14355 r12	T-WI14355 r12	Water	Perfluorononanesulfonic acid (PFNS)
T-WI14355 r12	T-WI14355 r12	Water	Perfluorononanoic acid (PFNA)
T-WI14355 r12	T-WI14355 r12	Water	Perfluorooctanesulfonamide (PFOSA)
T-WI14355 r12	T-WI14355 r12	Water	Perfluorooctanesulfonic acid (PFOS)
T-WI14355 r12	T-WI14355 r12	Water	Perfluorooctanoic acid (PFOA)
T-WI14355 r12	T-WI14355 r12	Water	Perfluoropentanesulfonic acid (PFPeS)
T-WI14355 r12	T-WI14355 r12	Water	Perfluoropentanoic acid (PFPA)
T-WI14355 r12	T-WI14355 r12	Water	Perfluorotetradecanoic acid (PFTeA)
T-WI14355 r12	T-WI14355 r12	Water	Perfluorotridecanoic acid (PFTrDA)
T-WI14355 r12	T-WI14355 r12	Water	Perfluoroundecanoic acid (PFUnA)

Method Summary

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-5821-1

Method	Method Description	Protocol	Laboratory
T-WI14355 r12	SOP T-PFAS-WI14355 Rev.12	ELLE - Lancaster	ELLE
T-WI14355 r12	T-PFAS-WI14355 Revision 12	ELLE - Lancaster	ELLE

Protocol References:

ELLE - Lancaster = Eurofins Lancaster, Facility Standard Operating Procedure.

Laboratory References:

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

Sample Summary

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-5821-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-5821-6	MVD-2(T)/1531010_008	Water	06/25/20 11:38	06/26/20 10:44	
410-5821-7	MVD-3(T)/1531010_003	Water	06/25/20 10:55	06/26/20 10:44	
410-5821-8	MVD-7(R)/1531010_007	Water	06/25/20 11:07	06/26/20 10:44	
410-5821-9	MVD-8(R)/1531010_009	Water	06/25/20 11:12	06/26/20 10:44	
410-5821-10	MVD-TP/1531010_508	Water	06/25/20 11:18	06/26/20 10:44	

NHDES

Drinking Water and Groundw

410-5821 Chain of Custody

October 14, 2019

Page 1 of 1

GENERAL SYSTEM EVALUATION SAMPLES ONLY ***

Questions: (603) 271-2513

PWS ID: 1531010

System Name: MERRIMACK VILLAGE DIST

PWS Town: MERRIMACK

Sample Type: Treatment Evaluation ☐ Other ☒

Collected By: Ronald Miner (Print Name)

Signature: Ronald Hunter

I certify that all samples taken are from the site(s) listed below and all information provided on this form to the lab is valid.

Phone Number: 603-424-9241

If sample is chlorinated, please fill in Chlorine Residual (mg/L) column.

Sample Purpose/Comments:

Analysis Requested

Sample Site Location	Date & Time Sample Collected	Lab Sample ID	# of Containers	Parameters Requested	Free/Total (circle one) Chlorine Residual (mg/L)
MVD-2(G)/1531010_008	6-25-20 11:38			PFAS by isotope dilution 32 Compounds	
MVD-3(R)/1531010_003	6-25-20 10:55				
MVD-7(R)/1531010_007	6-25-20 11:07				
MVD-8(R)/1531010_009	6-25-20 11:12				
MVD-TP/1531010_508	6-25-20 11:18				

NOTE: Samples collected for NITRATE/NITRITE analysis NEED to be collected prior to chlorination. Check with Lab.
CYANIDE samples NEED to be collected prior to chlorination. Check with Lab.

*** Samples that are representative of water being consumed, and indicate the presence of acute contaminants exceeding the MCL, shall be used for compliance purposes.

FOR LAB USE: Temp C (upon receipt): ____ On Ice? Y / N Batch ID (if different than sample ID prefix): ____ List QUALIFIERS (if any): ____

Relinquished by: Ronald Hunter 6/25/20 Received by: ____ Date/Time: ____

Relinquished by: ____ Received at Lab by: ____ Date/Time: 6/26/20 10:44

Lab Conducting Analysis: ____ Signature: ____ Lab Accred. ID: ____ Phone: ____

Reporting Lab (if different): ____ Signature: CM Web Lab Accred. ID: ____ Phone: ____

NOTE: If acute contaminants are present/exceeded, results must be reported to DES within 24 hours.

NR

Login Sample Receipt Checklist

Client: Merrimack Village District

Job Number: 410-5821-1

Login Number: 5821
List Number: 1
Creator: Reiff, Nicole L

List Source: Eurofins Lancaster Laboratories Env

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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	
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	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	N/A	