



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: April 03, 2020 15:17

Project: PFC Investigation

Account #: 38083
Group Number: 2093350
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>
1531010_008 Grab Water	03/19/2020 10:22	1285691
1531010_003 Grab Water	03/19/2020 10:33	1285692
1531010_007 Grab Water	03/19/2020 10:51	1285693
1531010_009 Grab Water	03/19/2020 10:58	1285694
1531010_508 Grab Water	03/19/2020 11:03	1285695

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

Sample Description: 1531010_008 Grab Water
MVD-2(T)

Merrimack Village District
ELLE Sample #: PW 1285691
ELLE Group #: 2093350
Matrix: Water

Project Name: PFC Investigation

Submission Date/Time: 03/20/2020 10:31
Collection Date/Time: 03/19/2020 10:22

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 ¹	120226-60-0	N.D.	0.88	4.4	1
14473	4:2-Fts ¹	757124-72-4	N.D.	0.44	1.8	1
14473	6:2-Fts ¹	27619-97-2	N.D.	1.8	4.4	1
14473	8:2-Fts ¹	39108-34-4	N.D.	0.88	2.6	1
14473	Netfosaa ¹	2991-50-6	N.D.	0.44	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	Netfosa ¹	4151-50-2	N.D.	0.88	4.4	1
	NEtPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide					
14473	NEtPFOSAE ¹	1691-99-2	N.D.	0.88	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA ¹	2355-31-9	N.D.	0.53	1.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	NMePFOSA ¹	31506-32-8	N.D.	0.88	2.6	1
	NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide					
14473	NMePFOSAE ¹	24448-09-7	N.D.	0.88	2.6	1
	NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol					
14473	Perfluoropentanesulfonate ¹	2706-91-4	N.D.	0.44	1.8	1
14473	PFBA ¹	375-22-4	2.1 J	1.8	4.4	1
14473	PFBS ¹	375-73-5	2.1	0.44	1.8	1
14473	PFDA ¹	335-76-2	N.D.	0.44	1.8	1
14473	Pfdoda ¹	307-55-1	N.D.	0.44	1.8	1
14473	Pfdods ¹	79780-39-5	N.D.	0.44	2.6	1
14473	PFDS ¹	335-77-3	N.D.	0.44	1.8	1
14473	Pfhpa ¹	375-85-9	1.6 J	0.44	1.8	1
14473	Pfhps ¹	375-92-8	N.D.	0.44	1.8	1
14473	Pfhxa ¹	307-24-4	2.5	0.44	1.8	1
14473	Pfhxda ¹	67905-19-5	N.D.	0.88	2.6	1
14473	Pfhxs ¹	355-46-4	0.74 J	0.44	1.8	1
14473	PFNA ¹	375-95-1	N.D.	0.44	1.8	1
14473	PFNS ¹	68259-12-1	N.D.	0.44	1.8	1
14473	PFOA ¹	335-67-1	9.7	0.44	1.8	1
14473	Pfoda ¹	16517-11-6	N.D.	0.88	2.6	1
14473	PFOS ¹	1763-23-1	1.5 J	0.44	1.8	1
14473	Pfosa ¹	754-91-6	N.D.	0.44	1.8	1
14473	PFPA ¹	2706-90-3	1.8	0.44	1.8	1
14473	Pfteda ¹	376-06-7	N.D.	0.44	1.8	1
14473	Pftrda ¹	72629-94-8	N.D.	0.44	1.8	1
14473	Pfunda ¹	2058-94-8	N.D.	0.44	1.8	1

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

Sample Description: 1531010_008 Grab Water
MVD-2(T)

Merrimack Village District
ELLE Sample #: PW 1285691
ELLE Group #: 2093350
Matrix: Water

Project Name: PFC Investigation

Submittal Date/Time: 03/20/2020 10:31
Collection Date/Time: 03/19/2020 10:22

Sample Comments

¹ = 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	20083003	03/27/2020 11:49	Jason W Knight	1
14091	PFAS Water Prep	T-PFAS-WI14355, Revision 12	1	20083003	03/23/2020 07:43	Carmen Rodriguez	1

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

Sample Description: 1531010_003 Grab Water
MVD-3(T)

Merrimack Village District
ELLE Sample #: PW 1285692
ELLE Group #: 2093350
Matrix: Water

Project Name: PFC Investigation

Submission Date/Time: 03/20/2020 10:31
Collection Date/Time: 03/19/2020 10:33

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 ¹	120226-60-0	N.D.	0.86	4.3	1
14473	4:2-Fts ¹	757124-72-4	N.D.	0.43	1.7	1
14473	6:2-Fts ¹	27619-97-2	N.D.	1.7	4.3	1
14473	8:2-Fts ¹	39108-34-4	N.D.	0.86	2.6	1
14473	Netfosaa ¹	2991-50-6	N.D.	0.43	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	Netfosa ¹	4151-50-2	N.D.	0.86	4.3	1
	NEtPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide					
14473	NEtPFOSAE ¹	1691-99-2	N.D.	0.86	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA ¹	2355-31-9	N.D.	0.51	1.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	NMePFOSA ¹	31506-32-8	N.D.	0.86	2.6	1
	NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide					
14473	NMePFOSAE ¹	24448-09-7	N.D.	0.86	2.6	1
	NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol					
14473	Perfluoropentanesulfonate ¹	2706-91-4	N.D.	0.43	1.7	1
14473	PFBA ¹	375-22-4	4.1 J	1.7	4.3	1
14473	PFBS ¹	375-73-5	3.9	0.43	1.7	1
14473	PFDA ¹	335-76-2	N.D.	0.43	1.7	1
14473	Pfdoda ¹	307-55-1	N.D.	0.43	1.7	1
14473	Pfdods ¹	79780-39-5	N.D.	0.43	2.6	1
14473	PFDS ¹	335-77-3	N.D.	0.43	1.7	1
14473	Pfhpa ¹	375-85-9	4.0	0.43	1.7	1
14473	Pfhps ¹	375-92-8	N.D.	0.43	1.7	1
14473	Pfhxa ¹	307-24-4	6.9	0.43	1.7	1
14473	Pfhxda ¹	67905-19-5	N.D.	0.86	2.6	1
14473	Pfhxs ¹	355-46-4	0.56 J	0.43	1.7	1
14473	PFNA ¹	375-95-1	0.56 J	0.43	1.7	1
14473	PFNS ¹	68259-12-1	N.D.	0.43	1.7	1
14473	PFOA ¹	335-67-1	16	0.43	1.7	1
14473	Pfoda ¹	16517-11-6	N.D.	0.86	2.6	1
14473	PFOS ¹	1763-23-1	1.5 J	0.43	1.7	1
14473	Pfosa ¹	754-91-6	N.D.	0.43	1.7	1
14473	PFPA ¹	2706-90-3	5.1	0.43	1.7	1
14473	Pfteda ¹	376-06-7	N.D.	0.43	1.7	1
14473	Pftrda ¹	72629-94-8	N.D.	0.43	1.7	1
14473	Pfunda ¹	2058-94-8	N.D.	0.43	1.7	1

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

Sample Description: 1531010_003 Grab Water
MVD-3(T)

Merrimack Village District
ELLE Sample #: PW 1285692
ELLE Group #: 2093350
Matrix: Water

Project Name: PFC Investigation

Submittal Date/Time: 03/20/2020 10:31
Collection Date/Time: 03/19/2020 10:33

Sample Comments

¹ = 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	20083003	03/27/2020 11:58	Jason W Knight	1
14091	PFAS Water Prep	T-PFAS-WI14355, Revision 12	1	20083003	03/23/2020 07:43	Carmen Rodriguez	1

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

Sample Description: 1531010_007 Grab Water
MVD-7(R)

Merrimack Village District
ELLE Sample #: PW 1285693
ELLE Group #: 2093350
Matrix: Water

Project Name: PFC Investigation

Submission Date/Time: 03/20/2020 10:31
Collection Date/Time: 03/19/2020 10:51

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 ¹	120226-60-0	N.D.	0.89	4.5	1
14473	4:2-Fts ¹	757124-72-4	N.D.	0.45	1.8	1
14473	6:2-Fts ¹	27619-97-2	N.D.	1.8	4.5	1
14473	8:2-Fts ¹	39108-34-4	N.D.	0.89	2.7	1
14473	Netfosaa ¹	2991-50-6	N.D.	0.45	2.7	1
NETFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14473	Netfosa ¹	4151-50-2	N.D.	0.89	4.5	1
NETPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide						
14473	NETPFOSAE ¹	1691-99-2	N.D.	0.89	2.7	1
NETPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol						
14473	NMeFOSAA ¹	2355-31-9	N.D.	0.53	1.8	1
NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14473	NMePFOSA ¹	31506-32-8	N.D.	0.89	2.7	1
NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide						
14473	NMePFOSAE ¹	24448-09-7	N.D.	0.89	2.7	1
NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol						
14473	Perfluoropentanesulfonate ¹	2706-91-4	N.D.	0.45	1.8	1
14473	PFBA ¹	375-22-4	2.5 J	1.8	4.5	1
14473	PFBS ¹	375-73-5	1.8 J	0.45	1.8	1
14473	PFDA ¹	335-76-2	N.D.	0.45	1.8	1
14473	Pfdoda ¹	307-55-1	N.D.	0.45	1.8	1
14473	Pfdods ¹	79780-39-5	N.D.	0.45	2.7	1
14473	PFDS ¹	335-77-3	N.D.	0.45	1.8	1
14473	Pfhpa ¹	375-85-9	2.5	0.45	1.8	1
14473	Pfhps ¹	375-92-8	N.D.	0.45	1.8	1
14473	Pfhxa ¹	307-24-4	2.5	0.45	1.8	1
14473	Pfhxda ¹	67905-19-5	N.D.	0.89	2.7	1
14473	Pfhxs ¹	355-46-4	1.2 J	0.45	1.8	1
14473	PFNA ¹	375-95-1	0.53 J	0.45	1.8	1
14473	PFNS ¹	68259-12-1	N.D.	0.45	1.8	1
14473	PFOA ¹	335-67-1	21	0.45	1.8	1
14473	Pfoda ¹	16517-11-6	N.D.	0.89	2.7	1
14473	PFOS ¹	1763-23-1	2.4	0.45	1.8	1
14473	Pfosa ¹	754-91-6	N.D.	0.45	1.8	1
14473	PFPA ¹	2706-90-3	1.5 J	0.45	1.8	1
14473	Pfteda ¹	376-06-7	N.D.	0.45	1.8	1
14473	Pftrda ¹	72629-94-8	N.D.	0.45	1.8	1
14473	Pfunda ¹	2058-94-8	N.D.	0.45	1.8	1

The recovery for the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The

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

Sample Description: 1531010_007 Grab Water
MVD-7(R)

Merrimack Village District
ELLE Sample #: PW 1285693
ELLE Group #: 2093350
Matrix: Water

Project Name: PFC Investigation

Submittal Date/Time: 03/20/2020 10:31
Collection Date/Time: 03/19/2020 10:51

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
	following action was taken: The sample was reextracted within holding time. The data reported is from the initial trial of the sample and both sets of data are included in the data package.					

Sample Comments

¹ = 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	20083003	03/27/2020 12:07	Jason W Knight	1
14091	PFAS Water Prep	T-PFAS-WI14355, Revision 12	1	20083003	03/23/2020 07:43	Carmen Rodriguez	1

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

Sample Description: 1531010_009 Grab Water
MVD-8(R)

Merrimack Village District
ELLE Sample #: PW 1285694
ELLE Group #: 2093350
Matrix: Water

Project Name: PFC Investigation

Submission Date/Time: 03/20/2020 10:31
Collection Date/Time: 03/19/2020 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 ¹	120226-60-0	N.D.	0.86	4.3	1
14473	4:2-Fts ¹	757124-72-4	N.D.	0.43	1.7	1
14473	6:2-Fts ¹	27619-97-2	N.D.	1.7	4.3	1
14473	8:2-Fts ¹	39108-34-4	N.D.	0.86	2.6	1
14473	Netfosaa ¹	2991-50-6	N.D.	0.43	2.6	1
NETFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14473	Netfosa ¹	4151-50-2	N.D.	0.86	4.3	1
NETPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide						
14473	NETPFOSAE ¹	1691-99-2	N.D.	0.86	2.6	1
NETPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol						
14473	NMeFOSAA ¹	2355-31-9	N.D.	0.52	1.7	1
NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14473	NMePFOSA ¹	31506-32-8	N.D.	0.86	2.6	1
NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide						
14473	NMePFOSAE ¹	24448-09-7	N.D.	0.86	2.6	1
NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol						
14473	Perfluoropentanesulfonate ¹	2706-91-4	N.D.	0.43	1.7	1
14473	PFBA ¹	375-22-4	1.8 J	1.7	4.3	1
14473	PFBS ¹	375-73-5	1.3 J	0.43	1.7	1
14473	PFDA ¹	335-76-2	N.D.	0.43	1.7	1
14473	Pfdoda ¹	307-55-1	N.D.	0.43	1.7	1
14473	Pfdods ¹	79780-39-5	N.D.	0.43	2.6	1
14473	PFDS ¹	335-77-3	N.D.	0.43	1.7	1
14473	Pfhpa ¹	375-85-9	2.0	0.43	1.7	1
14473	Pfhps ¹	375-92-8	N.D.	0.43	1.7	1
14473	Pfhxa ¹	307-24-4	1.8	0.43	1.7	1
14473	Pfhxda ¹	67905-19-5	N.D.	0.86	2.6	1
14473	Pfhxs ¹	355-46-4	0.91 J	0.43	1.7	1
14473	PFNA ¹	375-95-1	N.D.	0.43	1.7	1
14473	PFNS ¹	68259-12-1	N.D.	0.43	1.7	1
14473	PFOA ¹	335-67-1	14	0.43	1.7	1
14473	Pfoda ¹	16517-11-6	N.D.	0.86	2.6	1
14473	PFOS ¹	1763-23-1	1.2 J	0.43	1.7	1
14473	Pfosa ¹	754-91-6	N.D.	0.43	1.7	1
14473	PFPA ¹	2706-90-3	1.4 J	0.43	1.7	1
14473	Pfteda ¹	376-06-7	N.D.	0.43	1.7	1
14473	Pftrda ¹	72629-94-8	N.D.	0.43	1.7	1
14473	Pfunda ¹	2058-94-8	N.D.	0.43	1.7	1

The recovery for the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The

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

Sample Description: 1531010_009 Grab Water
MVD-8(R)

Merrimack Village District
ELLE Sample #: PW 1285694
ELLE Group #: 2093350
Matrix: Water

Project Name: PFC Investigation

Submittal Date/Time: 03/20/2020 10:31
Collection Date/Time: 03/19/2020 10:58

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
	following action was taken: The sample was reextracted within holding time. The data reported is from the initial trial of the sample and both sets of data are included in the data package.					

Sample Comments

¹ = 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	20083003	03/27/2020 12:16	Jason W Knight	1
14091	PFAS Water Prep	T-PFAS-WI14355, Revision 12	1	20083003	03/23/2020 07:43	Carmen Rodriguez	1

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

Sample Description: 1531010_508 Grab Water
MVD-TP

Merrimack Village District
ELLE Sample #: PW 1285695
ELLE Group #: 2093350
Matrix: Water

Project Name: PFC Investigation

Submission Date/Time: 03/20/2020 10:31
Collection Date/Time: 03/19/2020 11:03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
	LC/MS/MS Miscellaneous	T-PFAS-WI14355,	ng/l	ng/l	ng/l	
		Revision 12				
14473	10:2-Fts ¹	120226-60-0	N.D.	0.87	4.3	1
14473	4:2-Fts ¹	757124-72-4	N.D.	0.43	1.7	1
14473	6:2-Fts ¹	27619-97-2	N.D.	1.7	4.3	1
14473	8:2-Fts ¹	39108-34-4	N.D.	0.87	2.6	1
14473	Netfosaa ¹	2991-50-6	N.D.	0.43	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	Netfosa ¹	4151-50-2	N.D.	0.87	4.3	1
	NEtPFOSA is the acronym for N-ethylperfluoro-1-octanesulfonamide					
14473	NEtPFOSAE ¹	1691-99-2	N.D.	0.87	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA ¹	2355-31-9	N.D.	0.52	1.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	NMePFOSA ¹	31506-32-8	N.D.	0.87	2.6	1
	NMePFOSA is the acronym for N-methylperfluoro-1-octanesulfonamide					
14473	NMePFOSAE ¹	24448-09-7	N.D.	0.87	2.6	1
	NMePFOSAE is the acronym for 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol					
14473	Perfluoropentanesulfonate ¹	2706-91-4	N.D.	0.43	1.7	1
14473	PFBA ¹	375-22-4	2.1 J	1.7	4.3	1
14473	PFBS ¹	375-73-5	1.5 J	0.43	1.7	1
14473	PFDA ¹	335-76-2	N.D.	0.43	1.7	1
14473	Pfdoda ¹	307-55-1	N.D.	0.43	1.7	1
14473	Pfdods ¹	79780-39-5	N.D.	0.43	2.6	1
14473	PFDS ¹	335-77-3	N.D.	0.43	1.7	1
14473	Pfhpa ¹	375-85-9	2.0	0.43	1.7	1
14473	Pfhps ¹	375-92-8	N.D.	0.43	1.7	1
14473	Pfhxa ¹	307-24-4	2.1	0.43	1.7	1
14473	Pfhxda ¹	67905-19-5	N.D.	0.87	2.6	1
14473	Pfhxs ¹	355-46-4	1.0 J	0.43	1.7	1
14473	PFNA ¹	375-95-1	N.D.	0.43	1.7	1
14473	PFNS ¹	68259-12-1	N.D.	0.43	1.7	1
14473	PFOA ¹	335-67-1	15	0.43	1.7	1
14473	Pfoda ¹	16517-11-6	N.D.	0.87	2.6	1
14473	PFOS ¹	1763-23-1	1.8	0.43	1.7	1
14473	Pfosa ¹	754-91-6	N.D.	0.43	1.7	1
14473	PFPA ¹	2706-90-3	1.4 J	0.43	1.7	1
14473	Pfteda ¹	376-06-7	N.D.	0.43	1.7	1
14473	Pftrda ¹	72629-94-8	N.D.	0.43	1.7	1
14473	Pfunda ¹	2058-94-8	N.D.	0.43	1.7	1

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

Sample Description: 1531010_508 Grab Water
MVD-TP

Merrimack Village District
ELLE Sample #: PW 1285695
ELLE Group #: 2093350
Matrix: Water

Project Name: PFC Investigation

Submittal Date/Time: 03/20/2020 10:31
Collection Date/Time: 03/19/2020 11:03

Sample Comments

¹ = 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	20083003	03/27/2020 12:25	Jason W Knight	1
14091	PFAS Water Prep	T-PFAS-WI14355, Revision 12	1	20083003	03/23/2020 07:43	Carmen Rodriguez	1

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

Quality Control Summary

Client Name: Merrimack Village District
Reported: 04/03/2020 15:17

Group Number: 2093350

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: 20083003	Sample number(s): 1285691-1285695		
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: 04/03/2020 15:17

Group Number: 2093350

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: 20083003	Sample number(s): 1285691-1285695								
10:2-Fts	24.68	20.15	24.68	19.83	82	80	45-143	2	30
4:2-Fts	23.92	21.91	23.92	19.81	92	83	61-131	10	30
6:2-Fts	24.28	22.91	24.28	20.44	94	84	56-140	11	30
8:2-Fts	24.52	20.69	24.52	21.08	84	86	58-143	2	30
Netfosaa	25.6	21.54	25.6	20.8	84	81	53-140	4	30
Netpfosa	25.6	22.75	25.6	22.91	89	89	56-136	1	30
NEtPFOSAE	25.6	23.16	25.6	21.82	90	85	56-130	6	30
NMeFOSAA	25.6	27.72	25.6	26.96	108	105	59-141	3	30
NMePFOSA	25.6	23.12	25.6	23.4	90	91	49-134	1	30
NMePFOSAE	25.6	21.4	25.6	21.84	84	85	61-133	2	30
Perfluoropentanesulfonate	24	20.92	24	20.52	87	86	73-134	2	30
PFBA	25.6	22.3	25.6	21.55	87	84	63-160	3	30
PFBS	22.64	21.58	22.64	19.87	95	88	67-135	8	30
PFDA	25.6	25.6	25.6	23.46	100	92	66-141	9	30
Pfdoda	25.6	25.55	25.6	21.68	100	85	65-143	16	30
Pfdods	24.8	21.42	24.8	22.47	86	91	57-134	5	30
PFDS	24.64	19.96	24.64	20.37	81	83	62-135	2	30
Pfhpa	25.6	24.2	25.6	22.56	95	88	69-144	7	30
Pfhps	24.36	23.15	24.36	20.1	95	83	67-138	14	30
Pfhxa	25.6	23.82	25.6	22.47	93	88	69-139	6	30
Pfhxda	25.6	21.72	25.6	23.28	85	91	60-148	7	30
Pfhxs	24.2	23.16	24.2	20.45	96	85	63-132	12	30
PFNA	25.6	24.07	25.6	23.21	94	91	66-144	4	30
PFNS	24.56	21.38	24.56	20.42	87	83	70-137	5	30
PFOA	25.6	23.43	25.6	23.4	92	91	67-139	0	30
Pfoda	25.6	23.4	25.6	24.95	91	97	47-159	6	30
PFOS	24.48	20.1	24.48	20.56	82	84	53-129	2	30
Pfosa	25.6	23.35	25.6	21.96	91	86	67-126	6	30
PFPA	25.6	22.69	25.6	22.79	89	89	73-135	0	30
Pfteda	25.6	23.68	25.6	23.76	93	93	69-141	0	30
Pftrda	25.6	24.25	25.6	22.02	95	86	66-146	10	30
Pfunda	25.6	21.1	25.6	20.3	82	79	66-140	4	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: 04/03/2020 15:17

Group Number: 2093350

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: 20083003

	13C4-PFBA	13C5-PFPeA	13C3-PFBS	13C2-4:2-FTS	13C5-PFHxA	13C3-PFHxS
1285691	98	109	113	120	95	96
1285692	96	113	121	126	97	102
1285693	90	103	111	117	80	86
1285694	88	100	108	134	89	92
1285695	90	104	107	107	88	88
Blank	97	96	97	95	101	99
LCS	92	93	91	96	93	91
LCSD	97	99	96	109	104	108
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
1285691	96	106	94	97	96	106
1285692	99	109	96	99	101	92
1285693	92	102	85	90	89	92
1285694	85	105	92	93	91	91
1285695	90	106	96	85	86	96
Blank	99	110	98	98	101	105
LCS	93	93	95	93	92	94
LCSD	103	108	100	96	99	100
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
1285691	114	85	99	90	87	78
1285692	110	91	104	91	85	89
1285693	99	84	85	80	90	73
1285694	102	91	95	90	89	85
1285695	113	88	96	95	91	96
Blank	105	95	107	101	101	101
LCS	101	86	100	95	88	100
LCSD	105	93	104	96	94	90
Limits:	37-169	36-143	44-128	42-149	36-127	21-134

	13C8-PFOSA	d7-NMePFOSAE	d3-NMePFOSA	d9-NEIPFOSAE	d5-NEIPFOSA
1285691	90	76	53	77	44
1285692	94	79	44	78	42
1285693	64	22	3*	20	3*
1285694	78	40	5*	38	5*
1285695	88	78	66	81	61

*- 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: 04/03/2020 15:17

Group Number: 2093350

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: 20083003

	13C8-PFOSA	d7-NMePFOSAE	d3-NMePFOSA	d9-NEiPFOSAE	d5-NEiPFOSA
Blank	94	82	63	86	65
LCS	89	75	59	77	60
LCSD	89	83	72	83	72
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 | 2098350 | 1285691-695

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	3/19/20 1022		2	PFAS by isotope detection 32 Compounds	
MVD-3(T)/1531010-003	3/19/20 1033		2		
MVD-7(T)/1531010-007	3/19/20 1051		2		
MVD-8(R)/1531010-009	3/19/20 1058		2		
MVD-TP/1531010-508	3/19/20 1103		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): 20 On Ice? Y/N Batch ID (if different than sample ID prefix): _____ List QUALIFIERS (if any): _____

Relinquished by: Ronald Miner 3/19/20 Received by: _____ Date/Time: _____

Relinquished by: _____ Received at Lab by: [Signature] Date/Time: 3/20/20 1031

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: Merrimack Village Dist

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Date: 03/20/2020
 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 Melvin Sanchez

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	DT146	2.0	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

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

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	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.		
ppb	parts per billion		
Dry weight basis	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.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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 less than the LOQ
K2	Continuing Calibration Blank is above the QC limit and the sample result is less than the LOQ
K3	Initial Calibration Verification is above the QC limit and the sample result is less than the LOQ
K4	Continuing Calibration Verification is above the QC limit and the sample result is less than the LOQ
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.