

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
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Laboratory Job ID: 410-8633-1
Client Project/Site: General PFAS Sampling

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

Attn: Jill Lavoie



Authorized for release by:
8/13/2020 4:31:44 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.



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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A handwritten signature in blue ink that reads "Mary Kate Izzo".

Mary Kate Izzo
Project Manager
8/13/2020 4:31:44 PM



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Definitions/Glossary

Client: Merrimack Village District
Project/Site: General PFAS Sampling

Job ID: 410-8633-1

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
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Merrimack Village District
Project/Site: General PFAS Sampling

Job ID: 410-8633-1

Job ID: 410-8633-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-8633-1

Receipt

The samples were received on 7/24/2020 10:42 AM; the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

LCMS

Method PFC_IDA: The labeled isotope recovery for the following samples were outside of the QC acceptance limits as noted on the QC Summary: MVD-7(R)/1531010_007 (410-8633-3) and MVD-8(R)/1531010_009 (410-8633-4). The following action was taken: The sample was re-extracted outside of the method holding time and the labeled isotope recovery was again outside of the QC acceptance limits.

Method PFC_IDA: The labeled isotope recovery for the following sample was outside of the QC acceptance limits as noted on the QC Summary: MVD-3(T)/1531010_003 (410-8633-2). The following action was taken: The sample was re-extracted outside of the method holding time and the labeled isotope recovery was within the QC acceptance limits.

Method PFC_IDA: Labeled isotope(s) d5-NEtPFOSA and d3-NMePFOSA recovered less than 5% in the following samples and the results for associated native target compounds should be considered estimated: MVD-3(T)/1531010_003 (410-8633-2).

Method PFC_IDA: Labeled isotope(s) d5-NEtPFOSA, d7-N-MeFOSE-M, d3-NMePFOSA and d9-N-EtFOSE-M recovered less than 5% in the following samples and the results for associated native target compounds should be considered estimated: MVD-7(R)/1531010_007 (410-8633-3).

Method PFC_IDA: Labeled isotope(s) d5-NEtPFOSA, d7-N-MeFOSE-M, d9-N-EtFOSE-M and d3-NMePFOSA recovered less than 5% in the following samples and the results for associated native target compounds should be considered estimated: MVD-8(R)/1531010_009 (410-8633-4).

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: General PFAS Sampling

Job ID: 410-8633-1

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

Lab Sample ID: 410-8633-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	2.4		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.0		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	11		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.1		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.76	J	1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.0		1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanoic acid (PFBA)	1.8	J	4.5	1.8	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	1.7	J	1.8	0.45	ng/L	1		T-WI14355 r12	Total/NA

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

Lab Sample ID: 410-8633-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	9.0		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	6.1		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	21		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorononanoic acid (PFNA)	0.96	J	1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.1		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.74	J	1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanoic acid (PFBA)	5.2		4.3	1.7	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	7.6		1.7	0.43	ng/L	1		T-WI14355 r12	Total/NA

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

Lab Sample ID: 410-8633-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	3.0		1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.7		1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	22		1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorononanoic acid (PFNA)	0.92	J	1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.0		1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.6	J	1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.45	J	1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanoic acid (PFBA)	2.5	J	4.4	1.8	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	2.5		1.8	0.44	ng/L	1		T-WI14355 r12	Total/NA

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

Lab Sample ID: 410-8633-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	2.8		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.9		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	19		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorononanoic acid (PFNA)	0.56	J	1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.7		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.3	J	1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.0		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanoic acid (PFBA)	1.9	J	4.4	1.7	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	2.2		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: Merrimack Village District
Project/Site: General PFAS Sampling

Job ID: 410-8633-1

Client Sample ID: MVD-TP/1531010_508

Lab Sample ID: 410-8633-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	3.0		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.5		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanoic acid (PFOA)	21		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorononanoic acid (PFNA)	0.66	J	1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.0		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.5	J	1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.9		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.61	J	1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA
Perfluorobutanoic acid (PFBA)	2.3	J	4.4	1.7	ng/L	1		T-WI14355 r12	Total/NA
Perfluoropentanoic acid (PFPA)	2.3		1.7	0.44	ng/L	1		T-WI14355 r12	Total/NA

This Detection Summary does not include radiochemical test results.

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Merrimack Village District
 Project/Site: General PFAS Sampling

Job ID: 410-8633-1

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

Lab Sample ID: 410-8633-1

Date Collected: 07/23/20 10:22

Matrix: Water

Date Received: 07/24/20 10:42

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		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluoroheptanoic acid (PFHpA)	2.0		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluorooctanoic acid (PFOA)	11		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluorotridecanoic acid (PFTTrDA)	ND		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluorotetradecanoic acid (PFTTeA)	ND		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluorobutanesulfonic acid (PFBS)	2.1		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluorohexanesulfonic acid (PFHxS)	0.76	J	1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluorooctanesulfonic acid (PFOS)	2.0		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
NEtFOSAA	ND		2.7	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
NMeFOSAA	ND		1.8	0.54	ng/L		07/27/20 15:21	07/29/20 08:08	1
10:2 Fluorotelomer sulfonic acid	ND		4.5	0.90	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.7	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.7	0.90	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.7	0.90	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluorobutanoic acid (PFBA)	1.8	J	4.5	1.8	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluoropentanoic acid (PFPA)	1.7	J	1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
NMeFOSE	ND		2.7	0.90	ng/L		07/27/20 15:21	07/29/20 08:08	1
NMeFOSA	ND		2.7	0.90	ng/L		07/27/20 15:21	07/29/20 08:08	1
NEtFOSE	ND		2.7	0.90	ng/L		07/27/20 15:21	07/29/20 08:08	1
NEtFOSA	ND		4.5	0.90	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.45	ng/L		07/27/20 15:21	07/29/20 08:08	1
6:2 Fluorotelomer sulfonic acid	ND		4.5	1.8	ng/L		07/27/20 15:21	07/29/20 08:08	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.90	ng/L		07/27/20 15:21	07/29/20 08:08	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-4:2 FTS	131		22 - 169	07/27/20 15:21	07/29/20 08:08	1
M2-8:2 FTS	114		37 - 169	07/27/20 15:21	07/29/20 08:08	1
M2-6:2 FTS	113		29 - 182	07/27/20 15:21	07/29/20 08:08	1
13C5 PFHxA	87		36 - 137	07/27/20 15:21	07/29/20 08:08	1
13C4 PFHpA	82		33 - 140	07/27/20 15:21	07/29/20 08:08	1
13C8 PFOA	93		52 - 124	07/27/20 15:21	07/29/20 08:08	1
13C9 PFNA	97		48 - 130	07/27/20 15:21	07/29/20 08:08	1
13C6 PFDA	93		50 - 124	07/27/20 15:21	07/29/20 08:08	1
13C7 PFUnA	89		44 - 128	07/27/20 15:21	07/29/20 08:08	1
13C2-PFDoDA	79		36 - 127	07/27/20 15:21	07/29/20 08:08	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Merrimack Village District
Project/Site: General PFAS Sampling

Job ID: 410-8633-1

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

Lab Sample ID: 410-8633-1

Date Collected: 07/23/20 10:22

Matrix: Water

Date Received: 07/24/20 10:42

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	69		21 - 134	07/27/20 15:21	07/29/20 08:08	1
13C3 PFBS	100		23 - 175	07/27/20 15:21	07/29/20 08:08	1
13C3 PFHxS	80		35 - 143	07/27/20 15:21	07/29/20 08:08	1
13C8 PFOS	90		52 - 121	07/27/20 15:21	07/29/20 08:08	1
d3-NMeFOSAA	97		36 - 143	07/27/20 15:21	07/29/20 08:08	1
d5-NEtFOSAA	102		42 - 149	07/27/20 15:21	07/29/20 08:08	1
13C8 FOSA	81		10 - 134	07/27/20 15:21	07/29/20 08:08	1
13C4 PFBA	89		43 - 130	07/27/20 15:21	07/29/20 08:08	1
13C5 PFPeA	98		38 - 150	07/27/20 15:21	07/29/20 08:08	1
d7-N-MeFOSE-M	66		10 - 137	07/27/20 15:21	07/29/20 08:08	1
d3-NMePFOSA	31		10 - 107	07/27/20 15:21	07/29/20 08:08	1
d9-N-EtFOSE-M	68		10 - 135	07/27/20 15:21	07/29/20 08:08	1
d5-NEtPFOSA	33		10 - 107	07/27/20 15:21	07/29/20 08:08	1

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

Lab Sample ID: 410-8633-2

Date Collected: 07/23/20 10:10

Matrix: Water

Date Received: 07/24/20 10:42

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	9.0		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluoroheptanoic acid (PFHpA)	6.1		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluorooctanoic acid (PFOA)	21		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluorononanoic acid (PFNA)	0.96	J	1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluorobutanesulfonic acid (PFBS)	5.1		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluorohexanesulfonic acid (PFHxS)	0.74	J	1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluorooctanesulfonic acid (PFOS)	2.5		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
NEtFOSAA	ND		2.6	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
NMeFOSAA	ND		1.7	0.52	ng/L		07/27/20 15:21	07/29/20 08:17	1
10:2 Fluorotelomer sulfonic acid	ND		4.3	0.86	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.6	0.86	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.6	0.86	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluorobutanoic acid (PFBA)	5.2		4.3	1.7	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluoropentanoic acid (PFPA)	7.6		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
NMeFOSE	ND		2.6	0.86	ng/L		07/27/20 15:21	07/29/20 08:17	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Merrimack Village District
Project/Site: General PFAS Sampling

Job ID: 410-8633-1

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

Lab Sample ID: 410-8633-2

Date Collected: 07/23/20 10:10

Matrix: Water

Date Received: 07/24/20 10:42

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		07/27/20 15:21	07/29/20 08:17	1
NEtFOSE	ND		2.6	0.86	ng/L		07/27/20 15:21	07/29/20 08:17	1
NEtFOSA	ND		4.3	0.86	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.43	ng/L		07/27/20 15:21	07/29/20 08:17	1
6:2 Fluorotelomer sulfonic acid	ND		4.3	1.7	ng/L		07/27/20 15:21	07/29/20 08:17	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.86	ng/L		07/27/20 15:21	07/29/20 08:17	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
M2-4:2 FTS	147		22 - 169				07/27/20 15:21	07/29/20 08:17	1
M2-8:2 FTS	110		37 - 169				07/27/20 15:21	07/29/20 08:17	1
M2-6:2 FTS	120		29 - 182				07/27/20 15:21	07/29/20 08:17	1
13C5 PFHxA	84		36 - 137				07/27/20 15:21	07/29/20 08:17	1
13C4 PFHpA	87		33 - 140				07/27/20 15:21	07/29/20 08:17	1
13C8 PFOA	88		52 - 124				07/27/20 15:21	07/29/20 08:17	1
13C9 PFNA	92		48 - 130				07/27/20 15:21	07/29/20 08:17	1
13C6 PFDA	91		50 - 124				07/27/20 15:21	07/29/20 08:17	1
13C7 PFUnA	88		44 - 128				07/27/20 15:21	07/29/20 08:17	1
13C2-PFDoDA	79		36 - 127				07/27/20 15:21	07/29/20 08:17	1
13C2 PFTeDA	64		21 - 134				07/27/20 15:21	07/29/20 08:17	1
13C3 PFBS	108		23 - 175				07/27/20 15:21	07/29/20 08:17	1
13C3 PFHxS	86		35 - 143				07/27/20 15:21	07/29/20 08:17	1
13C8 PFOS	85		52 - 121				07/27/20 15:21	07/29/20 08:17	1
d3-NMeFOSAA	97		36 - 143				07/27/20 15:21	07/29/20 08:17	1
d5-NEtFOSAA	88		42 - 149				07/27/20 15:21	07/29/20 08:17	1
13C8 FOSA	41		10 - 134				07/27/20 15:21	07/29/20 08:17	1
13C4 PFBA	91		43 - 130				07/27/20 15:21	07/29/20 08:17	1
13C5 PFPeA	104		38 - 150				07/27/20 15:21	07/29/20 08:17	1
d7-N-MeFOSE-M	18		10 - 137				07/27/20 15:21	07/29/20 08:17	1
d3-NMePFOSA	2	*5	10 - 107				07/27/20 15:21	07/29/20 08:17	1
d9-N-EtFOSE-M	14		10 - 135				07/27/20 15:21	07/29/20 08:17	1
d5-NEtPFOSA	2	*5	10 - 107				07/27/20 15:21	07/29/20 08:17	1

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

Lab Sample ID: 410-8633-3

Date Collected: 07/23/20 10:00

Matrix: Water

Date Received: 07/24/20 10:42

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	3.0		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluoroheptanoic acid (PFHpA)	3.7		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluorooctanoic acid (PFOA)	22		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluorononanoic acid (PFNA)	0.92	J	1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluorotridecanoic acid (PFTTrDA)	ND		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluorotetradecanoic acid (PFTTeA)	ND		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluorobutanesulfonic acid (PFBS)	2.0		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluorohexanesulfonic acid (PFHxS)	1.6	J	1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1

Client Sample Results

Client: Merrimack Village District
 Project/Site: General PFAS Sampling

Job ID: 410-8633-1

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

Lab Sample ID: 410-8633-3

Date Collected: 07/23/20 10:00

Matrix: Water

Date Received: 07/24/20 10:42

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)	3.6		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
NEtFOSAA	ND		2.6	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
NMeFOSAA	ND		1.8	0.53	ng/L		07/27/20 15:21	07/29/20 08:26	1
10:2 Fluorotelomer sulfonic acid	ND		4.4	0.88	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluoropentanesulfonic acid (PFPeS)	0.45 J		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.6	0.88	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.6	0.88	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluorobutanoic acid (PFBA)	2.5 J		4.4	1.8	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluoropentanoic acid (PFPA)	2.5		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
NMeFOSE	ND		2.6	0.88	ng/L		07/27/20 15:21	07/29/20 08:26	1
NMeFOSA	ND		2.6	0.88	ng/L		07/27/20 15:21	07/29/20 08:26	1
NEtFOSE	ND		2.6	0.88	ng/L		07/27/20 15:21	07/29/20 08:26	1
NEtFOSA	ND		4.4	0.88	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.44	ng/L		07/27/20 15:21	07/29/20 08:26	1
6:2 Fluorotelomer sulfonic acid	ND		4.4	1.8	ng/L		07/27/20 15:21	07/29/20 08:26	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.88	ng/L		07/27/20 15:21	07/29/20 08:26	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
M2-4:2 FTS	25		22 - 169				07/27/20 15:21	07/29/20 08:26	1
M2-8:2 FTS	33	*5	37 - 169				07/27/20 15:21	07/29/20 08:26	1
M2-6:2 FTS	25	*5	29 - 182				07/27/20 15:21	07/29/20 08:26	1
13C5 PFHxA	19	*5	36 - 137				07/27/20 15:21	07/29/20 08:26	1
13C4 PFHpA	19	*5	33 - 140				07/27/20 15:21	07/29/20 08:26	1
13C8 PFOA	21	*5	52 - 124				07/27/20 15:21	07/29/20 08:26	1
13C9 PFNA	23	*5	48 - 130				07/27/20 15:21	07/29/20 08:26	1
13C6 PFDA	26	*5	50 - 124				07/27/20 15:21	07/29/20 08:26	1
13C7 PFUnA	30	*5	44 - 128				07/27/20 15:21	07/29/20 08:26	1
13C2-PFDoDA	30	*5	36 - 127				07/27/20 15:21	07/29/20 08:26	1
13C2 PFTeDA	37		21 - 134				07/27/20 15:21	07/29/20 08:26	1
13C3 PFBS	22	*5	23 - 175				07/27/20 15:21	07/29/20 08:26	1
13C3 PFHxS	19	*5	35 - 143				07/27/20 15:21	07/29/20 08:26	1
13C8 PFOS	24	*5	52 - 121				07/27/20 15:21	07/29/20 08:26	1
d3-NMeFOSAA	26	*5	36 - 143				07/27/20 15:21	07/29/20 08:26	1
d5-NEtFOSAA	30	*5	42 - 149				07/27/20 15:21	07/29/20 08:26	1
13C8 FOSA	17		10 - 134				07/27/20 15:21	07/29/20 08:26	1
13C4 PFBA	21	*5	43 - 130				07/27/20 15:21	07/29/20 08:26	1
13C5 PFPeA	21	*5	38 - 150				07/27/20 15:21	07/29/20 08:26	1
d7-N-MeFOSE-M	2	*5	10 - 137				07/27/20 15:21	07/29/20 08:26	1
d3-NMePFOSA	0.9	*5	10 - 107				07/27/20 15:21	07/29/20 08:26	1

Client Sample Results

Client: Merrimack Village District
Project/Site: General PFAS Sampling

Job ID: 410-8633-1

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

Lab Sample ID: 410-8633-3

Date Collected: 07/23/20 10:00

Matrix: Water

Date Received: 07/24/20 10:42

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d9-N-EtFOSE-M	2	*5	10 - 135	07/27/20 15:21	07/29/20 08:26	1
d5-NEtPFOSA	0.8	*5	10 - 107	07/27/20 15:21	07/29/20 08:26	1

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

Lab Sample ID: 410-8633-4

Date Collected: 07/23/20 09:58

Matrix: Water

Date Received: 07/24/20 10:42

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	2.8		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluoroheptanoic acid (PFHpA)	2.9		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluorooctanoic acid (PFOA)	19		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluorononanoic acid (PFNA)	0.56	J	1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluorotridecanoic acid (PFTTrDA)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluorobutanesulfonic acid (PFBS)	1.7		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluorohexanesulfonic acid (PFHxS)	1.3	J	1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluorooctanesulfonic acid (PFOS)	2.0		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
NEtFOSAA	ND		2.6	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
NMeFOSAA	ND		1.7	0.52	ng/L		07/27/20 15:21	07/29/20 08:36	1
10:2 Fluorotelomer sulfonic acid	ND		4.4	0.87	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.6	0.87	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.6	0.87	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluorobutanoic acid (PFBA)	1.9	J	4.4	1.7	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluoropentanoic acid (PFPA)	2.2		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
NMeFOSE	ND		2.6	0.87	ng/L		07/27/20 15:21	07/29/20 08:36	1
NMeFOSA	ND		2.6	0.87	ng/L		07/27/20 15:21	07/29/20 08:36	1
NEtFOSE	ND		2.6	0.87	ng/L		07/27/20 15:21	07/29/20 08:36	1
NEtFOSA	ND		4.4	0.87	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:36	1
6:2 Fluorotelomer sulfonic acid	ND		4.4	1.7	ng/L		07/27/20 15:21	07/29/20 08:36	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.87	ng/L		07/27/20 15:21	07/29/20 08:36	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
M2-4:2 FTS	130		22 - 169				07/27/20 15:21	07/29/20 08:36	1
M2-8:2 FTS	98		37 - 169				07/27/20 15:21	07/29/20 08:36	1

Client Sample Results

Client: Merrimack Village District
Project/Site: General PFAS Sampling

Job ID: 410-8633-1

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

Lab Sample ID: 410-8633-4

Date Collected: 07/23/20 09:58

Matrix: Water

Date Received: 07/24/20 10:42

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	110		29 - 182	07/27/20 15:21	07/29/20 08:36	1
13C5 PFHxA	78		36 - 137	07/27/20 15:21	07/29/20 08:36	1
13C4 PFHpA	78		33 - 140	07/27/20 15:21	07/29/20 08:36	1
13C8 PFOA	80		52 - 124	07/27/20 15:21	07/29/20 08:36	1
13C9 PFNA	77		48 - 130	07/27/20 15:21	07/29/20 08:36	1
13C6 PFDA	74		50 - 124	07/27/20 15:21	07/29/20 08:36	1
13C7 PFUnA	71		44 - 128	07/27/20 15:21	07/29/20 08:36	1
13C2-PFDoDA	65		36 - 127	07/27/20 15:21	07/29/20 08:36	1
13C2 PFTeDA	35		21 - 134	07/27/20 15:21	07/29/20 08:36	1
13C3 PFBS	97		23 - 175	07/27/20 15:21	07/29/20 08:36	1
13C3 PFHxS	80		35 - 143	07/27/20 15:21	07/29/20 08:36	1
13C8 PFOS	76		52 - 121	07/27/20 15:21	07/29/20 08:36	1
d3-NMeFOSAA	79		36 - 143	07/27/20 15:21	07/29/20 08:36	1
d5-NEtFOSAA	78		42 - 149	07/27/20 15:21	07/29/20 08:36	1
13C8 FOSA	10		10 - 134	07/27/20 15:21	07/29/20 08:36	1
13C4 PFBA	78		43 - 130	07/27/20 15:21	07/29/20 08:36	1
13C5 PFPeA	89		38 - 150	07/27/20 15:21	07/29/20 08:36	1
d7-N-MeFOSE-M	3 *5		10 - 137	07/27/20 15:21	07/29/20 08:36	1
d3-NMePFOSA	0.5 *5		10 - 107	07/27/20 15:21	07/29/20 08:36	1
d9-N-EtFOSE-M	4 *5		10 - 135	07/27/20 15:21	07/29/20 08:36	1
d5-NEtPFOSA	0.9 *5		10 - 107	07/27/20 15:21	07/29/20 08:36	1

Client Sample ID: MVD-TP/1531010_508

Lab Sample ID: 410-8633-5

Date Collected: 07/23/20 10:05

Matrix: Water

Date Received: 07/24/20 10:42

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	3.0		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluoroheptanoic acid (PFHpA)	3.5		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluorooctanoic acid (PFOA)	21		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluorononanoic acid (PFNA)	0.66	J	1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluorotridecanoic acid (PFTeDA)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluorobutanesulfonic acid (PFBS)	2.0		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluorohexanesulfonic acid (PFHxS)	1.5	J	1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluorooctanesulfonic acid (PFOS)	2.9		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
NEtFOSAA	ND		2.6	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
NMeFOSAA	ND		1.7	0.52	ng/L		07/27/20 15:21	07/29/20 08:54	1
10:2 Fluorotelomer sulfonic acid	ND		4.4	0.87	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1

Client Sample Results

Client: Merrimack Village District
 Project/Site: General PFAS Sampling

Job ID: 410-8633-1

Client Sample ID: MVD-TP/1531010_508

Lab Sample ID: 410-8633-5

Date Collected: 07/23/20 10:05

Matrix: Water

Date Received: 07/24/20 10:42

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		2.6	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluorooctanesulfonamide (PFOSA)	0.61	J	1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.6	0.87	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.6	0.87	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluorobutanoic acid (PFBA)	2.3	J	4.4	1.7	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluoropentanoic acid (PFPA)	2.3		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
NMeFOSE	ND		2.6	0.87	ng/L		07/27/20 15:21	07/29/20 08:54	1
NMeFOSA	ND		2.6	0.87	ng/L		07/27/20 15:21	07/29/20 08:54	1
NEtFOSE	ND		2.6	0.87	ng/L		07/27/20 15:21	07/29/20 08:54	1
NEtFOSA	ND		4.4	0.87	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.44	ng/L		07/27/20 15:21	07/29/20 08:54	1
6:2 Fluorotelomer sulfonic acid	ND		4.4	1.7	ng/L		07/27/20 15:21	07/29/20 08:54	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.87	ng/L		07/27/20 15:21	07/29/20 08:54	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
M2-4:2 FTS	107		22 - 169				07/27/20 15:21	07/29/20 08:54	1
M2-8:2 FTS	91		37 - 169				07/27/20 15:21	07/29/20 08:54	1
M2-6:2 FTS	89		29 - 182				07/27/20 15:21	07/29/20 08:54	1
13C5 PFHxA	66		36 - 137				07/27/20 15:21	07/29/20 08:54	1
13C4 PFHpA	68		33 - 140				07/27/20 15:21	07/29/20 08:54	1
13C8 PFOA	70		52 - 124				07/27/20 15:21	07/29/20 08:54	1
13C9 PFNA	74		48 - 130				07/27/20 15:21	07/29/20 08:54	1
13C6 PFDA	70		50 - 124				07/27/20 15:21	07/29/20 08:54	1
13C7 PFUnA	73		44 - 128				07/27/20 15:21	07/29/20 08:54	1
13C2-PFDoDA	67		36 - 127				07/27/20 15:21	07/29/20 08:54	1
13C2 PFTeDA	58		21 - 134				07/27/20 15:21	07/29/20 08:54	1
13C3 PFBS	88		23 - 175				07/27/20 15:21	07/29/20 08:54	1
13C3 PFHxS	69		35 - 143				07/27/20 15:21	07/29/20 08:54	1
13C8 PFOS	70		52 - 121				07/27/20 15:21	07/29/20 08:54	1
d3-NMeFOSAA	78		36 - 143				07/27/20 15:21	07/29/20 08:54	1
d5-NEtFOSAA	78		42 - 149				07/27/20 15:21	07/29/20 08:54	1
13C8 FOSA	63		10 - 134				07/27/20 15:21	07/29/20 08:54	1
13C4 PFBA	73		43 - 130				07/27/20 15:21	07/29/20 08:54	1
13C5 PFPeA	84		38 - 150				07/27/20 15:21	07/29/20 08:54	1
d7-N-MeFOSE-M	46		10 - 137				07/27/20 15:21	07/29/20 08:54	1
d3-NMePFOSA	10		10 - 107				07/27/20 15:21	07/29/20 08:54	1
d9-N-EtFOSE-M	42		10 - 135				07/27/20 15:21	07/29/20 08:54	1
d5-NEtPFOSA	11		10 - 107				07/27/20 15:21	07/29/20 08:54	1

Isotope Dilution Summary

Client: Merrimack Village District
 Project/Site: General PFAS Sampling

Job ID: 410-8633-1

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)
410-8633-1	MVD-2(T)/1531010_008	131	114	113	87	82	93	97	93
410-8633-2	MVD-3(T)/1531010_003	147	110	120	84	87	88	92	91
410-8633-3	MVD-7(R)/1531010_007	25	33 *5	25 *5	19 *5	19 *5	21 *5	23 *5	26 *5
410-8633-4	MVD-8(R)/1531010_009	130	98	110	78	78	80	77	74
410-8633-5	MVD-TP/1531010_508	107	91	89	66	68	70	74	70
LCS 410-26793/2-A	Lab Control Sample	160	147	150	123	122	129 *5	126	127 *5
LCSD 410-26793/3-A	Lab Control Sample Dup	117	109	116	93	93	96	97	93
MB 410-26793/1-A	Method Blank	112	119	105	94	91	94	94	104

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)
410-8633-1	MVD-2(T)/1531010_008	89	79	69	100	80	90	97	102
410-8633-2	MVD-3(T)/1531010_003	88	79	64	108	86	85	97	88
410-8633-3	MVD-7(R)/1531010_007	30 *5	30 *5	37	22 *5	19 *5	24 *5	26 *5	30 *5
410-8633-4	MVD-8(R)/1531010_009	71	65	35	97	80	76	79	78
410-8633-5	MVD-TP/1531010_508	73	67	58	88	69	70	78	78
LCS 410-26793/2-A	Lab Control Sample	133 *5	126	123	125	122	122 *5	140	148
LCSD 410-26793/3-A	Lab Control Sample Dup	95	94	87	99	92	92	103	104
MB 410-26793/1-A	Method Blank	106	97	95	99	90	93	117	114

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)
410-8633-1	MVD-2(T)/1531010_008	81	89	98	66	31	68	33
410-8633-2	MVD-3(T)/1531010_003	41	91	104	18	2 *5	14	2 *5
410-8633-3	MVD-7(R)/1531010_007	17	21 *5	21 *5	2 *5	0.9 *5	2 *5	0.8 *5
410-8633-4	MVD-8(R)/1531010_009	10	78	89	3 *5	0.5 *5	4 *5	0.9 *5
410-8633-5	MVD-TP/1531010_508	63	73	84	46	10	42	11
LCS 410-26793/2-A	Lab Control Sample	110	120	123	87	31	82	32
LCSD 410-26793/3-A	Lab Control Sample Dup	89	96	98	72	30	68	32
MB 410-26793/1-A	Method Blank	90	97	97	80	34	74	36

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

Job ID: 410-8633-1

Client: Merrimack Village District
Project/Site: General PFAS Sampling

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
NMFM = d7-N-MeFOSE-M
d3NMFSA = d3-NMePFOSA
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA

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QC Sample Results

Client: Merrimack Village District
 Project/Site: General PFAS Sampling

Job ID: 410-8633-1

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

Lab Sample ID: MB 410-26793/1-A
Matrix: Water
Analysis Batch: 26922

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26793

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluorotridecanoic acid (PFTTrDA)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluorotetradecanoic acid (PFTTeA)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
NEtFOSAA	ND		3.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
NMeFOSAA	ND		2.0	0.60	ng/L		07/27/20 15:21	07/29/20 05:43	1
10:2 Fluorotelomer sulfonic acid	ND		5.0	1.0	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		3.0	1.0	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		3.0	1.0	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluorobutanoic acid (PFBA)	ND		5.0	2.0	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluoropentanoic acid (PFPA)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
NMeFOSE	ND		3.0	1.0	ng/L		07/27/20 15:21	07/29/20 05:43	1
NMeFOSA	ND		3.0	1.0	ng/L		07/27/20 15:21	07/29/20 05:43	1
NEtFOSE	ND		3.0	1.0	ng/L		07/27/20 15:21	07/29/20 05:43	1
NEtFOSA	ND		5.0	1.0	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
4:2 Fluorotelomer sulfonic acid	ND		2.0	0.50	ng/L		07/27/20 15:21	07/29/20 05:43	1
6:2 Fluorotelomer sulfonic acid	ND		5.0	2.0	ng/L		07/27/20 15:21	07/29/20 05:43	1
8:2 Fluorotelomer sulfonic acid	ND		3.0	1.0	ng/L		07/27/20 15:21	07/29/20 05:43	1
Isotope Dilution	MB	MB	Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
M2-4:2 FTS	112		22 - 169				07/27/20 15:21	07/29/20 05:43	1
M2-8:2 FTS	119		37 - 169				07/27/20 15:21	07/29/20 05:43	1
M2-6:2 FTS	105		29 - 182				07/27/20 15:21	07/29/20 05:43	1
13C5 PFHxA	94		36 - 137				07/27/20 15:21	07/29/20 05:43	1
13C4 PFHpA	91		33 - 140				07/27/20 15:21	07/29/20 05:43	1
13C8 PFOA	94		52 - 124				07/27/20 15:21	07/29/20 05:43	1
13C9 PFNA	94		48 - 130				07/27/20 15:21	07/29/20 05:43	1
13C6 PFDA	104		50 - 124				07/27/20 15:21	07/29/20 05:43	1
13C7 PFUnA	106		44 - 128				07/27/20 15:21	07/29/20 05:43	1
13C2-PFDoDA	97		36 - 127				07/27/20 15:21	07/29/20 05:43	1
13C2 PFTTeDA	95		21 - 134				07/27/20 15:21	07/29/20 05:43	1

QC Sample Results

Client: Merrimack Village District
 Project/Site: General PFAS Sampling

Job ID: 410-8633-1

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

Lab Sample ID: MB 410-26793/1-A
Matrix: Water
Analysis Batch: 26922

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26793

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C3 PFBS	99		23 - 175	07/27/20 15:21	07/29/20 05:43	1
13C3 PFHxS	90		35 - 143	07/27/20 15:21	07/29/20 05:43	1
13C8 PFOS	93		52 - 121	07/27/20 15:21	07/29/20 05:43	1
d3-NMeFOSAA	117		36 - 143	07/27/20 15:21	07/29/20 05:43	1
d5-NEtFOSAA	114		42 - 149	07/27/20 15:21	07/29/20 05:43	1
13C8 FOSA	90		10 - 134	07/27/20 15:21	07/29/20 05:43	1
13C4 PFBA	97		43 - 130	07/27/20 15:21	07/29/20 05:43	1
13C5 PFPeA	97		38 - 150	07/27/20 15:21	07/29/20 05:43	1
d7-N-MeFOSE-M	80		10 - 137	07/27/20 15:21	07/29/20 05:43	1
d3-NMePFOSA	34		10 - 107	07/27/20 15:21	07/29/20 05:43	1
d9-N-EtFOSE-M	74		10 - 135	07/27/20 15:21	07/29/20 05:43	1
d5-NEtPFOSA	36		10 - 107	07/27/20 15:21	07/29/20 05:43	1

Lab Sample ID: LCS 410-26793/2-A
Matrix: Water
Analysis Batch: 26922

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 26793

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
Perfluorohexanoic acid (PFHxA)	25.6	27.7		ng/L		108	69 - 139
Perfluoroheptanoic acid (PFHpA)	25.6	29.1		ng/L		114	69 - 144
Perfluorooctanoic acid (PFOA)	25.6	27.2		ng/L		106	67 - 139
Perfluorononanoic acid (PFNA)	25.6	29.1		ng/L		114	66 - 144
Perfluorodecanoic acid (PFDA)	25.6	27.6		ng/L		108	66 - 141
Perfluorotridecanoic acid (PFTrDA)	25.6	29.6		ng/L		115	66 - 146
Perfluorotetradecanoic acid (PFTeA)	25.6	28.8		ng/L		112	69 - 141
Perfluorobutanesulfonic acid (PFBS)	22.6	23.6		ng/L		104	67 - 135
Perfluorohexanesulfonic acid (PFHxS)	24.2	25.3		ng/L		105	63 - 132
Perfluorooctanesulfonic acid (PFOS)	24.5	24.2		ng/L		99	53 - 129
NEtFOSAA	25.6	26.5		ng/L		103	53 - 140
NMeFOSAA	25.6	27.1		ng/L		106	59 - 141
10:2 Fluorotelomer sulfonic acid	24.7	26.9		ng/L		109	45 - 143
Perfluoropentanesulfonic acid (PFPeS)	24.0	27.1		ng/L		113	73 - 134
Perfluoroheptanesulfonic Acid (PFHpS)	24.4	27.4		ng/L		113	67 - 138
Perfluorononanesulfonic acid (PFNS)	24.6	28.2		ng/L		115	70 - 137
Perfluorodecanesulfonic acid (PFDS)	24.7	27.2		ng/L		111	62 - 135
Perfluorododecanesulfonic acid (PFDoS)	24.8	26.9		ng/L		108	57 - 134
Perfluorooctanesulfonamide (PFOSA)	25.6	23.8		ng/L		93	67 - 126
Perfluoro-n-hexadecanoic acid (PFHxDA)	25.6	29.6		ng/L		116	60 - 148
Perfluoro-n-octadecanoic acid (PFODA)	25.6	30.9		ng/L		121	47 - 159

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QC Sample Results

Client: Merrimack Village District
 Project/Site: General PFAS Sampling

Job ID: 410-8633-1

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

Lab Sample ID: LCS 410-26793/2-A
Matrix: Water
Analysis Batch: 26922

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 26793

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	25.6	28.7		ng/L		112	63 - 160
Perfluoropentanoic acid (PFPA)	25.6	28.5		ng/L		111	73 - 135
NMeFOSE	25.6	23.9		ng/L		93	61 - 133
NMeFOSA	25.6	25.7		ng/L		101	49 - 134
NEtFOSE	25.6	25.7		ng/L		100	56 - 130
NEtFOSA	25.6	26.4		ng/L		103	56 - 136
Perfluorododecanoic acid (PFDoA)	25.6	28.0		ng/L		109	65 - 143
Perfluoroundecanoic acid (PFUnA)	25.6	27.3		ng/L		107	66 - 140
4:2 Fluorotelomer sulfonic acid	23.9	21.3		ng/L		89	61 - 131
6:2 Fluorotelomer sulfonic acid	24.3	23.0		ng/L		95	56 - 140
8:2 Fluorotelomer sulfonic acid	24.5	24.2		ng/L		99	58 - 143

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
M2-4:2 FTS	160		22 - 169
M2-8:2 FTS	147		37 - 169
M2-6:2 FTS	150		29 - 182
13C5 PFHxA	123		36 - 137
13C4 PFHpA	122		33 - 140
13C8 PFOA	129 *5		52 - 124
13C9 PFNA	126		48 - 130
13C6 PFDA	127 *5		50 - 124
13C7 PFUnA	133 *5		44 - 128
13C2-PFDoDA	126		36 - 127
13C2 PFTeDA	123		21 - 134
13C3 PFBS	125		23 - 175
13C3 PFHxS	122		35 - 143
13C8 PFOS	122 *5		52 - 121
d3-NMeFOSAA	140		36 - 143
d5-NEtFOSAA	148		42 - 149
13C8 FOSA	110		10 - 134
13C4 PFBA	120		43 - 130
13C5 PFPeA	123		38 - 150
d7-N-MeFOSE-M	87		10 - 137
d3-NMePFOSA	31		10 - 107
d9-N-EtFOSE-M	82		10 - 135
d5-NEtPFOSA	32		10 - 107

Lab Sample ID: LCSD 410-26793/3-A
Matrix: Water
Analysis Batch: 26922

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26793

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	25.6	27.4		ng/L		107	69 - 139	1	30
Perfluoroheptanoic acid (PFHpA)	25.6	29.4		ng/L		115	69 - 144	1	30
Perfluorooctanoic acid (PFOA)	25.6	26.6		ng/L		104	67 - 139	2	30
Perfluorononanoic acid (PFNA)	25.6	28.7		ng/L		112	66 - 144	1	30
Perfluorodecanoic acid (PFDA)	25.6	29.0		ng/L		113	66 - 141	5	30

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: Merrimack Village District
 Project/Site: General PFAS Sampling

Job ID: 410-8633-1

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

Lab Sample ID: LCSD 410-26793/3-A
Matrix: Water
Analysis Batch: 26922

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26793

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorotridecanoic acid (PFTrDA)	25.6	28.0		ng/L		109	66 - 146	5	30
Perfluorotetradecanoic acid (PFTeA)	25.6	29.6		ng/L		115	69 - 141	3	30
Perfluorobutanesulfonic acid (PFBS)	22.6	24.4		ng/L		108	67 - 135	4	30
Perfluorohexanesulfonic acid (PFHxS)	24.2	24.7		ng/L		102	63 - 132	2	30
Perfluorooctanesulfonic acid (PFOS)	24.5	24.9		ng/L		102	53 - 129	3	30
NEtFOSAA	25.6	25.8		ng/L		101	53 - 140	2	30
NMeFOSAA	25.6	27.5		ng/L		108	59 - 141	2	30
10:2 Fluorotelomer sulfonic acid	24.7	26.1		ng/L		106	45 - 143	3	30
Perfluoropentanesulfonic acid (PFPeS)	24.0	27.3		ng/L		114	73 - 134	1	30
Perfluoroheptanesulfonic Acid (PFHpS)	24.4	27.1		ng/L		111	67 - 138	1	30
Perfluorononanesulfonic acid (PFNS)	24.6	29.7		ng/L		121	70 - 137	5	30
Perfluorodecanesulfonic acid (PFDS)	24.7	27.6		ng/L		112	62 - 135	1	30
Perfluorododecanesulfonic acid (PFDoS)	24.8	26.1		ng/L		105	57 - 134	3	30
Perfluorooctanesulfonamide (PFOSA)	25.6	24.7		ng/L		96	67 - 126	4	30
Perfluoro-n-hexadecanoic acid (PFHxDA)	25.6	32.5		ng/L		127	60 - 148	9	30
Perfluoro-n-octadecanoic acid (PFODA)	25.6	34.4		ng/L		134	47 - 159	11	30
Perfluorobutanoic acid (PFBA)	25.6	29.2		ng/L		114	63 - 160	2	30
Perfluoropentanoic acid (PFPA)	25.6	28.6		ng/L		112	73 - 135	0	30
NMeFOSE	25.6	25.0		ng/L		98	61 - 133	5	30
NMeFOSA	25.6	27.3		ng/L		107	49 - 134	6	30
NEtFOSE	25.6	26.4		ng/L		103	56 - 130	3	30
NEtFOSA	25.6	24.8		ng/L		97	56 - 136	6	30
Perfluorododecanoic acid (PFDoA)	25.6	28.2		ng/L		110	65 - 143	1	30
Perfluoroundecanoic acid (PFUnA)	25.6	28.0		ng/L		109	66 - 140	2	30
4:2 Fluorotelomer sulfonic acid	23.9	22.1		ng/L		92	61 - 131	4	30
6:2 Fluorotelomer sulfonic acid	24.3	23.1		ng/L		95	56 - 140	1	30
8:2 Fluorotelomer sulfonic acid	24.5	25.2		ng/L		103	58 - 143	4	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits
M2-4:2 FTS	117		22 - 169
M2-8:2 FTS	109		37 - 169
M2-6:2 FTS	116		29 - 182
13C5 PFHxA	93		36 - 137
13C4 PFHpA	93		33 - 140
13C8 PFOA	96		52 - 124
13C9 PFNA	97		48 - 130
13C6 PFDA	93		50 - 124

QC Sample Results

Client: Merrimack Village District
Project/Site: General PFAS Sampling

Job ID: 410-8633-1

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

Lab Sample ID: LCSD 410-26793/3-A
Matrix: Water
Analysis Batch: 26922

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26793

<i>Isotope Dilution</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
<i>13C7 PFUnA</i>	95		44 - 128
<i>13C2-PFDoDA</i>	94		36 - 127
<i>13C2 PFTeDA</i>	87		21 - 134
<i>13C3 PFBS</i>	99		23 - 175
<i>13C3 PFHxS</i>	92		35 - 143
<i>13C8 PFOS</i>	92		52 - 121
<i>d3-NMeFOSAA</i>	103		36 - 143
<i>d5-NEtFOSAA</i>	104		42 - 149
<i>13C8 FOSA</i>	89		10 - 134
<i>13C4 PFBA</i>	96		43 - 130
<i>13C5 PFPeA</i>	98		38 - 150
<i>d7-N-MeFOSE-M</i>	72		10 - 137
<i>d3-NMePFOSA</i>	30		10 - 107
<i>d9-N-EtFOSE-M</i>	68		10 - 135
<i>d5-NEtPFOSA</i>	32		10 - 107

QC Association Summary

Client: Merrimack Village District
 Project/Site: General PFAS Sampling

Job ID: 410-8633-1

LCMS

Prep Batch: 26793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-8633-1	MVD-2(T)/1531010_008	Total/NA	Water	T-WI14355 r12	
410-8633-2	MVD-3(T)/1531010_003	Total/NA	Water	T-WI14355 r12	
410-8633-3	MVD-7(R)/1531010_007	Total/NA	Water	T-WI14355 r12	
410-8633-4	MVD-8(R)/1531010_009	Total/NA	Water	T-WI14355 r12	
410-8633-5	MVD-TP/1531010_508	Total/NA	Water	T-WI14355 r12	
MB 410-26793/1-A	Method Blank	Total/NA	Water	T-WI14355 r12	
LCS 410-26793/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r12	
LCSD 410-26793/3-A	Lab Control Sample Dup	Total/NA	Water	T-WI14355 r12	

Analysis Batch: 26922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-8633-1	MVD-2(T)/1531010_008	Total/NA	Water	T-WI14355 r12	26793
410-8633-2	MVD-3(T)/1531010_003	Total/NA	Water	T-WI14355 r12	26793
410-8633-3	MVD-7(R)/1531010_007	Total/NA	Water	T-WI14355 r12	26793
410-8633-4	MVD-8(R)/1531010_009	Total/NA	Water	T-WI14355 r12	26793
410-8633-5	MVD-TP/1531010_508	Total/NA	Water	T-WI14355 r12	26793
MB 410-26793/1-A	Method Blank	Total/NA	Water	T-WI14355 r12	26793
LCS 410-26793/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r12	26793
LCSD 410-26793/3-A	Lab Control Sample Dup	Total/NA	Water	T-WI14355 r12	26793

Prep Batch: 31308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-8633-2 - RE	MVD-3(T)/1531010_003	Total/NA	Water	T-WI14355 r12	
410-8633-3 - RE	MVD-7(R)/1531010_007	Total/NA	Water	T-WI14355 r12	
410-8633-4 - RE	MVD-8(R)/1531010_009	Total/NA	Water	T-WI14355 r12	
MB 410-31308/1-A	Method Blank	Total/NA	Water	T-WI14355 r12	
LCS 410-31308/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r12	
LCSD 410-31308/3-A	Lab Control Sample Dup	Total/NA	Water	T-WI14355 r12	

Analysis Batch: 31805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-8633-2 - RE	MVD-3(T)/1531010_003	Total/NA	Water	T-WI14355 r12	31308
410-8633-3 - RE	MVD-7(R)/1531010_007	Total/NA	Water	T-WI14355 r12	31308
410-8633-4 - RE	MVD-8(R)/1531010_009	Total/NA	Water	T-WI14355 r12	31308
MB 410-31308/1-A	Method Blank	Total/NA	Water	T-WI14355 r12	31308
LCS 410-31308/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r12	31308
LCSD 410-31308/3-A	Lab Control Sample Dup	Total/NA	Water	T-WI14355 r12	31308

Lab Chronicle

Client: Merrimack Village District
 Project/Site: General PFAS Sampling

Job ID: 410-8633-1

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

Lab Sample ID: 410-8633-1

Date Collected: 07/23/20 10:22

Matrix: Water

Date Received: 07/24/20 10:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			26793	07/27/20 15:21	Z5TV	ELLE
Total/NA	Analysis	T-WI14355 r12		1	26922	07/29/20 08:08	OLN7	ELLE

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

Lab Sample ID: 410-8633-2

Date Collected: 07/23/20 10:10

Matrix: Water

Date Received: 07/24/20 10:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			26793	07/27/20 15:21	Z5TV	ELLE
Total/NA	Analysis	T-WI14355 r12		1	26922	07/29/20 08:17	OLN7	ELLE
Total/NA	Prep	T-WI14355 r12	RE		31308	08/10/20 09:34	NF	ELLE
Total/NA	Analysis	T-WI14355 r12	RE	1	31805	08/11/20 11:23	MT26	ELLE

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

Lab Sample ID: 410-8633-3

Date Collected: 07/23/20 10:00

Matrix: Water

Date Received: 07/24/20 10:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			26793	07/27/20 15:21	Z5TV	ELLE
Total/NA	Analysis	T-WI14355 r12		1	26922	07/29/20 08:26	OLN7	ELLE
Total/NA	Prep	T-WI14355 r12	RE		31308	08/10/20 09:34	NF	ELLE
Total/NA	Analysis	T-WI14355 r12	RE	1	31805	08/11/20 11:33	MT26	ELLE

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

Lab Sample ID: 410-8633-4

Date Collected: 07/23/20 09:58

Matrix: Water

Date Received: 07/24/20 10:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			26793	07/27/20 15:21	Z5TV	ELLE
Total/NA	Analysis	T-WI14355 r12		1	26922	07/29/20 08:36	OLN7	ELLE
Total/NA	Prep	T-WI14355 r12	RE		31308	08/10/20 09:34	NF	ELLE
Total/NA	Analysis	T-WI14355 r12	RE	1	31805	08/11/20 11:42	MT26	ELLE

Client Sample ID: MVD-TP/1531010_508

Lab Sample ID: 410-8633-5

Date Collected: 07/23/20 10:05

Matrix: Water

Date Received: 07/24/20 10:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			26793	07/27/20 15:21	Z5TV	ELLE
Total/NA	Analysis	T-WI14355 r12		1	26922	07/29/20 08:54	OLN7	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: General PFAS Sampling

Job ID: 410-8633-1

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: General PFAS Sampling

Job ID: 410-8633-1

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: General PFAS Sampling

Job ID: 410-8633-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-8633-1	MVD-2(T)/1531010_008	Water	07/23/20 10:22	07/24/20 10:42	
410-8633-2	MVD-3(T)/1531010_003	Water	07/23/20 10:10	07/24/20 10:42	
410-8633-3	MVD-7(R)/1531010_007	Water	07/23/20 10:00	07/24/20 10:42	
410-8633-4	MVD-8(R)/1531010_009	Water	07/23/20 09:58	07/24/20 10:42	
410-8633-5	MVD-TP/1531010_508	Water	07/23/20 10:05	07/24/20 10:42	

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410-8633 Chain of Custody

Drinking Water and Groundwater Bureau

October 14, 2019

Page 1 of 1

GENERAL SYSTEM EVALUATION SAMPLES ONLY ***

Questions: (603) 271-2513

PWS ID: 1531010

Collected By: Stephen Chase

System Name: MERRIMACK VILLAGE DIST

Signature: Stephen Chase (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.

PWS Town: MERRIMACK

Phone Number: (603) 424-9241

Sample Type: Treatment Evaluation Other

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

Sample Purpose/Comments: General PFAS Sampling

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	7-23-20 10:22		2	PFAS by isotope detection 32 Compounds	
MVD-3(G)/1531010-003	7-23-20 10:10		2		
MVD-7(R)/1531010-007	7-23-20 10:00		2		
MVD-8(R)/1531010-009	7-23-20 09:58		2		
MVD-TP/1531010-508	7-23-20 10:05		2		

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: Stephen Chase Received by: _____ Date/Time: _____

Relinquished by: _____ Received at Lab by: MR Date/Time: 7/24/20 1042

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.

MR

Login Sample Receipt Checklist

Client: Merrimack Village District

Job Number: 410-8633-1

Login Number: 8633

List Number: 1

Creator: Reiff, Nicole L

List Source: Eurofins Lancaster Laboratories Env

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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 ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, 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	

