

City of Portsmouth

Department of Public Works



Portsmouth Water System PFAS Sampling Update May 28, 2019

Water Supply Sampling of PFAS

The City of Portsmouth's water supply staff continue to monitor all of our public water supply sources for Perfluorinated compounds (PFAS) every six months. Attached are the most recent analysis of the Portsmouth supply sources taken in April 2019. The water samples for this round were analyzed using the detection limits proposed by the New Hampshire Department of Environmental Services (NHDES) as part of the rulemaking process to set Maximum Contaminant Levels (MCLs) for four PFAS compounds. The following information provides that detail:

Env-Dw 712.28 Laboratory Methods, Sampling Protocols, and Method Reporting Limits for PFC Contaminants.

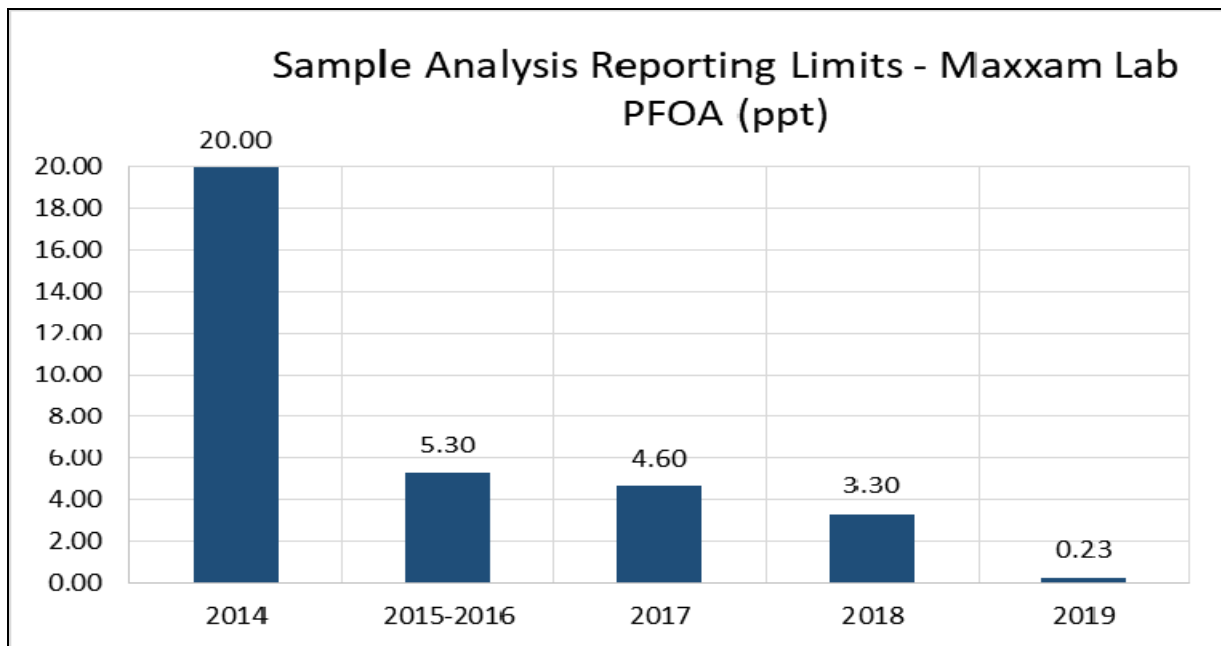
(c) Method reporting limits for PFC contaminants shall not exceed those set forth in Table 712-2, below:

- Perfluorooctanoic acid (PFOA) 2 ng/L (ppt)
- Perfluorooctane sulfonic acid (PFOS) 2 ng/L (ppt)
- Perfluorononanoic acid (PFNA) 2 ng/L (ppt)
- Perfluorohexane sulfonic acid (PFHxS) 2 ng/L (ppt)

The following table summarizes the most recent monitoring results, in Parts-per-Trillion (ppt) for the City of Portsmouth water sources utilizing this laboratory method and reporting limits. The table also includes the MCL levels as originally proposed by the NHDES on December 31, 2018.

PFAS	NH - Proposed MCL and AGQS	Madbury Treatment	Madbury Well 2	Madbury Well 3	Madbury Well 4	Portsmouth Well	Collins Well	Greenland Well
Date	12/31/2018	4/29/2019	4/29/2019	4/29/2019	4/29/2019	4/29/2019	4/29/2019	4/29/2019
PFOA	38 ppt	3	4	3	2	4	2	4
PFOS	70 ppt	<2	<2	<2	<2	4	3	3
PFOA & PFOS (combined)	70 ppt	3	4	3	2	9	5	7
PFHxS	85 ppt	<2	<2	<2	<2	6	2	2
PFNA	23 ppt	<2	<2	<2	<2	<2	<2	<2

These results show detections of compounds that, at times, were previously reported as Non-Detect (ND) in past updates. These detections do not necessarily mean an increase in any compound from when the last time they were sampled but simply that the laboratory methods for PFAS analysis continue to evolve and improve, allowing for lower and lower detection and reporting limits. The following chart shows a comparison of how those limits have gone down for one of the compounds, PFOA, from 20 ppt to 0.23 ppt, almost 100 times less than in 2014. Detection limits for all of the other PFAS compounds sampled also have lower levels.



Many other water systems throughout New Hampshire have experienced detections testing at these lower levels. According to data provided by the NHDES these systems include those on the Seacoast; Seabrook, Aquarion Water in Hampton, North Hampton and Rye, the Rye Water District, Dover and Rochester.

An update posted on the NHDES website on February 21, 2019 noted that “New Information May Change NHDES Proposed PFAS Drinking Water Standards.” The following information was provided:

On December 31, 2018, the New Hampshire Department of Environmental Services (NHDES) initiated rulemaking to establish Maximum Contaminant Levels (MCLs) and Ambient Groundwater Quality Standards (AGQS) for four per- and polyfluoroalkyl substances (PFAS) – perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), perfluorononanoic acid (PFNA) and perfluorohexanesulfonic acid (PFHxS).

After the initial proposal, new scientific information was evaluated by NHDES that may change the proposed drinking water standards. Specifically, a new

assessment tool developed by the Minnesota Department of Health allows for a quantitative estimate of infant and child exposure to PFAS through breastmilk and/or formula. This peer-reviewed model was published at the beginning of January after NHDES filed its Initial Proposal. NHDES's assessment of the exposure model for the interaction of drinking water levels of PFAS and breastfeeding (Goeden et al, 2019) indicates that health-based drinking water or groundwater standards for PFOA and PFOS would potentially be lowered significantly below the initial proposal figures of 38 parts per trillion (ppt) and 70 ppt, respectively. NHDES is continuing to review the suitability of this assessment tool for PFHxS and PFNA based on this and other studies released in 2019. NHDES will need to complete a review of the technical and cost implications of these health-based calculations, and any public comment received, prior to issuance of the Final Proposal.

The NHDES website is providing updates and additional information regarding upcoming public meetings about these standards. This site can be accessed at:

<https://www4.des.state.nh.us/nh-pfas-investigation/>

Given all this information and the laboratory capabilities to detect at these lower levels, the City will now sample these water sources quarterly to assess any trend in the detected compounds and to also prepare for the pending MCLs. We have also put a formal request into the Air Force to have their consultant performing the monthly sampling of the Pease, Portsmouth and Collins wells have them analyzed using the NHDES recommended detection limits.

Additional information can be accessed at:

www.cityofportsmouth.com/publicworks/water/portsmouth-water-system-pfas-update

or by calling Al Pratt, Water Resources Manager, at: 603-520-0622 or Brian Goetz, Deputy Director of Public Works at: 603-766-1420.

**Compilation of PFAS Analytical Results
Portsmouth Public Water Supply Monitoring Program**

Sample Location	Sample ID	Collection Date	Sampled By	6:2 Fluorotelomer sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonate (8:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	N-Ethyl perfluorooctane sulfonamide (EFOSF)	N-Methyl Perfluorooctane Sulfonamide (MEFOSA)	N-Methyl Perfluorooctane Sulfonamide (MEFOSE)	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonate (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDDA)	Perfluorooctane sulfonate (PFOS)	Perfluorooctanoic acid (PFOPA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (PFOSA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDDA)	Perfluorotridecanoic acid (PFTDA)	Perfluoroundecanoic acid (PFUnA)		
USEPA Health Advisory (HA)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.070	0.070	-	-	-	-
Bellamy Reservoir Source Water	BELLYAM RAW	5/16/2014	NHDES	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	
	BELLYAM RESERVOIR - 20160609	6/9/2016	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	BELLYAM RESERVOIR - 20161109	11/9/2016	DPW	ND	ND	ND	ND	ND	ND	0.004 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	BELLYAM RESERVOIR - 20170427	4/27/2017	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	BELLYAM RESERVOIR - 20171031	10/31/2017	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	BELLYAM RESERVOIR_20180426	4/26/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	BELLYAM RESERVOIR_20181024	10/24/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.010 J	ND	ND	ND	
	BELLYAM RESERVOIR_20181128	11/28/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
BELLYAM RESERVOIR - 20190429	4/29/2019	DPW	0.001 J	ND	NA	NA	NA	NA	NA	0.001 J	0.002	ND	0.001 J	ND	ND	0.002 J	0.001 J	0.002 J	0.001 J	ND	0.002 J	0.003	0.002	ND	ND	ND	
Madbury Well 2	MADBURY WELL 2	5/16/2014	NHDES	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA	NA	
	MADBURY WELL 2_20161109	11/9/2016	DPW	ND	ND	ND	ND	ND	ND	0.004 J	ND	ND	ND	ND	ND	0.004 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	MADBURY WELL 2_20171031	10/31/2017	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	MADBURY WELL 2_20180426	4/26/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	MADBURY WELL 2_20181024	10/24/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.009 J	ND	ND	ND	ND
	MADBURY WELL 2_20181128	11/28/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	MADBURY WELL 2_20190429	4/29/2019	DPW	0.001 J	ND	NA	NA	NA	NA	NA	0.003	0.002	ND	ND	ND	ND	0.002 J	0.001 J	0.003	ND	ND	0.002 J	0.004	0.003	ND	ND	ND
	Madbury Well 3	MADBURY WELL 3	5/16/2014	NHDES	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA	NA
MADBURY WELL 3_20160609		6/9/2016	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MADBURY WELL 3_20160916		11/9/2016	DPW	ND	ND	ND	ND	ND	ND	0.004 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MADBURY WELL 3_20170427		4/27/2017	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MADBURY WELL 3_20171031		10/31/2017	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MADBURY WELL 3_20180426		4/26/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MADBURY WELL 3_20181024		10/24/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MADBURY WELL 3_20190429		4/29/2019	DPW	0.001 J	ND	NA	NA	NA	NA	NA	0.002 J	0.002	ND	ND	ND	ND	0.001 J	0.001 J	0.002 J	0.001 J	ND	0.002 J	0.003	0.002 J	ND	ND	ND
Madbury Well 4	MADBURY WELL 4	5/16/2014	NHDES	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA	NA	
	MADBURY WELL 4_20161109	11/9/2016	DPW	ND	ND	ND	ND	ND	ND	0.004 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	MADBURY WELL 4_20170427	4/27/2017	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	MADBURY WELL 4_20171031	10/31/2017	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	MADBURY WELL 4_20180426	4/26/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	MADBURY WELL 4_20181024	10/24/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	MADBURY WELL 4_20190429	4/29/2019	DPW	0.002 J	ND	NA	NA	NA	NA	NA	0.002	0.001 J	ND	ND	ND	ND	0.001 J	0.001 J	0.001 J	ND	ND	0.001 J	0.002	0.001 J	ND	ND	ND
	Treatment Plant Finished Water	MADBURY FINISHED_20161109	11/9/2016	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MADBURY FINISHED_20170427		4/27/2017	DPW	ND	ND	ND	ND	ND	ND	0.018 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MADBURY FINISHED_20171031		10/31/2017	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MADBURY FINISHED_20180426		4/26/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MADBURY FINISHED_20181024		10/24/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MADBURY FINISHED_20181128		11/28/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MADBURY FINISHED_20190429		4/29/2019	DPW	0.002 J	ND	NA	NA	NA	NA	NA	0.001 J	0.001 J	ND	0.001 J	ND	ND	0.002 J	0.001 J	0.002 J	0.001 J	ND	0.001 J	0.003	0.002 J	ND	ND	ND
Madbury Blend (treatment plant and wells)	TREATMENT PLANT	7/21/2014	DPW	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA	NA	
	MADBURY BLEND_20141027	10/27/2014	NHDES	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA	NA
	MADBURY BLEND_20150210	2/10/2015	NHDES	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA	NA
	MADBURY BLEND_20150407	4/7/2015	DPW	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA	NA
	MADBURY BLEND_20160607	6/7/2016	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005 J	ND	ND	ND	ND	ND	ND	ND	0.006 J	0.010 J	ND

**Compilation of PFAS Analytical Results
Portsmouth Public Water Supply Monitoring Program**

Sample Location	Sample ID	Collection Date	Sampled By	6:2 Fluorotelomer sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonate (8:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	N-Ethyl perfluorooctane sulfonamide (EFOSB)	N-Methyl Perfluorooctane Sulfonamide (MEFOOSA)	N-Methyl Perfluorooctane Sulfonamide (MEFOSE)	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonate (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDDA)	Perfluorooctane sulfonate (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (PFOSA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexadecanoic acid (PFHxDA)	Perfluorotridecanoic acid (PFTDA)	Perfluoroundecanoic acid (PFUnA)	
USEPA Health Advisory (HA)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.070	0.070	-	-	-	-
Greenland Well	GREENLAND	5/16/2014	NHDES	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA	NA	
	GREENLAND WELL_20140721	7/21/2014	NHDES	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA	NA	
	GREENLAND WELL_20150210	2/10/2015	NHDES	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA	NA	
	GREENLAND WELL_20160801	8/1/2016	DPW	ND	ND	ND	ND	ND	ND	0.003 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007 J	ND	0.007 J	ND	ND
	GREENLAND WELL_20161117	11/17/2016	DPW	0.007 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006 J	ND	ND	ND	ND	0.014 J	ND	0.005 J	ND	ND
	GREENLAND WELL_20161117_RERUN	11/17/2016	DPW	ND	ND	ND	ND	ND	ND	0.004 J	ND	ND	ND	ND	ND	ND	ND	0.006 J	ND	ND	ND	ND	0.007 J	ND	ND	ND	ND
	GREENLAND WELL_20170427	4/27/2017	DPW	ND	ND	ND	ND	ND	ND	0.006 J	ND	ND	ND	ND	ND	ND	ND	0.006 J	0.003 J	ND	ND	ND	0.004 J	ND	ND	ND	ND
	GREENLAND WELL_20171031	10/31/2017	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005 J	ND	ND	ND	ND
	GREENLAND WELL_20180426	4/26/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	GREENLAND WELL_20181024	10/24/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.009 J	ND	ND	ND	0.009 J	0.009 J	ND	ND	ND
	GREENLAND WELL_20181128	11/28/2018	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
	GREENLAND WELL_20190429	4/29/2019	DPW	0.001 J	ND	NA	NA	NA	NA	0.002	0.003	ND	ND	ND	ND	ND	0.003	0.002	0.006	0.001 J	ND	ND	0.003	0.004	0.006	ND	ND
	GREENLAND WELL_20190429DUP	4/29/2019	DPW	0.001 J	ND	NA	NA	NA	NA	0.002	0.003	ND	ND	ND	ND	ND	0.003	0.002 J	0.005	0.001 J	ND	ND	0.003	0.004	0.006	ND	ND

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Portsmouth Public Water Supply Monitoring Program**

Sample Location	Sample ID	Collection Date	Sampled By	6:2 Fluorolekmer sulfonate (6:2 FTS)	8:2 Fluorolekmer sulfonate (8:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	N-Ethyl perfluorooctane sulfonamide (EFOSB)	N-Methyl Perfluorooctane Sulfonamide (MEFOSA)	N-Methyl Perfluorooctane Sulfonamide (MEFOSE)	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonate (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDDA)	Perfluorooctane sulfonate (PFOS)	Perfluorohexanoic acid (PFHxA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (PFOSA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluoropentanoic acid (PFPeA)	Perfluorodecanecarboxylic acid (PFDA)	Perfluorotridecanoic acid (PFTDA)	Perfluoroundecanoic acid (PFUnA)
DISTRIBUTION	USEPA Health Advisory (HA)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.070	0.070	-	-	-	-
DPW	DPW	5/16/2014	NHDES	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA	NA
New Castle	NEW CASTLE	5/16/2014	NHDES	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA	NA
Library	LIBRARY	6/7/2016	DPW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005 J	ND	ND	ND	ND	ND	ND	ND	0.007 J	0.006 J	0.009 J	ND
Sagamore Ave. Sample Site	SAGAMORE AVE	6/7/2016	DPW	ND	ND	ND	ND	ND	ND	0.005 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008 J	0.005 J	0.009 J	ND

Notes:
 Grey text indicates the parameter was not analyzed (NA) or not detected below the laboratory detection limit (ND).
 Grey highlight indicates the compound was not analyzed
 All concentrations in µg/L - micrograms per liter
 All values in micrograms per liter (µg/L)
 D - duplicate sample
 J - The result is an estimated value.
 B - Compound Detected in Blank.