Massachusetts Department of Environmental Protection - Drinking Water Program **PFAS**

Per- and Polyfluoroalkyl Substances (PFAS) Report

I. PWS INFORMATION: Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: 2187000 **City / Town:** Millis

PWS Name: MILLIS WATER DEPT **PWS Class:** COM ☒ NTNC ☐ TNC ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information		Date Collected	Collected By
01G	WELL #1	☐ (M)ultiple ☒ (S)ingle	☒ (R)aw ☐ (F)inished	08/27/20	R.M.

Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:	
		(1) Reason for Resubmission	(2) Collection Date of Original Sample
☒ RS ☐ SS	☒ Original ☐ Resubmitted ☐ Confirmation	☐ Resample ☐ Reanalysis ☐ Report Correction	

SAMPLE COMMENTS - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank

The samples were received at the laboratory above the required temperature range. The samples were transported to the laboratory in a cooler with ice and delivered directly from the sampling site. This is considered acceptable since the samples were in the process of cooling.

II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab Cert. #: M-MA086 **Primary Lab Name:** Alpha Analytical **Subcontracted? (Y/N)** Y

Analysis Lab Cert. #: M-MA030 **Analysis Lab Name:** Alpha Analytical

If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
537.1	09/03/20	09/04/20	1	Primary Lab:	L2035325-01
				Subcontracted Lab:	L2035325-01

CAS#	REGULATED PFAS CONTAMINANTS	Result[1] ng/L	Result[2] Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	**Perfluorooctane Sulfonic Acid (PFOS)**	3.63		-	0.450	1.83
335-67-1	**Perfluorooctanoic Acid (PFOA)**	5.02			0.571	1.83
355-46-4	**Perfluorohexane Sulfonic Acid (PFHxS)**	2.93			0.440	1.83
375-95-1	**Perfluorononanoic Acid (PFNA)**	2.67			0.436	1.83
375-85-9	**Perfluorohepatanoic Acid (PFHpA)**	2.60			0.238	1.83
335-76-2	**Perfluorodecanoic acid (PFDA)**	ND			0.590	1.83
	PFAS6 (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column) =	**16.85**	--	**20**	-	-
	UNREGULATED PFAS CONTAMINANTS					
375-73-5	**Perfluorobutane sulfonic acid (PFBS)**	2.53		-	0.260	1.83
307-55-1	**Perfluorododecanoic acid (PFDoA)**	ND			0.593	1.83
307-24-4	**Perfluorohexanoic acid (PFHxA)**	4.98			0.241	1.83
376-06-7	**Perfluorotetradecanoic acid (PFTA)**	ND			0.396	1.83
72629-94-8	**Perfluorotridecanoic acid (PFTrDA)**	ND			0.465	1.83
2058-94-8	**Perfluoroundecanoic acid (PFUnA)**	ND			0.747	1.83
2991-50-6	**N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)**	ND			0.872	1.83
2355-31-9	**N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)**	ND			0.857	1.83
763051-92-9	**11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)**	ND			0.192	1.83
756426-58-1	**9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)**	ND			0.252	1.83
919005-14-4	**4,8-dioxa-3H-perfluorononanoic acid (ADONA)**	ND			0.066	1.83
13252-13-6	**Hexafluoropropylene oxide dimer acid (HFPO-DA)**	ND			0.414	3.66

[1] A field reagent blank (FRB) must be analyzed and reported on a separate PFAS form if any PFAS are detected above the MRL.

[2] All qualifiers must be described under Lab Analysis Comments on page 2.

Massachusetts Department of Environmental Protection - Drinking Water Program **PFAS**

Per- and Polyfluoroalkyl Substances (PFAS) Report

PWS ID#: **2187000**

Lab Sample ID#:

Primary Lab:	L2035325-01
Subcontracted Lab:	L2035325-01

CAS#	UNREGULATED PFAS CONTAMINANTS	Result[1] ng/L	Result[2] Qualifier	MCL * ng/L	MDL ng/L	MRL ng/L
				-		

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
$^{13}C_2$-PFHxA	105	
$^{13}C_2$-PFDA	89	
d_5-NEtFOSAA	97	
$^{13}C_3$-HFPO-DA	90	

Note: $^{13}C_3$-HFPO-DA is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☐ **Laboratory analytical report with QC attached (check one item below).**

☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LFSM/LFSMD or FD) and RPD.

☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

Lab Analysis Comments: (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
Other Analysis Comments:	

* MCL or proposed MCL

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

Primary Lab Director Signature: Joseph Wackon

Date: 9/28/20

If not submitting these results electronically, mail TWO copies of this report to your MassDEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner. Note that during the Massachusetts COVID-19 state of emergency, in addition to submitting by mail reports may be emailed to program.director-dwp@mass.gov.

MassDEP REVIEW STATUS (Initial & Date) ☐ Accepted _____ ☐ Disapproved _____	Review Comments		☐ WQTS Data Entered

Massachusetts Department of Environmental Protection - Drinking Water Program **PFAS**

Per- and Polyfluoroalkyl Substances (PFAS) Report

I. PWS INFORMATION: Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: 2187000 **City / Town:** Millis

PWS Name: MILLIS WATER DEPT **PWS Class:** COM ☒ NTNC ☐ TNC ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information		Date Collected	Collected By
01G	WELL #1 (FB)	☐ (**M**)ultiple ☒ (**S**)ingle	☒ (**R**)aw ☐ (**F**)inished	08/27/20	R.M.

Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:	
		(1) Reason for Resubmission	(2) Collection Date of Original Sample
☒ RS ☐ SS	☒ Original ☐ Resubmitted ☐ Confirmation	☐ Resample ☐ Reanalysis ☐ Report Correction	

SAMPLE COMMENTS - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank

The samples were received at the laboratory above the required temperature range. The samples were transported to the laboratory in a cooler with ice and delivered directly from the sampling site. This is

II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab Cert. #: M-MA086 **Primary Lab Name:** Alpha Analytical **Subcontracted? (Y/N)** Y

Analysis Lab Cert. #: M-MA030 **Analysis Lab Name:** Alpha Analytical

If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
537.1	09/03/20	09/17/20	1	Primary Lab:	L2035325-02
				Subcontracted Lab:	L2035325-02

CAS#	REGULATED PFAS CONTAMINANTS	Result[1] ng/L	Result[2] Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	**Perfluorooctane Sulfonic Acid (PFOS)**	ND		-	0.443	1.80
335-67-1	**Perfluorooctanoic Acid (PFOA)**	ND			0.562	1.80
355-46-4	**Perfluorohexane Sulfonic Acid (PFHxS)**	ND			0.432	1.80
375-95-1	**Perfluorononanoic Acid (PFNA)**	ND			0.428	1.80
375-85-9	**Perfluorohepatanoic Acid (PFHpA)**	ND			0.234	1.80
335-76-2	**Perfluorodecanoic acid (PFDA)**	ND			0.580	1.80
PFAS6 (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column)	=		--	**20**	-	-
	UNREGULATED PFAS CONTAMINANTS					
375-73-5	**Perfluorobutane sulfonic acid (PFBS)**	ND		-	0.256	1.80
307-55-1	**Perfluorododecanoic acid (PFDoA)**	ND			0.583	1.80
307-24-4	**Perfluorohexanoic acid (PFHxA)**	ND			0.237	1.80
376-06-7	**Perfluorotetradecanoic acid (PFTA)**	ND			0.389	1.80
72629-94-8	**Perfluorotridecanoic acid (PFTrDA)**	ND			0.457	1.80
2058-94-8	**Perfluoroundecanoic acid (PFUnA)**	ND			0.735	1.80
2991-50-6	**N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)**	ND			0.857	1.80
2355-31-9	**N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)**	ND			0.843	1.80
763051-92-9	**11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)**	ND			0.189	1.80
756426-58-1	**9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)**	ND			0.248	1.80
919005-14-4	**4,8-dioxa-3H-perfluorononanoic acid (ADONA)**	ND			0.065	1.80
13252-13-6	**Hexafluoropropylene oxide dimer acid (HFPO-DA)**	ND			0.407	3.60

[1] A field reagent blank (FRB) must be analyzed and reported on a separate PFAS form if any PFAS are detected above the MRL.

[2] All qualifiers must be described under Lab Analysis Comments on page 2.

Massachusetts Department of Environmental Protection - Drinking Water Program

PFAS

Per- and Polyfluoroalkyl Substances (PFAS) Report

PWS ID#: **2187000**

Lab Sample ID#:

Primary Lab:	L2035325-02
Subcontracted Lab:	L2035325-02

CAS#	UNREGULATED PFAS CONTAMINANTS	Result[1] ng/L	Result[2] Qualifier	MCL * ng/L	MDL ng/L	MRL ng/L
				-		

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
$^{13}C_2$-PFHxA	97	
$^{13}C_2$-PFDA	91	
d_5-NEtFOSAA	96	
$^{13}C_3$-HFPO-DA	89	

Note: $^{13}C_3$-HFPO-DA is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☐ **Laboratory analytical report with QC attached (check one item below).**

☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LFSM/LFSMD or FD) and RPD.

☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

Lab Analysis Comments: (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
Other Analysis Comments:	

* MCL or proposed MCL

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

Primary Lab Director Signature: Joseph Wackett

Date: 9/28/20

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MassDEP REVIEW STATUS (Initial & Date)	Review Comments		☐ WQTS Data Entered
☐ Accepted _____ ☐ Disapproved _____			

Massachusetts Department of Environmental Protection - Drinking Water Program **PFAS**

Per- and Polyfluoroalkyl Substances (PFAS) Report

I. PWS INFORMATION: Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: 2187000 **City / Town:** Millis

PWS Name: MILLIS WATER DEPT **PWS Class:** COM ☒ NTNC ☐ TNC ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information		Date Collected	Collected By
02G	WELL #2	☐ (**M**)ultiple ☒ (**S**)ingle	☒ (**R**)aw ☐ (**F**)inished	08/27/20	R.M.

Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below: (1) Reason for Resubmission	(2) Collection Date of Original Sample
☒ RS ☐ SS	☒ Original ☐ Resubmitted ☐ Confirmation	☐ Resample ☐ Reanalysis ☐ Report Correction	

SAMPLE COMMENTS - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank

The samples were received at the laboratory above the required temperature range. The samples were transported to the laboratory in a cooler with ice and delivered directly from the sampling site. This is

II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab Cert. #: M-MA086 **Primary Lab Name:** Alpha Analytical **Subcontracted? (Y/N)** Y

Analysis Lab Cert. #: M-MA030 **Analysis Lab Name:** Alpha Analytical

If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
537.1	09/03/20	09/04/20	1	Primary Lab:	L2035325-03
				Subcontracted Lab:	L2035325-03

CAS#	REGULATED PFAS CONTAMINANTS	Result[1] ng/L	Result[2] Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	**Perfluorooctane Sulfonic Acid (PFOS)**	9.68		-	0.456	1.85
335-67-1	**Perfluorooctanoic Acid (PFOA)**	7.27			0.578	1.85
355-46-4	**Perfluorohexane Sulfonic Acid (PFHxS)**	3.86			0.445	1.85
375-95-1	**Perfluorononanoic Acid (PFNA)**	5.71			0.441	1.85
375-85-9	**Perfluorohepatanoic Acid (PFHpA)**	2.82			0.241	1.85
335-76-2	**Perfluorodecanoic acid (PFDA)**	ND			0.597	1.85
	PFAS6 (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column) =	**29.34**	--	**20**	-	-
	UNREGULATED PFAS CONTAMINANTS					
375-73-5	**Perfluorobutane sulfonic acid (PFBS)**	2.60		-	0.263	1.85
307-55-1	**Perfluorododecanoic acid (PFDoA)**	ND			0.601	1.85
307-24-4	**Perfluorohexanoic acid (PFHxA)**	5.15			0.244	1.85
376-06-7	**Perfluorotetradecanoic acid (PFTA)**	ND			0.400	1.85
72629-94-8	**Perfluorotridecanoic acid (PFTrDA)**	ND			0.471	1.85
2058-94-8	**Perfluoroundecanoic acid (PFUnA)**	ND			0.756	1.85
2991-50-6	**N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)**	ND			0.883	1.85
2355-31-9	**N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)**	ND			0.868	1.85
763051-92-9	**11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)**	ND			0.195	1.85
756426-58-1	**9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)**	ND			0.255	1.85
919005-14-4	**4,8-dioxa-3H-perfluorononanoic acid (ADONA)**	ND			0.066	1.85
13252-13-6	**Hexafluoropropylene oxide dimer acid (HFPO-DA)**	ND			0.419	3.71

[1] A field reagent blank (FRB) must be analyzed and reported on a separate PFAS form if any PFAS are detected above the MRL.

[2] All qualifiers must be described under Lab Analysis Comments on page 2.

Massachusetts Department of Environmental Protection - Drinking Water Program

PFAS

Per- and Polyfluoroalkyl Substances (PFAS) Report

PWS ID#: **2187000**

Lab Sample ID#:

Primary Lab:	L2035325-03
Subcontracted Lab:	L2035325-03

CAS#	UNREGULATED PFAS CONTAMINANTS	Result[1] ng/L	Result[2] Qualifier	MCL * ng/L	MDL ng/L	MRL ng/L
				-		

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
$^{13}C_2$-PFHxA	108	
$^{13}C_2$-PFDA	96	
d_5-NEtFOSAA	95	
$^{13}C_3$-HFPO-DA	98	

Note: $^{13}C_3$-HFPO-DA is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☐ **Laboratory analytical report with QC attached (check one item below).**

☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LFSM/LFSMD or FD) and RPD.

☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

Lab Analysis Comments: (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
Other Analysis Comments:	

* MCL or proposed MCL

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

Primary Lab Director Signature: Joseph Wackers

Date: 9/28/20

If not submitting these results electronically, mail TWO copies of this report to your MassDEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner. Note that during the Massachusetts COVID-19 state of emergency, in addition to submitting by mail reports may be emailed to program.director-dwp@mass.gov.

MassDEP REVIEW STATUS (Initial & Date)	Review Comments		☐ WQTS Data Entered
☐ Accepted _____ ☐ Disapproved _____			

Massachusetts Department of Environmental Protection - Drinking Water Program **PFAS**

Per- and Polyfluoroalkyl Substances (PFAS) Report

I. PWS INFORMATION: Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: 2187000 **City / Town:** Millis

PWS Name: MILLIS WATER DEPT **PWS Class:** COM ☒ NTNC ☐ TNC ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information		Date Collected	Collected By
02G	WELL #2 (FB)	☐ (**M**)ultiple ☒ (**S**)ingle	☒ (**R**)aw ☐ (**F**)inished	08/27/20	R.M.

Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:	
		(1) Reason for Resubmission	(2) Collection Date of Original Sample
☒ RS ☐ SS	☒ Original ☐ Resubmitted ☐ Confirmation	☐ Resample ☐ Reanalysis ☐ Report Correction	

SAMPLE COMMENTS - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank

The samples were received at the laboratory above the required temperature range. The samples were transported to the laboratory in a cooler with ice and delivered directly from the sampling site. This is

II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab Cert. #: M-MA086 **Primary Lab Name:** Alpha Analytical **Subcontracted? (Y/N)** Y

Analysis Lab Cert. #: M-MA030 **Analysis Lab Name:** Alpha Analytical

If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
537.1	09/03/20	09/17/20	1	Primary Lab:	L2035325-04
				Subcontracted Lab:	L2035325-04

CAS#	REGULATED PFAS CONTAMINANTS	Result[1] ng/L	Result[2] Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	**Perfluorooctane Sulfonic Acid (PFOS)**	ND		-	0.460	1.87
335-67-1	**Perfluorooctanoic Acid (PFOA)**	ND			0.583	1.87
355-46-4	**Perfluorohexane Sulfonic Acid (PFHxS)**	ND			0.448	1.87
375-95-1	**Perfluorononanoic Acid (PFNA)**	ND			0.445	1.87
375-85-9	**Perfluorohepatanoic Acid (PFHpA)**	ND			0.243	1.87
335-76-2	**Perfluorodecanoic acid (PFDA)**	ND			0.602	1.87
	PFAS6 (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column) =		--	20	-	-
	UNREGULATED PFAS CONTAMINANTS					
375-73-5	**Perfluorobutane sulfonic acid (PFBS)**	ND		-	0.265	1.87
307-55-1	**Perfluorododecanoic acid (PFDoA)**	ND			0.605	1.87
307-24-4	**Perfluorohexanoic acid (PFHxA)**	ND			0.246	1.87
376-06-7	**Perfluorotetradecanoic acid (PFTA)**	ND			0.404	1.87
72629-94-8	**Perfluorotridecanoic acid (PFTrDA)**	ND			0.475	1.87
2058-94-8	**Perfluoroundecanoic acid (PFUnA)**	ND			0.762	1.87
2991-50-6	**N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)**	ND			0.890	1.87
2355-31-9	**N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)**	ND			0.875	1.87
763051-92-9	**11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)**	ND			0.196	1.87
756426-58-1	**9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)**	ND			0.257	1.87
919005-14-4	**4,8-dioxa-3H-perfluorononanoic acid (ADONA)**	ND			0.067	1.87
13252-13-6	**Hexafluoropropylene oxide dimer acid (HFPO-DA)**	ND			0.422	3.74

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Massachusetts Department of Environmental Protection - Drinking Water Program

PFAS

Per- and Polyfluoroalkyl Substances (PFAS) Report

PWS ID#: **2187000**

Lab Sample ID#:

Primary Lab:	L2035325-04
Subcontracted Lab:	L2035325-04

CAS#	UNREGULATED PFAS CONTAMINANTS	Result[1] ng/L	Result[2] Qualifier	MCL * ng/L	MDL ng/L	MRL ng/L
				-		

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
$^{13}C_2$-PFHxA	81	
$^{13}C_2$-PFDA	71	
d_5-NEtFOSAA	84	
$^{13}C_3$-HFPO-DA	75	

Note: $^{13}C_3$-HFPO-DA is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☐ **Laboratory analytical report with QC attached (check one item below).**

☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LFSM/LFSMD or FD) and RPD.

☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

Lab Analysis Comments: (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
Other Analysis Comments:	

* MCL or proposed MCL

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

Primary Lab Director Signature: Joseph Wackers

Date: 9/28/20

If not submitting these results electronically, mail TWO copies of this report to your MassDEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner. Note that during the Massachusetts COVID-19 state of emergency, in addition to submitting by mail reports may be emailed to program.director-dwp@mass.gov.

MassDEP REVIEW STATUS (Initial & Date)	Review Comments		☐ WQTS Data Entered
☐ Accepted _____ ☐ Disapproved _____			

Massachusetts Department of Environmental Protection - Drinking Water Program **PFAS**

Per- and Polyfluoroalkyl Substances (PFAS) Report

I. PWS INFORMATION: Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: 2187000 **City / Town:** Millis

PWS Name: MILLIS WATER DEPT **PWS Class:** COM ☒ NTNC ☐ TNC ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information		Date Collected	Collected By
MULT 1	FINISHED: GEORGE D'ANGELIS WTF (BLEND)	☐ (M)ultiple ☒ (S)ingle	☒ (R)aw ☐ (F)inished	08/27/20	R.M.

Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below: (1) Reason for Resubmission	(2) Collection Date of Original Sample
☒ RS ☐ SS	☒ Original ☐ Resubmitted ☐ Confirmation	☐ Resample ☐ Reanalysis ☐ Report Correction	

SAMPLE COMMENTS - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank

The samples were received at the laboratory above the required temperature range. The samples were transported to the laboratory in a cooler with ice and delivered directly from the sampling site. This is considered acceptable since the samples were in the process of cooling.

II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab Cert. #: M-MA086 **Primary Lab Name:** Alpha Analytical **Subcontracted? (Y/N)** Y

Analysis Lab Cert. #: M-MA030 **Analysis Lab Name:** Alpha Analytical

If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
537.1	09/03/20	09/17/20	1	Primary Lab:	L2035325-05
				Subcontracted Lab:	L2035325-05

CAS#	REGULATED PFAS CONTAMINANTS	Result[1] ng/L	Result[2] Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	**Perfluorooctane Sulfonic Acid (PFOS)**	6.37			0.448	1.82
335-67-1	**Perfluorooctanoic Acid (PFOA)**	5.20			0.568	1.82
355-46-4	**Perfluorohexane Sulfonic Acid (PFHxS)**	3.20			0.437	1.82
375-95-1	**Perfluorononanoic Acid (PFNA)**	3.68		-	0.433	1.82
375-85-9	**Perfluorohepatanoic Acid (PFHpA)**	2.44			0.236	1.82
335-76-2	**Perfluorodecanoic acid (PFDA)**	ND			0.586	1.82
PFAS6 (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column)	=	**20.89**	--	**20**	-	-
	UNREGULATED PFAS CONTAMINANTS					
375-73-5	**Perfluorobutane sulfonic acid (PFBS)**	2.47			0.258	1.82
307-55-1	**Perfluorododecanoic acid (PFDoA)**	ND			0.589	1.82
307-24-4	**Perfluorohexanoic acid (PFHxA)**	4.80			0.239	1.82
376-06-7	**Perfluorotetradecanoic acid (PFTA)**	ND			0.393	1.82
72629-94-8	**Perfluorotridecanoic acid (PFTrDA)**	ND			0.462	1.82
2058-94-8	**Perfluoroundecanoic acid (PFUnA)**	ND			0.742	1.82
2991-50-6	**N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)**	ND		-	0.866	1.82
2355-31-9	**N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)**	ND			0.851	1.82
763051-92-9	**11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)**	ND			0.191	1.82
756426-58-1	**9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)**	ND			0.250	1.82
919005-14-4	**4,8-dioxa-3H-perfluorononanoic acid (ADONA)**	ND			0.065	1.82
13252-13-6	**Hexafluoropropylene oxide dimer acid (HFPO-DA)**	ND			0.411	3.64

[1] A field reagent blank (FRB) must be analyzed and reported on a separate PFAS form if any PFAS are detected above the MRL.

Per- and Polyfluoroalkyl Substances (PFAS) Report

[2] All qualifiers must be described under Lab Analysis Comments on page 2.

PWS ID#: **2187000**

Lab Sample ID#:

Primary Lab:	L2035325-05
Subcontracted Lab:	L2035325-05

CAS#	UNREGULATED PFAS CONTAMINANTS	Result[1] ng/L	Result[2] Qualifier	MCL * ng/L	MDL ng/L	MRL ng/L
				-		

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
$^{13}C_2$-PFHxA	99	
$^{13}C_2$-PFDA	88	
d_5-NEtFOSAA	104	
$^{13}C_3$-HFPO-DA	84	

Note: $^{13}C_3$-HFPO-DA is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☐ **Laboratory analytical report with QC attached (check one item below).**

☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LFSM/LFSMD or FD) and RPD.

☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

Lab Analysis Comments: (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
Other Analysis Comments:	

* MCL or proposed MCL

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

Primary Lab Director Signature: Joseph Wackett

Date: 9/28/20

If not submitting these results electronically, mail TWO copies of this report to your MassDEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner. Note that during the Massachusetts COVID-19 state of emergency, in addition to submitting by mail reports may be emailed to program.director-dwp@mass.gov.

MassDEP REVIEW STATUS (Initial & Date)	Review Comments		☐ WQTS Data Entered
☐ Accepted _____ ☐ Disapproved _____			

Massachusetts Department of Environmental Protection - Drinking Water Program **PFAS**

Per- and Polyfluoroalkyl Substances (PFAS) Report

I. PWS INFORMATION: Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: 2187000 **City / Town:** Millis

PWS Name: MILLIS WATER DEPT **PWS Class:** COM ☒ NTNC ☐ TNC ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information		Date Collected	Collected By
MULT 1	FINISHED: GEORGE D'ANGELIS WTF (BLEND) (FB)	☐ (M)ultiple ☒ (S)ingle	☒ (R)aw ☐ (F)inished	08/27/20	R.M.

Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:	
		(1) Reason for Resubmission	(2) Collection Date of Original Sample
☒ RS ☐ SS	☒ Original ☐ Resubmitted ☐ Confirmation	☐ Resample ☐ Reanalysis ☐ Report Correction	

SAMPLE COMMENTS - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank

The samples were received at the laboratory above the required temperature range. The samples were transported to the laboratory in a cooler with ice and delivered directly from the sampling site. This is

II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab Cert. #: M-MA086 **Primary Lab Name:** Alpha Analytical **Subcontracted? (Y/N)** Y

Analysis Lab Cert. #: M-MA030 **Analysis Lab Name:** Alpha Analytical

If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
537.1	09/03/20	09/17/20	1	Primary Lab:	L2035325-06
				Subcontracted Lab:	L2035325-06

CAS#	REGULATED PFAS CONTAMINANTS	Result[1] ng/L	Result[2] Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	**Perfluorooctane Sulfonic Acid (PFOS)**	ND		-	0.453	1.84
335-67-1	**Perfluorooctanoic Acid (PFOA)**	ND			0.575	1.84
355-46-4	**Perfluorohexane Sulfonic Acid (PFHxS)**	ND			0.442	1.84
375-95-1	**Perfluorononanoic Acid (PFNA)**	ND			0.438	1.84
375-85-9	**Perfluorohepatanoic Acid (PFHpA)**	ND			0.240	1.84
335-76-2	**Perfluorodecanoic acid (PFDA)**	ND			0.593	1.84
PFAS6 (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column)	=		--	**20**	-	-
	UNREGULATED PFAS CONTAMINANTS					
375-73-5	**Perfluorobutane sulfonic acid (PFBS)**	ND		-	0.262	1.84
307-55-1	**Perfluorododecanoic acid (PFDoA)**	ND			0.597	1.84
307-24-4	**Perfluorohexanoic acid (PFHxA)**	ND			0.242	1.84
376-06-7	**Perfluorotetradecanoic acid (PFTA)**	ND			0.398	1.84
72629-94-8	**Perfluorotridecanoic acid (PFTrDA)**	ND			0.468	1.84
2058-94-8	**Perfluoroundecanoic acid (PFUnA)**	ND			0.752	1.84
2991-50-6	**N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)**	ND			0.877	1.84
2355-31-9	**N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)**	ND			0.862	1.84
763051-92-9	**11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)**	ND			0.193	1.84
756426-58-1	**9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)**	ND			0.254	1.84
919005-14-4	**4,8-dioxa-3H-perfluorononanoic acid (ADONA)**	ND			0.066	1.84
13252-13-6	**Hexafluoropropylene oxide dimer acid (HFPO-DA)**	ND			0.416	3.68

[1] A field reagent blank (FRB) must be analyzed and reported on a separate PFAS form if any PFAS are detected above the MRL.

[2] All qualifiers must be described under Lab Analysis Comments on page 2.

Massachusetts Department of Environmental Protection - Drinking Water Program

PFAS

Per- and Polyfluoroalkyl Substances (PFAS) Report

PWS ID#: **2187000**

Lab Sample ID#:

Primary Lab:	L2035325-06
Subcontracted Lab:	L2035325-06

CAS#	UNREGULATED PFAS CONTAMINANTS	Result[1] ng/L	Result[2] Qualifier	MCL * ng/L	MDL ng/L	MRL ng/L
				-		

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
$^{13}C_2$-PFHxA	96	
$^{13}C_2$-PFDA	81	
d_5-NEtFOSAA	77	
$^{13}C_3$-HFPO-DA	83	

Note: $^{13}C_3$-HFPO-DA is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☐ **Laboratory analytical report with QC attached (check one item below).**

☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LFSM/LFSMD or FD) and RPD.

☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

Lab Analysis Comments: (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
Other Analysis Comments:	

* MCL or proposed MCL

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

Primary Lab Director Signature: Joseph Wackers

Date: 9/28/20

If not submitting these results electronically, mail TWO copies of this report to your MassDEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner. Note that during the Massachusetts COVID-19 state of emergency, in addition to submitting by mail reports may be emailed to program.director-dwp@mass.gov.

MassDEP REVIEW STATUS (Initial & Date)	Review Comments		☐ WQTS Data Entered
☐ Accepted _____ ☐ Disapproved _____			

CHAIN OF CUSTODY

PAGE ____ OF ____

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Date Rec'd in Lab: 8/27/20

ALPHA Job #: L2035325

Client Information

Client: Town of Millis
Address: 900 Main St
Millis, MA 02054
Phone: 508 376 5424
Email: 508 376 2442

Project Information

Project Name: Millis WATER
Project Location: Millis MA
Project #:
Project Manager: J McKay
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☑ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:
1/2 coolers
PFAS

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Sample Comments
35325-01	(RW) 016 D'Angelis	8/27/20	1245 pm	DW	RL	
-02	016 FB		1245 pm	DW	RL	
-03	(RW) 026 D'Angelis		1259 pm	DW	RL	
-04	026 FB		1259 pm	DW	RL	
-05	(F) Multi / D'Angelis		114 pm	DW	RL	
-06	Multi / FB	8/27/20	114 pm	DW	RL	

0.94 ms/l (CL)

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

O = TRizma
A = Non

Container Type	P	P
Preservative	O	A

Relinquished By	Date/Time	Received By	Date/Time
RL	8/27/20 215pm		8/27/20 14:15

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)