



## ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental  
2425 New Holland Pike  
Lancaster, PA 17601

Prepared for:

Merrimack Village District  
2 Greens Pond Road  
Merrimack NH 03054

Report Date: March 02, 2020 15:00

### Project: PFC Investigation

Account #: 38083  
Group Number: 2088909  
PO Number: 3332  
State of Sample Origin: NH

Electronic Copy To Merrimack Village District

Attn: Jill Lavoie

Respectfully Submitted,



Mary Kate Izzo  
Project Manager

(717) 556-4656

To view our laboratory's current scopes of accreditation please go to <https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/> . Historical copies may be requested through your project manager.



### SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
MVD-2(T)/1531010_008 Grab Water	02/20/2020 10:30	1264398
MVD-3(T)/1531010_003 Grab Water	02/20/2020 11:50	1264399
MVD-7(R)/1531010_007 Grab Water	02/20/2020 10:52	1264400
MVD-8(R)/1531010_009 Grab Water	02/20/2020 10:58	1264401
MVD-TP/1531010_508 Grab Water	02/20/2020 11:10	1264402

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

**Sample Description:** MVD-2(T)/1531010\_008 Grab Water  
PFC Investigation

Merrimack Village District  
**ELLE Sample #:** PW 1264398  
**ELLE Group #:** 2088909  
**Matrix:** Water

**Project Name:** PFC Investigation

**Submission Date/Time:** 02/21/2020 10:20  
**Collection Date/Time:** 02/20/2020 10:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous		T-PFAS-WI14355, Revision 12	ng/l	ng/l	ng/l	
14473	10:2-Fts <sup>1</sup>	120226-60-0	N.D.	0.90	4.5	1
14473	4:2-Fts <sup>1</sup>	757124-72-4	N.D.	0.45	1.8	1
14473	6:2-Fts <sup>1</sup>	27619-97-2	N.D.	1.8	4.5	1
14473	8:2-Fts <sup>1</sup>	39108-34-4	N.D.	0.90	2.7	1
14473	Netfosaa <sup>1</sup>	2991-50-6	N.D.	0.45	2.7	1
NETFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14473	Netpfosa <sup>1</sup>	4151-50-2	N.D.	0.90	4.5	1
NETPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide						
14473	NETPFOSAE <sup>1</sup>	1691-99-2	N.D.	0.90	2.7	1
NETPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol						
14473	NMeFOSAA <sup>1</sup>	2355-31-9	N.D.	0.54	1.8	1
NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14473	NMePFOSA <sup>1</sup>	31506-32-8	N.D.	0.90	2.7	1
NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide						
14473	NMePFOSAE <sup>1</sup>	24448-09-7	N.D.	0.90	2.7	1
NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol						
14473	Perfluoropentanesulfonate <sup>1</sup>	2706-91-4	N.D.	0.45	1.8	1
14473	PFBA <sup>1</sup>	375-22-4	2.1 J	1.8	4.5	1
14473	PFBS <sup>1</sup>	375-73-5	2.3	0.45	1.8	1
14473	PFDA <sup>1</sup>	335-76-2	N.D.	0.45	1.8	1
14473	Pfdoda <sup>1</sup>	307-55-1	N.D.	0.45	1.8	1
14473	Pfdods <sup>1</sup>	79780-39-5	N.D.	0.45	2.7	1
14473	PFDS <sup>1</sup>	335-77-3	N.D.	0.45	1.8	1
14473	Pfhpa <sup>1</sup>	375-85-9	2.0	0.45	1.8	1
14473	Pfhps <sup>1</sup>	375-92-8	N.D.	0.45	1.8	1
14473	Pfhxa <sup>1</sup>	307-24-4	3.0	0.45	1.8	1
14473	Pfhxda <sup>1</sup>	67905-19-5	N.D.	0.90	2.7	1
14473	Pfhxs <sup>1</sup>	355-46-4	0.86 J	0.45	1.8	1
14473	PFNA <sup>1</sup>	375-95-1	0.46 J	0.45	1.8	1
14473	PFNS <sup>1</sup>	68259-12-1	N.D.	0.45	1.8	1
14473	PFOA <sup>1</sup>	335-67-1	12	0.45	1.8	1
14473	Pfoda <sup>1</sup>	16517-11-6	N.D.	0.90	2.7	1
14473	PFOS <sup>1</sup>	1763-23-1	2.0	0.45	1.8	1
14473	Pfosa <sup>1</sup>	754-91-6	N.D.	0.45	1.8	1
14473	PFPA <sup>1</sup>	2706-90-3	2.4	0.45	1.8	1
14473	Pfteda <sup>1</sup>	376-06-7	N.D.	0.45	1.8	1
14473	Pftrda <sup>1</sup>	72629-94-8	N.D.	0.45	1.8	1
14473	Pfunda <sup>1</sup>	2058-94-8	N.D.	0.45	1.8	1

\*=This limit was used in the evaluation of the final result

**Sample Description:** MVD-2(T)/1531010\_008 Grab Water  
PFC Investigation

Merrimack Village District  
**ELLE Sample #:** PW 1264398  
**ELLE Group #:** 2088909  
**Matrix:** Water

**Project Name:** PFC Investigation

**Submittal Date/Time:** 02/21/2020 10:20  
**Collection Date/Time:** 02/20/2020 10:30

### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NH ELAP Scope of Accreditation at the time of analysis.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS in Water by LC/MS/MS	T-PFAS-WI14355, Revision 12	1	20052015	02/23/2020 20:07	Courtney J Fatta	1
14091	PFAS Water Prep	T-PFAS-WI14355, Revision 12	1	20052015	02/21/2020 14:00	Toby Barnhart	1

\*=This limit was used in the evaluation of the final result

**Sample Description:** MVD-3(T)/1531010\_003 Grab Water  
PFC Investigation

Merrimack Village District  
**ELLE Sample #:** PW 1264399  
**ELLE Group #:** 2088909  
**Matrix:** Water

**Project Name:** PFC Investigation

**Submission Date/Time:** 02/21/2020 10:20  
**Collection Date/Time:** 02/20/2020 11:50

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous		T-PFAS-WI14355, Revision 12	ng/l	ng/l	ng/l	
14473	10:2-Fts <sup>1</sup>	120226-60-0	N.D.	0.86	4.3	1
14473	4:2-Fts <sup>1</sup>	757124-72-4	N.D.	0.43	1.7	1
14473	6:2-Fts <sup>1</sup>	27619-97-2	N.D.	1.7	4.3	1
14473	8:2-Fts <sup>1</sup>	39108-34-4	N.D.	0.86	2.6	1
14473	Netfosaa <sup>1</sup>	2991-50-6	N.D.	0.43	2.6	1
NETFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14473	Netfosa <sup>1</sup>	4151-50-2	N.D.	0.86	4.3	1
NETPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide						
14473	NETPFOSAE <sup>1</sup>	1691-99-2	N.D.	0.86	2.6	1
NETPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol						
14473	NMeFOSAA <sup>1</sup>	2355-31-9	N.D.	0.52	1.7	1
NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14473	NMePFOSA <sup>1</sup>	31506-32-8	N.D.	0.86	2.6	1
NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide						
14473	NMePFOSAE <sup>1</sup>	24448-09-7	N.D.	0.86	2.6	1
NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol						
14473	Perfluoropentanesulfonate <sup>1</sup>	2706-91-4	N.D.	0.43	1.7	1
14473	PFBA <sup>1</sup>	375-22-4	4.5	1.7	4.3	1
14473	PFBS <sup>1</sup>	375-73-5	4.0	0.43	1.7	1
14473	PFDA <sup>1</sup>	335-76-2	N.D.	0.43	1.7	1
14473	Pfdoda <sup>1</sup>	307-55-1	N.D.	0.43	1.7	1
14473	Pfdods <sup>1</sup>	79780-39-5	N.D.	0.43	2.6	1
14473	PFDS <sup>1</sup>	335-77-3	N.D.	0.43	1.7	1
14473	Pfhpa <sup>1</sup>	375-85-9	4.5	0.43	1.7	1
14473	Pfhps <sup>1</sup>	375-92-8	N.D.	0.43	1.7	1
14473	Pfhxa <sup>1</sup>	307-24-4	7.5	0.43	1.7	1
14473	Pfhxda <sup>1</sup>	67905-19-5	N.D.	0.86	2.6	1
14473	Pfhxs <sup>1</sup>	355-46-4	0.71 J	0.43	1.7	1
14473	PFNA <sup>1</sup>	375-95-1	0.72 J	0.43	1.7	1
14473	PFNS <sup>1</sup>	68259-12-1	N.D.	0.43	1.7	1
14473	PFOA <sup>1</sup>	335-67-1	18	0.43	1.7	1
14473	Pfoda <sup>1</sup>	16517-11-6	N.D.	0.86	2.6	1
14473	PFOS <sup>1</sup>	1763-23-1	1.7	0.43	1.7	1
14473	Pfosa <sup>1</sup>	754-91-6	N.D.	0.43	1.7	1
14473	PFPA <sup>1</sup>	2706-90-3	6.7	0.43	1.7	1
14473	Pfteda <sup>1</sup>	376-06-7	N.D.	0.43	1.7	1
14473	Pftrda <sup>1</sup>	72629-94-8	N.D.	0.43	1.7	1
14473	Pfunda <sup>1</sup>	2058-94-8	N.D.	0.43	1.7	1

\*=This limit was used in the evaluation of the final result

**Sample Description:** MVD-3(T)/1531010\_003 Grab Water  
PFC Investigation

Merrimack Village District  
**ELLE Sample #:** PW 1264399  
**ELLE Group #:** 2088909  
**Matrix:** Water

**Project Name:** PFC Investigation

**Submittal Date/Time:** 02/21/2020 10:20  
**Collection Date/Time:** 02/20/2020 11:50

### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NH ELAP Scope of Accreditation at the time of analysis.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS in Water by LC/MS/MS	T-PFAS-WI14355, Revision 12	1	20052015	02/23/2020 20:16	Courtney J Fatta	1
14091	PFAS Water Prep	T-PFAS-WI14355, Revision 12	1	20052015	02/21/2020 14:00	Toby Barnhart	1

\*=This limit was used in the evaluation of the final result

**Sample Description:** MVD-7(R)/1531010\_007 Grab Water  
PFC Investigation

Merrimack Village District  
**ELLE Sample #:** PW 1264400  
**ELLE Group #:** 2088909  
**Matrix:** Water

**Project Name:** PFC Investigation

**Submission Date/Time:** 02/21/2020 10:20  
**Collection Date/Time:** 02/20/2020 10:52

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous		T-PFAS-WI14355, Revision 12	ng/l	ng/l	ng/l	
14473	10:2-Fts <sup>1</sup>	120226-60-0	N.D.	0.89	4.4	1
14473	4:2-Fts <sup>1</sup>	757124-72-4	N.D.	0.44	1.8	1
14473	6:2-Fts <sup>1</sup>	27619-97-2	N.D.	1.8	4.4	1
14473	8:2-Fts <sup>1</sup>	39108-34-4	N.D.	0.89	2.7	1
14473	Netfosaa <sup>1</sup>	2991-50-6	N.D.	0.44	2.7	1
NETFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14473	Netfosa <sup>1</sup>	4151-50-2	N.D.	0.89	4.4	1
NETPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide						
14473	NETPFOSAE <sup>1</sup>	1691-99-2	N.D.	0.89	2.7	1
NETPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol						
14473	NMeFOSAA <sup>1</sup>	2355-31-9	N.D.	0.53	1.8	1
NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14473	NMePFOSA <sup>1</sup>	31506-32-8	N.D.	0.89	2.7	1
NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide						
14473	NMePFOSAE <sup>1</sup>	24448-09-7	N.D.	0.89	2.7	1
NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol						
14473	Perfluoropentanesulfonate <sup>1</sup>	2706-91-4	N.D.	0.44	1.8	1
14473	PFBA <sup>1</sup>	375-22-4	2.1 J	1.8	4.4	1
14473	PFBS <sup>1</sup>	375-73-5	1.6 J	0.44	1.8	1
14473	PFDA <sup>1</sup>	335-76-2	N.D.	0.44	1.8	1
14473	Pfdoda <sup>1</sup>	307-55-1	N.D.	0.44	1.8	1
14473	Pfdods <sup>1</sup>	79780-39-5	N.D.	0.44	2.7	1
14473	PFDS <sup>1</sup>	335-77-3	N.D.	0.44	1.8	1
14473	Pfhpa <sup>1</sup>	375-85-9	2.6	0.44	1.8	1
14473	Pfhps <sup>1</sup>	375-92-8	N.D.	0.44	1.8	1
14473	Pfhxa <sup>1</sup>	307-24-4	2.3	0.44	1.8	1
14473	Pfhxda <sup>1</sup>	67905-19-5	N.D.	0.89	2.7	1
14473	Pfhxs <sup>1</sup>	355-46-4	1.1 J	0.44	1.8	1
14473	PFNA <sup>1</sup>	375-95-1	0.57 J	0.44	1.8	1
14473	PFNS <sup>1</sup>	68259-12-1	N.D.	0.44	1.8	1
14473	PFOA <sup>1</sup>	335-67-1	19	0.44	1.8	1
14473	Pfoda <sup>1</sup>	16517-11-6	N.D.	0.89	2.7	1
14473	PFOS <sup>1</sup>	1763-23-1	2.6	0.44	1.8	1
14473	Pfosa <sup>1</sup>	754-91-6	N.D.	0.44	1.8	1
14473	PFPA <sup>1</sup>	2706-90-3	1.8	0.44	1.8	1
14473	Pfteda <sup>1</sup>	376-06-7	N.D.	0.44	1.8	1
14473	Pftrda <sup>1</sup>	72629-94-8	N.D.	0.44	1.8	1
14473	Pfunda <sup>1</sup>	2058-94-8	N.D.	0.44	1.8	1

The recovery for extraction standards is outside of the QC acceptance limits as noted on the QC Summary. The following

\*=This limit was used in the evaluation of the final result

**Sample Description:** MVD-7(R)/1531010\_007 Grab Water  
PFC Investigation

Merrimack Village District  
**ELLE Sample #:** PW 1264400  
**ELLE Group #:** 2088909  
**Matrix:** Water

**Project Name:** PFC Investigation

**Submission Date/Time:** 02/21/2020 10:20  
**Collection Date/Time:** 02/20/2020 10:52

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
	action was taken: The sample was re-extracted within the method holding time and the recovery for extraction standards was again outside of the QC acceptance limits.					

### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NH ELAP Scope of Accreditation at the time of analysis.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS in Water by LC/MS/MS	T-PFAS-WI14355, Revision 12	1	20052015	02/23/2020 20:25	Courtney J Fatta	1
14091	PFAS Water Prep	T-PFAS-WI14355, Revision 12	1	20052015	02/21/2020 14:00	Toby Barnhart	1

\*=This limit was used in the evaluation of the final result



**Sample Description:** MVD-8(R)/1531010\_009 Grab Water  
PFC Investigation

Merrimack Village District  
**ELLE Sample #:** PW 1264401  
**ELLE Group #:** 2088909  
**Matrix:** Water

**Project Name:** PFC Investigation

**Submission Date/Time:** 02/21/2020 10:20  
**Collection Date/Time:** 02/20/2020 10:58

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous		T-PFAS-WI14355, Revision 12	ng/l	ng/l	ng/l	
14473	10:2-Fts <sup>1</sup>	120226-60-0	N.D.	0.86	4.3	1
14473	4:2-Fts <sup>1</sup>	757124-72-4	N.D.	0.43	1.7	1
14473	6:2-Fts <sup>1</sup>	27619-97-2	N.D.	1.7	4.3	1
14473	8:2-Fts <sup>1</sup>	39108-34-4	N.D.	0.86	2.6	1
14473	Netfosaa <sup>1</sup>	2991-50-6	N.D.	0.43	2.6	1
NETFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14473	Netfosa <sup>1</sup>	4151-50-2	0.90 J	0.86	4.3	1
NETPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide						
14473	NETPFOSAE <sup>1</sup>	1691-99-2	N.D.	0.86	2.6	1
NETPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol						
14473	NMeFOSAA <sup>1</sup>	2355-31-9	N.D.	0.52	1.7	1
NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14473	NMePFOSA <sup>1</sup>	31506-32-8	N.D.	0.86	2.6	1
NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide						
14473	NMePFOSAE <sup>1</sup>	24448-09-7	N.D.	0.86	2.6	1
NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol						
14473	Perfluoropentanesulfonate <sup>1</sup>	2706-91-4	N.D.	0.43	1.7	1
14473	PFBA <sup>1</sup>	375-22-4	N.D.	1.7	4.3	1
14473	PFBS <sup>1</sup>	375-73-5	1.3 J	0.43	1.7	1
14473	PFDA <sup>1</sup>	335-76-2	N.D.	0.43	1.7	1
14473	Pfdoda <sup>1</sup>	307-55-1	N.D.	0.43	1.7	1
14473	Pfdods <sup>1</sup>	79780-39-5	N.D.	0.43	2.6	1
14473	PFDS <sup>1</sup>	335-77-3	N.D.	0.43	1.7	1
14473	Pfhpa <sup>1</sup>	375-85-9	2.2	0.43	1.7	1
14473	Pfhps <sup>1</sup>	375-92-8	N.D.	0.43	1.7	1
14473	Pfhxa <sup>1</sup>	307-24-4	1.9	0.43	1.7	1
14473	Pfhxda <sup>1</sup>	67905-19-5	N.D.	0.86	2.6	1
14473	Pfhxs <sup>1</sup>	355-46-4	1.0 J	0.43	1.7	1
14473	PFNA <sup>1</sup>	375-95-1	N.D.	0.43	1.7	1
14473	PFNS <sup>1</sup>	68259-12-1	N.D.	0.43	1.7	1
14473	PFOA <sup>1</sup>	335-67-1	16	0.43	1.7	1
14473	Pfoda <sup>1</sup>	16517-11-6	N.D.	0.86	2.6	1
14473	PFOS <sup>1</sup>	1763-23-1	1.2 J	0.43	1.7	1
14473	Pfosa <sup>1</sup>	754-91-6	N.D.	0.43	1.7	1
14473	PFPA <sup>1</sup>	2706-90-3	1.6 J	0.43	1.7	1
14473	Pfteda <sup>1</sup>	376-06-7	N.D.	0.43	1.7	1
14473	Pftrda <sup>1</sup>	72629-94-8	N.D.	0.43	1.7	1
14473	Pfunda <sup>1</sup>	2058-94-8	N.D.	0.43	1.7	1

The recovery for extraction standards is outside of the QC acceptance limits as noted on the QC Summary. The following

\*=This limit was used in the evaluation of the final result

**Sample Description:** MVD-8(R)/1531010\_009 Grab Water  
PFC Investigation

Merrimack Village District  
**ELLE Sample #:** PW 1264401  
**ELLE Group #:** 2088909  
**Matrix:** Water

**Project Name:** PFC Investigation

**Submission Date/Time:** 02/21/2020 10:20  
**Collection Date/Time:** 02/20/2020 10:58

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
	action was taken: The sample was re-extracted within the method holding time and the recovery for extraction standards was again outside of the QC acceptance limits.					

### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NH ELAP Scope of Accreditation at the time of analysis.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS in Water by LC/MS/MS	T-PFAS-WI14355, Revision 12	1	20052015	02/23/2020 20:34	Courtney J Fatta	1
14091	PFAS Water Prep	T-PFAS-WI14355, Revision 12	1	20052015	02/21/2020 14:00	Toby Barnhart	1

\*=This limit was used in the evaluation of the final result

**Sample Description:** MVD-TP/1531010\_508 Grab Water  
PFC Investigation

Merrimack Village District  
**ELLE Sample #:** PW 1264402  
**ELLE Group #:** 2088909  
**Matrix:** Water

**Project Name:** PFC Investigation

**Submission Date/Time:** 02/21/2020 10:20  
**Collection Date/Time:** 02/20/2020 11:10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous		T-PFAS-WI14355, Revision 12	ng/l	ng/l	ng/l	
14473	10:2-Fts <sup>1</sup>	120226-60-0	N.D.	0.87	4.3	1
14473	4:2-Fts <sup>1</sup>	757124-72-4	N.D.	0.43	1.7	1
14473	6:2-Fts <sup>1</sup>	27619-97-2	N.D.	1.7	4.3	1
14473	8:2-Fts <sup>1</sup>	39108-34-4	N.D.	0.87	2.6	1
14473	Netfosaa <sup>1</sup>	2991-50-6	N.D.	0.43	2.6	1
NETFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14473	Netpfosa <sup>1</sup>	4151-50-2	N.D.	0.87	4.3	1
NETPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide						
14473	NETPFOSAE <sup>1</sup>	1691-99-2	N.D.	0.87	2.6	1
NETPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol						
14473	NMeFOSAA <sup>1</sup>	2355-31-9	N.D.	0.52	1.7	1
NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14473	NMePFOSA <sup>1</sup>	31506-32-8	N.D.	0.87	2.6	1
NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide						
14473	NMePFOSAE <sup>1</sup>	24448-09-7	N.D.	0.87	2.6	1
NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol						
14473	Perfluoropentanesulfonate <sup>1</sup>	2706-91-4	N.D.	0.43	1.7	1
14473	PFBA <sup>1</sup>	375-22-4	1.9 J	1.7	4.3	1
14473	PFBS <sup>1</sup>	375-73-5	1.4 J	0.43	1.7	1
14473	PFDA <sup>1</sup>	335-76-2	N.D.	0.43	1.7	1
14473	Pfdoda <sup>1</sup>	307-55-1	N.D.	0.43	1.7	1
14473	Pfdods <sup>1</sup>	79780-39-5	N.D.	0.43	2.6	1
14473	PFDS <sup>1</sup>	335-77-3	N.D.	0.43	1.7	1
14473	Pfhpa <sup>1</sup>	375-85-9	2.5	0.43	1.7	1
14473	Pfhps <sup>1</sup>	375-92-8	N.D.	0.43	1.7	1
14473	Pfhxa <sup>1</sup>	307-24-4	2.2	0.43	1.7	1
14473	Pfhxda <sup>1</sup>	67905-19-5	N.D.	0.87	2.6	1
14473	Pfhxs <sup>1</sup>	355-46-4	1.3 J	0.43	1.7	1
14473	PFNA <sup>1</sup>	375-95-1	N.D.	0.43	1.7	1
14473	PFNS <sup>1</sup>	68259-12-1	N.D.	0.43	1.7	1
14473	PFOA <sup>1</sup>	335-67-1	19	0.43	1.7	1
14473	Pfoda <sup>1</sup>	16517-11-6	N.D.	0.87	2.6	1
14473	PFOS <sup>1</sup>	1763-23-1	1.9	0.43	1.7	1
14473	Pfosa <sup>1</sup>	754-91-6	N.D.	0.43	1.7	1
14473	PFPA <sup>1</sup>	2706-90-3	1.8	0.43	1.7	1
14473	Pfteda <sup>1</sup>	376-06-7	N.D.	0.43	1.7	1
14473	Pftrda <sup>1</sup>	72629-94-8	N.D.	0.43	1.7	1
14473	Pfunda <sup>1</sup>	2058-94-8	N.D.	0.43	1.7	1

\*=This limit was used in the evaluation of the final result

**Sample Description:** MVD-TP/1531010\_508 Grab Water  
PFC Investigation

Merrimack Village District  
**ELLE Sample #:** PW 1264402  
**ELLE Group #:** 2088909  
**Matrix:** Water

**Project Name:** PFC Investigation

**Submittal Date/Time:** 02/21/2020 10:20  
**Collection Date/Time:** 02/20/2020 11:10

### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NH ELAP Scope of Accreditation at the time of analysis.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS in Water by LC/MS/MS	T-PFAS-WI14355, Revision 12	1	20052015	02/23/2020 20:43	Courtney J Fatta	1
14091	PFAS Water Prep	T-PFAS-WI14355, Revision 12	1	20052015	02/21/2020 14:00	Toby Barnhart	1

\*=This limit was used in the evaluation of the final result

## Quality Control Summary

Client Name: Merrimack Village District  
Reported: 03/02/2020 15:00

Group Number: 2088909

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

### Method Blank

Analysis Name	Result	MDL**	LOQ
	ng/l	ng/l	ng/l
Batch number: 20052015	Sample number(s): 1264398-1264402		
10:2-Fts	N.D.	1.0	5.0
4:2-Fts	N.D.	0.50	2.0
6:2-Fts	N.D.	2.0	5.0
8:2-Fts	N.D.	1.0	3.0
Netfosaa	N.D.	0.50	3.0
Netpfosa	N.D.	1.0	5.0
NETPFOSAE	N.D.	1.0	3.0
NMeFOSAA	N.D.	0.60	2.0
NMePFOSA	N.D.	1.0	3.0
NMePFOSAE	N.D.	1.0	3.0
Perfluoropentanesulfonate	N.D.	0.50	2.0
PFBA	N.D.	2.0	5.0
PFBS	N.D.	0.50	2.0
PFDA	N.D.	0.50	2.0
Pfdoda	N.D.	0.50	2.0
Pfdods	N.D.	0.50	3.0
PFDS	N.D.	0.50	2.0
Pfhpa	N.D.	0.50	2.0
Pfhps	N.D.	0.50	2.0
Pfhxa	N.D.	0.50	2.0
Pfhxda	N.D.	1.0	3.0
Pfhxs	N.D.	0.50	2.0
PFNA	N.D.	0.50	2.0
PFNS	N.D.	0.50	2.0
PFOA	N.D.	0.50	2.0
Pfoda	N.D.	1.0	3.0
PFOS	N.D.	0.50	2.0
Pfosa	N.D.	0.50	2.0
PFPA	N.D.	0.50	2.0
Pfteda	N.D.	0.50	2.0
Pftrda	N.D.	0.50	2.0
Pfunda	N.D.	0.50	2.0

### LCS/LCSD

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

## Quality Control Summary

Client Name: Merrimack Village District  
Reported: 03/02/2020 15:00

Group Number: 2088909

### LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 20052015	Sample number(s): 1264398-1264402								
10:2-Fts	24.68	22.23	24.68	26.06	90	106	45-143	16	30
4:2-Fts	23.92	22.8	23.92	20.89	95	87	61-131	9	30
6:2-Fts	24.28	24.82	24.28	23.95	102	99	56-140	4	30
8:2-Fts	24.52	20.06	24.52	25.15	82	103	58-143	22	30
Netfosaa	25.6	21.35	25.6	26.98	83	105	53-140	23	30
Netpfosa	25.6	27.27	25.6	27.01	107	106	56-136	1	30
NEtPFOSAE	25.6	23.49	25.6	25.48	92	100	56-130	8	30
NMeFOSAA	25.6	28.2	25.6	27.18	110	106	59-141	4	30
NMePFOSA	25.6	24.91	25.6	28.74	97	112	49-134	14	30
NMePFOSAE	25.6	22.17	25.6	21.55	87	84	61-133	3	30
Perfluoropentanesulfonate	24	22.26	24	25.13	93	105	73-134	12	30
PFBA	25.6	23.46	25.6	24.4	92	95	63-160	4	30
PFBS	22.64	21.2	22.64	21.09	94	93	67-135	1	30
PFDA	25.6	23.22	25.6	27.09	91	106	66-141	15	30
Pfdoda	25.6	26.39	25.6	25.65	103	100	65-143	3	30
Pfdods	24.8	23.83	24.8	24.45	96	99	57-134	3	30
PFDS	24.64	24.25	24.64	24.2	98	98	62-135	0	30
Pfhpa	25.6	25.92	25.6	27.45	101	107	69-144	6	30
Pfhps	24.36	24.65	24.36	24.44	101	100	67-138	1	30
Pfhxa	25.6	23.89	25.6	24.28	93	95	69-139	2	30
Pfhxda	25.6	28.71	25.6	27.13	112	106	60-148	6	30
Pfhxs	24.2	22.94	24.2	23.34	95	96	63-132	2	30
PFNA	25.6	27.04	25.6	25.88	106	101	66-144	4	30
PFNS	24.56	24.06	24.56	24.22	98	99	70-137	1	30
PFOA	25.6	25.04	25.6	25.93	98	101	67-139	3	30
Pfoda	25.6	29.49	25.6	27.62	115	108	47-159	7	30
PFOS	24.48	21.43	24.48	21.01	88	86	53-129	2	30
Pfosa	25.6	22.73	25.6	23.53	89	92	67-126	3	30
PFPA	25.6	25.23	25.6	26.86	99	105	73-135	6	30
Pfteda	25.6	26.77	25.6	31.83	105	124	69-141	17	30
Pftrda	25.6	27.86	25.6	37.01	109	145	66-146	28	30
Pfunda	25.6	23.73	25.6	25.85	93	101	66-140	9	30

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

## Quality Control Summary

Client Name: Merrimack Village District  
Reported: 03/02/2020 15:00

Group Number: 2088909

### Labeled Isotope Quality Control

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS in Water by LC/MS/MS  
Batch number: 20052015

	13C4-PFBA	13C5-PFPeA	13C3-PFBs	13C2-4:2-FTS	13C5-PFHxA	13C3-PFHxS
1264398	83	87	87	94	82	83
1264399	88	101	101	100	79	76
1264400	86	91	87	103	81	82
1264401	89	97	91	113	92	82
1264402	85	96	98	99	84	79
Blank	84	80	71	74	80	76
LCS	80	79	70	68	80	75
LCSD	76	77	71	84	85	83

Limits: 43-130 38-150 23-175 22-169 36-137 35-143

	13C4-PFHpA	13C2-6:2-FTS	13C8-PFOA	13C8-PFOS	13C9-PFNA	13C6-PFDA
1264398	85	95	84	81	82	81
1264399	81	99	84	87	91	87
1264400	82	97	84	78	79	83
1264401	82	100	88	88	94	82
1264402	82	102	86	81	86	82
Blank	77	85	83	85	85	81
LCS	77	78	77	83	81	74
LCSD	80	89	84	82	84	73

Limits: 33-140 29-182 52-124 52-121 48-130 50-124

	13C2-8:2-FTS	d3-NMeFOSAA	13C7-PFUnDA	d5-NEIFOSAA	13C2-PFDoDA	13C2-PFTeDA
1264398	93	93	86	104	81	68
1264399	93	105	88	111	82	75
1264400	98	98	80	96	70	41
1264401	94	93	85	103	78	49
1264402	96	108	91	121	85	78
Blank	84	78	72	86	73	66
LCS	79	75	71	83	68	62
LCSD	80	80	71	86	73	69

Limits: 37-169 36-143 44-128 42-149 36-127 21-134

	13C8-PFOSA	d7-NMePFOSAE	d3-NMePFOSA	d9-NEIPFOSAE	d5-NEIPFOSA
1264398	74	64	20	63	18
1264399	83	69	27	65	23
1264400	69	21	3*	15	2*
1264401	73	22	3*	18	3*
1264402	82	66	20	64	17

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

## Quality Control Summary

Client Name: Merrimack Village District  
Reported: 03/02/2020 15:00

Group Number: 2088909

### Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS in Water by LC/MS/MS  
Batch number: 20052015

	13C8-PFOSA	d7-NMePFOSAE	d3-NMePFOSA	d9-NEtPFOSAE	d5-NEtPFOSA
Blank	66	55	14	53	14
LCS	61	46	13	42	12
LCSD	63	54	14	62	14
Limits:	10-134	10-137	10-107	10-135	10-107

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.



38083 2088909 1264398-402



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: Ronald Miner

System Name: MERRIMACK VILLAGE DIST

Signature: Ronald Miner (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 x107

Sample Type: Treatment Evaluation  Other

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 Chlorine Residual (mg/L)
MVD-2(T)/1531010-008	2/20/20 10:30		2	PFAS by isotope detection 32 Compounds	
MVD-3(T)/1531010-003	2/20/20 11:50		2		
MVD-7(R)/1531010-007	2/20/20 10:52		2		
MVD-8(R)/1531010-009	2/20/20 10:58		2		
MVD-TP/1531010-508	2/20/20 11:10		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): 15 On Ice? Y/N Batch ID (if different than sample ID prefix): \_\_\_\_\_ List QUALIFIERS (if any): \_\_\_\_\_

Relinquished by: Ronald Miner Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Received at Lab by: MR Date/Time: 2/21/20 1020

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.



Client: NHDES

**Delivery and Receipt Information**

Delivery Method: Fed Ex                      Arrival Date: 02/21/2020  
 Number of Packages: 1                      Number of Projects: 1

**Arrival Condition Summary**

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	Total Trip Blank Qty:	0
Samples Chilled:	Yes	Air Quality Samples Present:	No
Paperwork Enclosed:	Yes		
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

*Unpacked by Julissa Rivera-Santa*

**Samples Chilled Details**

Thermometer Types:    *DT = Digital (Temp. Bottle)    IR = Infrared (Surface Temp)    All Temperatures in °C.*

<u>Cooler #</u>	<u>Thermometer ID</u>	<u>Corrected Temp</u>	<u>Therm. Type</u>	<u>Ice Type</u>	<u>Ice Present?</u>	<u>Ice Container</u>	<u>Elevated Temp?</u>
1	46730060WS	1.5	IR	Wet	Y	Bagged	N

# Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

<b>BMQL</b>	Below Minimum Quantitation Level	<b>mL</b>	milliliter(s)
<b>C</b>	degrees Celsius	<b>MPN</b>	Most Probable Number
<b>cfu</b>	colony forming units	<b>N.D.</b>	non-detect
<b>CP Units</b>	cobalt-chloroplatinate units	<b>ng</b>	nanogram(s)
<b>F</b>	degrees Fahrenheit	<b>NTU</b>	nephelometric turbidity units
<b>g</b>	gram(s)	<b>pg/L</b>	picogram/liter
<b>IU</b>	International Units	<b>RL</b>	Reporting Limit
<b>kg</b>	kilogram(s)	<b>TNTC</b>	Too Numerous To Count
<b>L</b>	liter(s)	<b>µg</b>	microgram(s)
<b>lb.</b>	pound(s)	<b>µL</b>	microliter(s)
<b>m3</b>	cubic meter(s)	<b>umhos/cm</b>	micromhos/cm
<b>meq</b>	milliequivalents	<b>MCL</b>	Maximum Contamination Limit
<b>mg</b>	milligram(s)		
<b>&lt;</b>	less than		
<b>&gt;</b>	greater than		
<b>ppm</b>	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

**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.

Tests 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.

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

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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# Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$ . The lower result is reported.
P^	Concentration difference between the primary and confirmation column $> 40\%$ . The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$ . The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.