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ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-2518-1
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:
6/8/2020 5:48:18 PM

Mary Kate Izzo, Project Manager
(717)556-4656
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Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

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.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Mary Kate Izzo
Project Manager
6/8/2020 5:48:18 PM

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Definitions/Glossary

Client: Merrimack Village District
Job ID: 410-2518-1
Project/Site: PFC Investigation

Qualifiers

LCMS

Qualifier	Qualifier Description
*5	Isotope dilution analyte is outside acceptance limits.
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
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

Job ID: 410-2518-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative
410-2518-1

Receipt

The samples were received on 5/22/2020 10:22 AM; the samples arrived in good condition, properly preserved, and where required, on ice. The temperature of the cooler at receipt time was 5.3°C

LCMS

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

Detection Summary

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-2518-1

Client Sample ID: MVD-2(T)/1531010_008 — Lab Sample ID: 410-2518-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	1.8		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.4	J	1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	8.8		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.8		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.70	J	1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.4	J	1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	1.3	J	1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA

Client Sample ID: MVD-3(T)/1531010_003 — Lab Sample ID: 410-2518-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	7.1		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.5		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	18		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorononanoic acid (PFNA)	0.66	J	1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.5		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.58	J	1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.6	J	1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanoic acid (PFBA)	4.0	J	4.5	1.8	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	5.6		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA

Client Sample ID: MVD-7(R)/1531010_007 — Lab Sample ID: 410-2518-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	2.0		1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.3		1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	17		1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.4	J	1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.2	J	1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.0		1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	1.5	J	1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA

Client Sample ID: MVD-8(R)/1531010_009 — Lab Sample ID: 410-2518-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	2.0		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.9		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	14		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.2	J	1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.96	J	1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.2	J	1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.48	J	1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	1.4	J	1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA

Client Sample ID: MVD-TP/1531010_508 — Lab Sample ID: 410-2518-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	2.0		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.2		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	15		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.5	J	1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.1	J	1.8	0.45	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: 410-2518-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	1.5	J	1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	1.4	J	1.8	0.45	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: 410-2518-1

Client Sample ID: MVD-2(T)/1531010_008
Date Collected: 05/21/20 13:05
Date Received: 05/22/20 10:22

Lab Sample ID: 410-2518-6
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)	**1.8**		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluoroheptanoic acid (PFHpA)	**1.4**	**J**	1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluorooctanoic acid (PFOA)	**8.8**		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluorobutanesulfonic acid (PFBS)	**1.8**		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluorohexanesulfonic acid (PFHxS)	**0.70**	**J**	1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluorooctanesulfonic acid (PFOS)	**1.4**	**J**	1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
NEtFOSAA	ND		2.7	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
NMeFOSAA	ND		1.8	0.54	ng/L		05/27/20 07:51	05/28/20 17:53	1
10:2 Fluorotelomer sulfonic acid	ND		4.5	0.89	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.7	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.7	0.89	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.7	0.89	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluorobutanoic acid (PFBA)	ND		4.5	1.8	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluoropentanoic acid (PFPA)	**1.3**	**J**	1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
NMeFOSE	ND		2.7	0.89	ng/L		05/27/20 07:51	05/28/20 17:53	1
NMeFOSA	ND		2.7	0.89	ng/L		05/27/20 07:51	05/28/20 17:53	1
NEtFOSE	ND		2.7	0.89	ng/L		05/27/20 07:51	05/28/20 17:53	1
NEtFOSA	ND		4.5	0.89	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 17:53	1
6:2 Fluorotelomer sulfonic acid	ND		4.5	1.8	ng/L		05/27/20 07:51	05/28/20 17:53	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.89	ng/L		05/27/20 07:51	05/28/20 17:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*106*		*22 - 169*	*05/27/20 07:51*	*05/28/20 17:53*	*1*
M2-8:2 FTS	*95*		*37 - 169*	*05/27/20 07:51*	*05/28/20 17:53*	*1*
M2-6:2 FTS	*97*		*29 - 182*	*05/27/20 07:51*	*05/28/20 17:53*	*1*
13C5 PFHxA	*93*		*36 - 137*	*05/27/20 07:51*	*05/28/20 17:53*	*1*
13C4 PFHpA	*92*		*33 - 140*	*05/27/20 07:51*	*05/28/20 17:53*	*1*
13C8 PFOA	*96*		*52 - 124*	*05/27/20 07:51*	*05/28/20 17:53*	*1*
13C9 PFNA	*94*		*48 - 130*	*05/27/20 07:51*	*05/28/20 17:53*	*1*
13C6 PFDA	*91*		*50 - 124*	*05/27/20 07:51*	*05/28/20 17:53*	*1*
13C7 PFUnA	*94*		*44 - 128*	*05/27/20 07:51*	*05/28/20 17:53*	*1*
13C2-PFDoDA	*91*		*36 - 127*	*05/27/20 07:51*	*05/28/20 17:53*	*1*

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

Lab Sample ID: 410-2518-6

Date Collected: 05/21/20 13:05

Matrix: Water

Date Received: 05/22/20 10:22

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	95		21 - 134	05/27/20 07:51	05/28/20 17:53	1
13C3 PFBS	94		23 - 175	05/27/20 07:51	05/28/20 17:53	1
13C3 PFHxS	86		35 - 143	05/27/20 07:51	05/28/20 17:53	1
13C8 PFOS	91		52 - 121	05/27/20 07:51	05/28/20 17:53	1
d3-NMeFOSAA	90		36 - 143	05/27/20 07:51	05/28/20 17:53	1
d5-NEtFOSAA	96		42 - 149	05/27/20 07:51	05/28/20 17:53	1
13C8 FOSA	78		10 - 134	05/27/20 07:51	05/28/20 17:53	1
13C4 PFBA	92		43 - 130	05/27/20 07:51	05/28/20 17:53	1
13C5 PFPeA	96		38 - 150	05/27/20 07:51	05/28/20 17:53	1
d7-N-MeFOSE-M	77		10 - 137	05/27/20 07:51	05/28/20 17:53	1
d3-NMePFOSA	34		10 - 107	05/27/20 07:51	05/28/20 17:53	1
d9-N-EtFOSE-M	71		10 - 135	05/27/20 07:51	05/28/20 17:53	1
d5-NEtPFOSA	33		10 - 107	05/27/20 07:51	05/28/20 17:53	1

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

Lab Sample ID: 410-2518-7

Date Collected: 05/21/20 12:52

Matrix: Water

Date Received: 05/22/20 10:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**7.1**		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluoroheptanoic acid (PFHpA)	**4.5**		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluorooctanoic acid (PFOA)	**18**		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluorononanoic acid (PFNA)	**0.66**	**J**	1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluorobutanesulfonic acid (PFBS)	**4.5**		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluorohexanesulfonic acid (PFHxS)	**0.58**	**J**	1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluorooctanesulfonic acid (PFOS)	**1.6**	**J**	1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
NEtFOSAA	ND		2.7	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
NMeFOSAA	ND		1.8	0.54	ng/L		05/27/20 07:51	05/28/20 18:02	1
10:2 Fluorotelomer sulfonic acid	ND		4.5	0.89	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.7	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.7	0.89	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.7	0.89	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluorobutanoic acid (PFBA)	**4.0**	**J**	4.5	1.8	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluoropentanoic acid (PFPA)	**5.6**		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
NMeFOSE	ND		2.7	0.89	ng/L		05/27/20 07:51	05/28/20 18:02	1

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

Lab Sample ID: 410-2518-7

Date Collected: 05/21/20 12:52

Matrix: Water

Date Received: 05/22/20 10:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		2.7	0.89	ng/L		05/27/20 07:51	05/28/20 18:02	1
NEtFOSE	ND		2.7	0.89	ng/L		05/27/20 07:51	05/28/20 18:02	1
NEtFOSA	ND		4.5	0.89	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:02	1
6:2 Fluorotelomer sulfonic acid	ND		4.5	1.8	ng/L		05/27/20 07:51	05/28/20 18:02	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.89	ng/L		05/27/20 07:51	05/28/20 18:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*115*		*22 - 169*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
M2-8:2 FTS	*96*		*37 - 169*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
M2-6:2 FTS	*96*		*29 - 182*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
13C5 PFHxA	*90*		*36 - 137*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
13C4 PFHpA	*92*		*33 - 140*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
13C8 PFOA	*96*		*52 - 124*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
13C9 PFNA	*88*		*48 - 130*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
13C6 PFDA	*96*		*50 - 124*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
13C7 PFUnA	*99*		*44 - 128*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
13C2-PFDoDA	*94*		*36 - 127*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
13C2 PFTeDA	*89*		*21 - 134*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
13C3 PFBS	*95*		*23 - 175*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
13C3 PFHxS	*86*		*35 - 143*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
13C8 PFOS	*84*		*52 - 121*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
d3-NMeFOSAA	*89*		*36 - 143*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
d5-NEtFOSAA	*102*		*42 - 149*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
13C8 FOSA	*82*		*10 - 134*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
13C4 PFBA	*90*		*43 - 130*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
13C5 PFPeA	*98*		*38 - 150*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
d7-N-MeFOSE-M	*85*		*10 - 137*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
d3-NMePFOSA	*40*		*10 - 107*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
d9-N-EtFOSE-M	*79*		*10 - 135*	*05/27/20 07:51*	*05/28/20 18:02*	*1*
d5-NEtPFOSA	*40*		*10 - 107*	*05/27/20 07:51*	*05/28/20 18:02*	*1*

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

Lab Sample ID: 410-2518-8

Date Collected: 05/21/20 12:27

Matrix: Water

Date Received: 05/22/20 10:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**2.0**		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluoroheptanoic acid (PFHpA)	**2.3**		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluorooctanoic acid (PFOA)	**17**		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluorobutanesulfonic acid (PFBS)	**1.4**	**J**	1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluorohexanesulfonic acid (PFHxS)	**1.2**	**J**	1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-2518-1

Client Sample ID: MVD-7(R)/1531010_007
Date Collected: 05/21/20 12:27
Date Received: 05/22/20 10:22

Lab Sample ID: 410-2518-8
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)	**2.0**		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
NEtFOSAA	ND		2.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
NMeFOSAA	ND		1.8	0.53	ng/L		05/27/20 07:51	05/28/20 18:11	1
10:2 Fluorotelomer sulfonic acid	ND		4.4	0.88	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.7	0.88	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.7	0.88	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluorobutanoic acid (PFBA)	ND		4.4	1.8	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluoropentanoic acid (PFPA)	**1.5**	**J**	1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
NMeFOSE	ND		2.7	0.88	ng/L		05/27/20 07:51	05/28/20 18:11	1
NMeFOSA	ND		2.7	0.88	ng/L		05/27/20 07:51	05/28/20 18:11	1
NEtFOSE	ND		2.7	0.88	ng/L		05/27/20 07:51	05/28/20 18:11	1
NEtFOSA	ND		4.4	0.88	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.44	ng/L		05/27/20 07:51	05/28/20 18:11	1
6:2 Fluorotelomer sulfonic acid	ND		4.4	1.8	ng/L		05/27/20 07:51	05/28/20 18:11	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.88	ng/L		05/27/20 07:51	05/28/20 18:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*105*		*22 - 169*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
M2-8:2 FTS	*92*		*37 - 169*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
M2-6:2 FTS	*91*		*29 - 182*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
13C5 PFHxA	*89*		*36 - 137*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
13C4 PFHpA	*88*		*33 - 140*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
13C8 PFOA	*88*		*52 - 124*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
13C9 PFNA	*88*		*48 - 130*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
13C6 PFDA	*90*		*50 - 124*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
13C7 PFUnA	*91*		*44 - 128*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
13C2-PFDoDA	*88*		*36 - 127*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
13C2 PFTeDA	*86*		*21 - 134*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
13C3 PFBS	*89*		*23 - 175*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
13C3 PFHxS	*80*		*35 - 143*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
13C8 PFOS	*85*		*52 - 121*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
d3-NMeFOSAA	*83*		*36 - 143*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
d5-NEtFOSAA	*91*		*42 - 149*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
13C8 FOSA	*62*		*10 - 134*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
13C4 PFBA	*86*		*43 - 130*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
13C5 PFPeA	*90*		*38 - 150*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
d7-N-MeFOSE-M	*24*		*10 - 137*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
d3-NMePFOSA	*4*	**5*	*10 - 107*	*05/27/20 07:51*	*05/28/20 18:11*	*1*

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

Lab Sample ID: 410-2518-8

Date Collected: 05/21/20 12:27

Matrix: Water

Date Received: 05/22/20 10:22

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d9-N-EtFOSE-M	*21*		*10 - 135*	*05/27/20 07:51*	*05/28/20 18:11*	*1*
d5-NEtPFOSA	*4*	*5	*10 - 107*	*05/27/20 07:51*	*05/28/20 18:11*	*1*

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

Lab Sample ID: 410-2518-9

Date Collected: 05/21/20 12:30

Matrix: Water

Date Received: 05/22/20 10:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**2.0**		1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluoroheptanoic acid (PFHpA)	**1.9**		1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluorooctanoic acid (PFOA)	**14**		1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**	**J**	1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluorohexanesulfonic acid (PFHxS)	**0.96**	**J**	1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluorooctanesulfonic acid (PFOS)	**1.2**	**J**	1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
NEtFOSAA	ND		2.6	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
NMeFOSAA	ND		1.7	0.52	ng/L		05/27/20 07:51	05/28/20 18:20	1
10:2 Fluorotelomer sulfonic acid	ND		4.4	0.87	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluoropentanesulfonic acid (PFPeS)	**0.48**	**J**	1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.6	0.87	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.6	0.87	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluorobutanoic acid (PFBA)	ND		4.4	1.7	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluoropentanoic acid (PFPA)	**1.4**	**J**	1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
NMeFOSE	ND		2.6	0.87	ng/L		05/27/20 07:51	05/28/20 18:20	1
NMeFOSA	ND		2.6	0.87	ng/L		05/27/20 07:51	05/28/20 18:20	1
NEtFOSE	ND		2.6	0.87	ng/L		05/27/20 07:51	05/28/20 18:20	1
NEtFOSA	ND		4.4	0.87	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.44	ng/L		05/27/20 07:51	05/28/20 18:20	1
6:2 Fluorotelomer sulfonic acid	ND		4.4	1.7	ng/L		05/27/20 07:51	05/28/20 18:20	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.87	ng/L		05/27/20 07:51	05/28/20 18:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-4:2 FTS	*116*		*22 - 169*	*05/27/20 07:51*	*05/28/20 18:20*	*1*
M2-8:2 FTS	*98*		*37 - 169*	*05/27/20 07:51*	*05/28/20 18:20*	*1*

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

Lab Sample ID: 410-2518-9

Date Collected: 05/21/20 12:30

Matrix: Water

Date Received: 05/22/20 10:22

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	102		29 - 182	05/27/20 07:51	05/28/20 18:20	1
13C5 PFHxA	97		36 - 137	05/27/20 07:51	05/28/20 18:20	1
13C4 PFHpA	103		33 - 140	05/27/20 07:51	05/28/20 18:20	1
13C8 PFOA	99		52 - 124	05/27/20 07:51	05/28/20 18:20	1
13C9 PFNA	94		48 - 130	05/27/20 07:51	05/28/20 18:20	1
13C6 PFDA	94		50 - 124	05/27/20 07:51	05/28/20 18:20	1
13C7 PFUnA	99		44 - 128	05/27/20 07:51	05/28/20 18:20	1
13C2-PFDoDA	92		36 - 127	05/27/20 07:51	05/28/20 18:20	1
13C2 PFTeDA	94		21 - 134	05/27/20 07:51	05/28/20 18:20	1
13C3 PFBS	95		23 - 175	05/27/20 07:51	05/28/20 18:20	1
13C3 PFHxS	90		35 - 143	05/27/20 07:51	05/28/20 18:20	1
13C8 PFOS	95		52 - 121	05/27/20 07:51	05/28/20 18:20	1
d3-NMeFOSAA	86		36 - 143	05/27/20 07:51	05/28/20 18:20	1
d5-NEtFOSAA	101		42 - 149	05/27/20 07:51	05/28/20 18:20	1
13C8 FOSA	83		10 - 134	05/27/20 07:51	05/28/20 18:20	1
13C4 PFBA	93		43 - 130	05/27/20 07:51	05/28/20 18:20	1
13C5 PFPeA	98		38 - 150	05/27/20 07:51	05/28/20 18:20	1
d7-N-MeFOSE-M	72		10 - 137	05/27/20 07:51	05/28/20 18:20	1
d3-NMePFOSA	25		10 - 107	05/27/20 07:51	05/28/20 18:20	1
d9-N-EtFOSE-M	69		10 - 135	05/27/20 07:51	05/28/20 18:20	1
d5-NEtPFOSA	25		10 - 107	05/27/20 07:51	05/28/20 18:20	1

Client Sample ID: MVD-TP/1531010_508

Lab Sample ID: 410-2518-10

Date Collected: 05/21/20 12:36

Matrix: Water

Date Received: 05/22/20 10:22

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**2.0**		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluoroheptanoic acid (PFHpA)	**2.2**		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluorooctanoic acid (PFOA)	**15**		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluorobutanesulfonic acid (PFBS)	**1.5**	**J**	1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluorohexanesulfonic acid (PFHxS)	**1.1**	**J**	1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluorooctanesulfonic acid (PFOS)	**1.5**	**J**	1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
NEtFOSAA	ND		2.7	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
NMeFOSAA	ND		1.8	0.54	ng/L		05/27/20 07:51	05/28/20 18:29	1
10:2 Fluorotelomer sulfonic acid	ND		4.5	0.90	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-2518-1

Client Sample ID: MVD-TP/1531010_508
Date Collected: 05/21/20 12:36
Date Received: 05/22/20 10:22

Lab Sample ID: 410-2518-10
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		2.7	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.7	0.90	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.7	0.90	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluorobutanoic acid (PFBA)	ND		4.5	1.8	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluoropentanoic acid (PFPA)	**1.4**	**J**	1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
NMeFOSE	ND		2.7	0.90	ng/L		05/27/20 07:51	05/28/20 18:29	1
NMeFOSA	ND		2.7	0.90	ng/L		05/27/20 07:51	05/28/20 18:29	1
NEtFOSE	ND		2.7	0.90	ng/L		05/27/20 07:51	05/28/20 18:29	1
NEtFOSA	ND		4.5	0.90	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.45	ng/L		05/27/20 07:51	05/28/20 18:29	1
6:2 Fluorotelomer sulfonic acid	ND		4.5	1.8	ng/L		05/27/20 07:51	05/28/20 18:29	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.90	ng/L		05/27/20 07:51	05/28/20 18:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*124*		*22 - 169*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
M2-8:2 FTS	*99*		*37 - 169*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
M2-6:2 FTS	*103*		*29 - 182*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
13C5 PFHxA	*91*		*36 - 137*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
13C4 PFHpA	*94*		*33 - 140*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
13C8 PFOA	*96*		*52 - 124*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
13C9 PFNA	*94*		*48 - 130*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
13C6 PFDA	*91*		*50 - 124*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
13C7 PFUnA	*98*		*44 - 128*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
13C2-PFDoDA	*86*		*36 - 127*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
13C2 PFTeDA	*94*		*21 - 134*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
13C3 PFBS	*99*		*23 - 175*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
13C3 PFHxS	*88*		*35 - 143*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
13C8 PFOS	*92*		*52 - 121*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
d3-NMeFOSAA	*87*		*36 - 143*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
d5-NEtFOSAA	*102*		*42 - 149*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
13C8 FOSA	*76*		*10 - 134*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
13C4 PFBA	*94*		*43 - 130*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
13C5 PFPeA	*96*		*38 - 150*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
d7-N-MeFOSE-M	*67*		*10 - 137*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
d3-NMePFOSA	*24*		*10 - 107*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
d9-N-EtFOSE-M	*65*		*10 - 135*	*05/27/20 07:51*	*05/28/20 18:29*	*1*
d5-NEtPFOSA	*25*		*10 - 107*	*05/27/20 07:51*	*05/28/20 18:29*	*1*

Isotope Dilution Summary

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-2518-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M282FTS	M262FTS	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA
Lab Sample ID	Client Sample ID	(22-169)	(37-169)	(29-182)	(36-137)	(33-140)	(52-124)	(48-130)	(50-124)
410-2518-6	MVD-2(T)/1531010_008	106	95	97	93	92	96	94	91
410-2518-7	MVD-3(T)/1531010_003	115	96	96	90	92	96	88	96
410-2518-8	MVD-7(R)/1531010_007	105	92	91	89	88	88	88	90
410-2518-9	MVD-8(R)/1531010_009	116	98	102	97	103	99	94	94
410-2518-10	MVD-TP/1531010_508	124	99	103	91	94	96	94	91
LCS 410-9311/2-A	Lab Control Sample	97	92	94	95	94	98	94	91
LCSD 410-9311/3-A	Lab Control Sample Dup	93	93	91	95	87	93	91	95
MB 410-9311/1-A	Method Blank	89	97	95	95	94	94	96	99

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		13C7PUA	PFDoDA	PFTDA	C3PFBS	C3PFHS	C8PFOS	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(44-128)	(36-127)	(21-134)	(23-175)	(35-143)	(52-121)	(36-143)	(42-149)
410-2518-6	MVD-2(T)/1531010_008	94	91	95	94	86	91	90	96
410-2518-7	MVD-3(T)/1531010_003	99	94	89	95	86	84	89	102
410-2518-8	MVD-7(R)/1531010_007	91	88	86	89	80	85	83	91
410-2518-9	MVD-8(R)/1531010_009	99	92	94	95	90	95	86	101
410-2518-10	MVD-TP/1531010_508	98	86	94	99	88	92	87	102
LCS 410-9311/2-A	Lab Control Sample	95	88	95	93	89	93	90	92
LCSD 410-9311/3-A	Lab Control Sample Dup	93	87	88	87	87	90	87	97
MB 410-9311/1-A	Method Blank	98	92	95	90	90	89	94	98

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOSA	PFBA	PFPeA	NMFM	d3NMFSA	NEFM	d5NPFSA	
Lab Sample ID	Client Sample ID	(10-134)	(43-130)	(38-150)	(10-137)	(10-107)	(10-135)	(10-107)	
410-2518-6	MVD-2(T)/1531010_008	78	92	96	77	34	71	33	
410-2518-7	MVD-3(T)/1531010_003	82	90	98	85	40	79	40	
410-2518-8	MVD-7(R)/1531010_007	62	86	90	24	4 *5	21	4 *5	
410-2518-9	MVD-8(R)/1531010_009	83	93	98	72	25	69	25	
410-2518-10	MVD-TP/1531010_508	76	94	96	67	24	65	25	
LCS 410-9311/2-A	Lab Control Sample	82	94	93	80	49	75	48	
LCSD 410-9311/3-A	Lab Control Sample Dup	82	92	89	87	66	86	65	
MB 410-9311/1-A	Method Blank	87	92	88	89	62	88	64	

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
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

Isotope Dilution Summary

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-2518-1

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 410-9311/1-A
Matrix: Water
Analysis Batch: 9506

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 9311

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
NEtFOSAA	ND		3.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
NMeFOSAA	ND		2.0	0.60	ng/L		05/27/20 07:51	05/28/20 17:25	1
10:2 Fluorotelomer sulfonic acid	ND		5.0	1.0	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		3.0	1.0	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		3.0	1.0	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluorobutanoic acid (PFBA)	ND		5.0	2.0	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluoropentanoic acid (PFPA)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
NMeFOSE	ND		3.0	1.0	ng/L		05/27/20 07:51	05/28/20 17:25	1
NMeFOSA	ND		3.0	1.0	ng/L		05/27/20 07:51	05/28/20 17:25	1
NEtFOSE	ND		3.0	1.0	ng/L		05/27/20 07:51	05/28/20 17:25	1
NEtFOSA	ND		5.0	1.0	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
4:2 Fluorotelomer sulfonic acid	ND		2.0	0.50	ng/L		05/27/20 07:51	05/28/20 17:25	1
6:2 Fluorotelomer sulfonic acid	ND		5.0	2.0	ng/L		05/27/20 07:51	05/28/20 17:25	1
8:2 Fluorotelomer sulfonic acid	ND		3.0	1.0	ng/L		05/27/20 07:51	05/28/20 17:25	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*89*		*22 - 169*	*05/27/20 07:51*	*05/28/20 17:25*	*1*
M2-8:2 FTS	*97*		*37 - 169*	*05/27/20 07:51*	*05/28/20 17:25*	*1*
M2-6:2 FTS	*95*		*29 - 182*	*05/27/20 07:51*	*05/28/20 17:25*	*1*
13C5 PFHxA	*95*		*36 - 137*	*05/27/20 07:51*	*05/28/20 17:25*	*1*
13C4 PFHpA	*94*		*33 - 140*	*05/27/20 07:51*	*05/28/20 17:25*	*1*
13C8 PFOA	*94*		*52 - 124*	*05/27/20 07:51*	*05/28/20 17:25*	*1*
13C9 PFNA	*96*		*48 - 130*	*05/27/20 07:51*	*05/28/20 17:25*	*1*
13C6 PFDA	*99*		*50 - 124*	*05/27/20 07:51*	*05/28/20 17:25*	*1*
13C7 PFUnA	*98*		*44 - 128*	*05/27/20 07:51*	*05/28/20 17:25*	*1*
13C2-PFDoDA	*92*		*36 - 127*	*05/27/20 07:51*	*05/28/20 17:25*	*1*
13C2 PFTeDA	*95*		*21 - 134*	*05/27/20 07:51*	*05/28/20 17:25*	*1*

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

Lab Sample ID: MB 410-9311/1-A
Matrix: Water
Analysis Batch: 9506

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 9311

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	90		23 - 175	05/27/20 07:51	05/28/20 17:25	1
13C3 PFHxS	90		35 - 143	05/27/20 07:51	05/28/20 17:25	1
13C8 PFOS	89		52 - 121	05/27/20 07:51	05/28/20 17:25	1
d3-NMeFOSAA	94		36 - 143	05/27/20 07:51	05/28/20 17:25	1
d5-NEtFOSAA	98		42 - 149	05/27/20 07:51	05/28/20 17:25	1
13C8 FOSA	87		10 - 134	05/27/20 07:51	05/28/20 17:25	1
13C4 PFBA	92		43 - 130	05/27/20 07:51	05/28/20 17:25	1
13C5 PFPeA	88		38 - 150	05/27/20 07:51	05/28/20 17:25	1
d7-N-MeFOSE-M	89		10 - 137	05/27/20 07:51	05/28/20 17:25	1
d3-NMePFOSA	62		10 - 107	05/27/20 07:51	05/28/20 17:25	1
d9-N-EtFOSE-M	88		10 - 135	05/27/20 07:51	05/28/20 17:25	1
d5-NEtPFOSA	64		10 - 107	05/27/20 07:51	05/28/20 17:25	1

Lab Sample ID: LCS 410-9311/2-A
Matrix: Water
Analysis Batch: 9506

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 9311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanoic acid (PFHxA)	25.6	25.4		ng/L		99	69 - 139
Perfluoroheptanoic acid (PFHpA)	25.6	25.5		ng/L		100	69 - 144
Perfluorooctanoic acid (PFOA)	25.6	24.8		ng/L		97	67 - 139
Perfluorononanoic acid (PFNA)	25.6	25.9		ng/L		101	66 - 144
Perfluorodecanoic acid (PFDA)	25.6	26.7		ng/L		104	66 - 141
Perfluorotridecanoic acid (PFTrDA)	25.6	24.6		ng/L		96	66 - 146
Perfluorotetradecanoic acid (PFTeA)	25.6	26.6		ng/L		104	69 - 141
Perfluorobutanesulfonic acid (PFBS)	22.6	22.5		ng/L		100	67 - 135
Perfluorohexanesulfonic acid (PFHxS)	24.2	24.3		ng/L		100	63 - 132
Perfluorooctanesulfonic acid (PFOS)	24.5	21.3		ng/L		87	53 - 129
NEtFOSAA	25.6	28.7		ng/L		112	53 - 140
NMeFOSAA	25.6	29.9		ng/L		117	59 - 141
10:2 Fluorotelomer sulfonic acid	24.7	22.7		ng/L		92	45 - 143
Perfluoropentanesulfonic acid (PFPeS)	24.0	22.7		ng/L		95	73 - 134
Perfluoroheptanesulfonic Acid (PFHpS)	24.4	23.9		ng/L		98	67 - 138
Perfluorononanesulfonic acid (PFNS)	24.6	23.4		ng/L		95	70 - 137
Perfluorodecanesulfonic acid (PFDS)	24.7	22.4		ng/L		91	62 - 135
Perfluorododecanesulfonic acid (PFDoS)	24.8	23.9		ng/L		96	57 - 134
Perfluorooctanesulfonamide (PFOSA)	25.6	26.1		ng/L		102	67 - 126
Perfluoro-n-hexadecanoic acid (PFHxDA)	25.6	25.1		ng/L		98	60 - 148
Perfluoro-n-octadecanoic acid (PFODA)	25.6	30.9		ng/L		121	47 - 159

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

Lab Sample ID: LCS 410-9311/2-A
Matrix: Water
Analysis Batch: 9506

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 9311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	25.6	23.1		ng/L		90	63 - 160
Perfluoropentanoic acid (PFPA)	25.6	24.3		ng/L		95	73 - 135
NMeFOSE	25.6	27.6		ng/L		108	61 - 133
NMeFOSA	25.6	26.4		ng/L		103	49 - 134
NEtFOSE	25.6	27.2		ng/L		106	56 - 130
NEtFOSA	25.6	26.9		ng/L		105	56 - 136
Perfluorododecanoic acid (PFDoA)	25.6	26.3		ng/L		103	65 - 143
Perfluoroundecanoic acid (PFUnA)	25.6	24.7		ng/L		96	66 - 140
4:2 Fluorotelomer sulfonic acid	23.9	22.6		ng/L		94	61 - 131
6:2 Fluorotelomer sulfonic acid	24.3	24.7		ng/L		102	56 - 140
8:2 Fluorotelomer sulfonic acid	24.5	24.8		ng/L		101	58 - 143

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
M2-4:2 FTS	*97*		*22 - 169*
M2-8:2 FTS	*92*		*37 - 169*
M2-6:2 FTS	*94*		*29 - 182*
13C5 PFHxA	*95*		*36 - 137*
13C4 PFHpA	*94*		*33 - 140*
13C8 PFOA	*98*		*52 - 124*
13C9 PFNA	*94*		*48 - 130*
13C6 PFDA	*91*		*50 - 124*
13C7 PFUnA	*95*		*44 - 128*
13C2-PFDoDA	*88*		*36 - 127*
13C2 PFTeDA	*95*		*21 - 134*
13C3 PFBS	*93*		*23 - 175*
13C3 PFHxS	*89*		*35 - 143*
13C8 PFOS	*93*		*52 - 121*
d3-NMeFOSAA	*90*		*36 - 143*
d5-NEtFOSAA	*92*		*42 - 149*
13C8 FOSA	*82*		*10 - 134*
13C4 PFBA	*94*		*43 - 130*
13C5 PFPeA	*93*		*38 - 150*
d7-N-MeFOSE-M	*80*		*10 - 137*
d3-NMePFOSA	*49*		*10 - 107*
d9-N-EtFOSE-M	*75*		*10 - 135*
d5-NEtPFOSA	*48*		*10 - 107*

Lab Sample ID: LCSD 410-9311/3-A
Matrix: Water
Analysis Batch: 9506

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 9311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	25.6	24.5		ng/L		96	69 - 139	3	30
Perfluoroheptanoic acid (PFHpA)	25.6	26.7		ng/L		104	69 - 144	5	30
Perfluorooctanoic acid (PFOA)	25.6	26.7		ng/L		104	67 - 139	7	30
Perfluorononanoic acid (PFNA)	25.6	26.2		ng/L		103	66 - 144	1	30
Perfluorodecanoic acid (PFDA)	25.6	24.9		ng/L		97	66 - 141	7	30

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

Lab Sample ID: LCSD 410-9311/3-A
Matrix: Water
Analysis Batch: 9506

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 9311

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorotridecanoic acid (PFTrDA)			25.6	25.1		ng/L		98	66 - 146	2	30
Perfluorotetradecanoic acid (PFTeA)			25.6	27.5		ng/L		107	69 - 141	3	30
Perfluorobutanesulfonic acid (PFBS)			22.6	22.1		ng/L		98	67 - 135	2	30
Perfluorohexanesulfonic acid (PFHxS)			24.2	23.7		ng/L		98	63 - 132	2	30
Perfluorooctanesulfonic acid (PFOS)			24.5	20.4		ng/L		83	53 - 129	4	30
NEtFOSAA			25.6	26.8		ng/L		105	53 - 140	7	30
NMeFOSAA			25.6	32.4		ng/L		127	59 - 141	8	30
10:2 Fluorotelomer sulfonic acid			24.7	21.8		ng/L		89	45 - 143	4	30
Perfluoropentanesulfonic acid (PFPeS)			24.0	21.8		ng/L		91	73 - 134	4	30
Perfluoroheptanesulfonic Acid (PFHpS)			24.4	23.9		ng/L		98	67 - 138	0	30
Perfluorononanesulfonic acid (PFNS)			24.6	23.9		ng/L		97	70 - 137	2	30
Perfluorodecanesulfonic acid (PFDS)			24.7	23.0		ng/L		93	62 - 135	3	30
Perfluorododecanesulfonic acid (PFDoS)			24.8	23.6		ng/L		95	57 - 134	1	30
Perfluorooctanesulfonamide (PFOSA)			25.6	27.4		ng/L		107	67 - 126	5	30
Perfluoro-n-hexadecanoic acid (PFHxDA)			25.6	27.2		ng/L		106	60 - 148	8	30
Perfluoro-n-octadecanoic acid (PFODA)			25.6	32.7		ng/L		128	47 - 159	6	30
Perfluorobutanoic acid (PFBA)			25.6	22.6		ng/L		88	63 - 160	2	30
Perfluoropentanoic acid (PFPA)			25.6	25.0		ng/L		98	73 - 135	3	30
NMeFOSE			25.6	27.5		ng/L		108	61 - 133	0	30
NMeFOSA			25.6	26.2		ng/L		102	49 - 134	1	30
NEtFOSE			25.6	26.6		ng/L		104	56 - 130	2	30
NEtFOSA			25.6	28.7		ng/L		112	56 - 136	6	30
Perfluorododecanoic acid (PFDoA)			25.6	26.3		ng/L		103	65 - 143	0	30
Perfluoroundecanoic acid (PFUnA)			25.6	25.3		ng/L		99	66 - 140	2	30
4:2 Fluorotelomer sulfonic acid			23.9	23.1		ng/L		96	61 - 131	2	30
6:2 Fluorotelomer sulfonic acid			24.3	25.2		ng/L		104	56 - 140	2	30
8:2 Fluorotelomer sulfonic acid			24.5	23.8		ng/L		97	58 - 143	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
M2-4:2 FTS	*93*		*22 - 169*
M2-8:2 FTS	*93*		*37 - 169*
M2-6:2 FTS	*91*		*29 - 182*
13C5 PFHxA	*95*		*36 - 137*
13C4 PFHpA	*87*		*33 - 140*
13C8 PFOA	*93*		*52 - 124*
13C9 PFNA	*91*		*48 - 130*
13C6 PFDA	*95*		*50 - 124*

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

Lab Sample ID: LCSD 410-9311/3-A
Matrix: Water
Analysis Batch: 9506

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 9311

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C7 PFUnA	93		44 - 128
13C2-PFDoDA	87		36 - 127
13C2 PFTeDA	88		21 - 134
13C3 PFBS	87		23 - 175
13C3 PFHxS	87		35 - 143
13C8 PFOS	90		52 - 121
d3-NMeFOSAA	87		36 - 143
d5-NEtFOSAA	97		42 - 149
13C8 FOSA	82		10 - 134
13C4 PFBA	92		43 - 130
13C5 PFPeA	89		38 - 150
d7-N-MeFOSE-M	87		10 - 137
d3-NMePFOSA	66		10 - 107
d9-N-EtFOSE-M	86		10 - 135
d5-NEtPFOSA	65		10 - 107

QC Association Summary

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-2518-1

LCMS

Prep Batch: 9311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-2518-6	MVD-2(T)/1531010_008	Total/NA	Water	T-WI14355 r12	
410-2518-7	MVD-3(T)/1531010_003	Total/NA	Water	T-WI14355 r12	
410-2518-8	MVD-7(R)/1531010_007	Total/NA	Water	T-WI14355 r12	
410-2518-9	MVD-8(R)/1531010_009	Total/NA	Water	T-WI14355 r12	
410-2518-10	MVD-TP/1531010_508	Total/NA	Water	T-WI14355 r12	
MB 410-9311/1-A	Method Blank	Total/NA	Water	T-WI14355 r12	
LCS 410-9311/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r12	
LCSD 410-9311/3-A	Lab Control Sample Dup	Total/NA	Water	T-WI14355 r12	

Analysis Batch: 9506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-2518-6	MVD-2(T)/1531010_008	Total/NA	Water	T-WI14355 r12	9311
410-2518-7	MVD-3(T)/1531010_003	Total/NA	Water	T-WI14355 r12	9311
410-2518-8	MVD-7(R)/1531010_007	Total/NA	Water	T-WI14355 r12	9311
410-2518-9	MVD-8(R)/1531010_009	Total/NA	Water	T-WI14355 r12	9311
410-2518-10	MVD-TP/1531010_508	Total/NA	Water	T-WI14355 r12	9311
MB 410-9311/1-A	Method Blank	Total/NA	Water	T-WI14355 r12	9311
LCS 410-9311/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r12	9311
LCSD 410-9311/3-A	Lab Control Sample Dup	Total/NA	Water	T-WI14355 r12	9311

Lab Chronicle

Client: Merrimack Village District
Project/Site: PFC Investigation

Job ID: 410-2518-1

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

Lab Sample ID: 410-2518-6

Date Collected: 05/21/20 13:05

Matrix: Water

Date Received: 05/22/20 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			9311	05/27/20 07:51	EDT9	ELLE
Total/NA	Analysis	T-WI14355 r12		1	9506	05/28/20 17:53	MT26	ELLE

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

Lab Sample ID: 410-2518-7

Date Collected: 05/21/20 12:52

Matrix: Water

Date Received: 05/22/20 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			9311	05/27/20 07:51	EDT9	ELLE
Total/NA	Analysis	T-WI14355 r12		1	9506	05/28/20 18:02	MT26	ELLE

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

Lab Sample ID: 410-2518-8

Date Collected: 05/21/20 12:27

Matrix: Water

Date Received: 05/22/20 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			9311	05/27/20 07:51	EDT9	ELLE
Total/NA	Analysis	T-WI14355 r12		1	9506	05/28/20 18:11	MT26	ELLE

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

Lab Sample ID: 410-2518-9

Date Collected: 05/21/20 12:30

Matrix: Water

Date Received: 05/22/20 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			9311	05/27/20 07:51	EDT9	ELLE
Total/NA	Analysis	T-WI14355 r12		1	9506	05/28/20 18:20	MT26	ELLE

Client Sample ID: MVD-TP/1531010_508

Lab Sample ID: 410-2518-10

Date Collected: 05/21/20 12:36

Matrix: Water

Date Received: 05/22/20 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			9311	05/27/20 07:51	EDT9	ELLE
Total/NA	Analysis	T-WI14355 r12		1	9506	05/28/20 18:29	MT26	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: 410-2518-1

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: 410-2518-1

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: 410-2518-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-2518-6	MVD-2(T)/1531010_008	Water	05/21/20 13:05	05/22/20 10:22	
410-2518-7	MVD-3(T)/1531010_003	Water	05/21/20 12:52	05/22/20 10:22	
410-2518-8	MVD-7(R)/1531010_007	Water	05/21/20 12:27	05/22/20 10:22	
410-2518-9	MVD-8(R)/1531010_009	Water	05/21/20 12:30	05/22/20 10:22	
410-2518-10	MVD-TP/1531010_508	Water	05/21/20 12:36	05/22/20 10:22	

410-2518 Chain of Custody

Drinking Water and Groundwater Bureau

October 14, 2019

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 Jr.

Signature: (Print Name)

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 x107

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	5-21-20 13:05			PFAS by isotope dilution 32 Compounds	
MVD-3(R)/1531010_003	5-21-20 12:52				
MVD-7(R)/1531010_007	5-21-20 12:27				
MVD-8(R)/1531010_009	5-21-20 12:30				
MVD-TP/1531010_508	5-21-20 12:36				

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 Miner Jr. Received by: _____ Date/Time: _____

Relinquished by: _____ Received at Lab by: _____ Date/Time: 5/22/20 1622

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

Reporting Lab (if different): _____ Signature: _____ Lab Accred. ID: _____ Phone: _____

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

Login Sample Receipt Checklist

Client: Merrimack Village District

Job Number: 410-2518-1

Login Number: 2518

List Source: Eurofins Lancaster Laboratories Env

List Number: 1

Creator: Reiff, Nicole L

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.	True	
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.	True	