City of Portsmouth

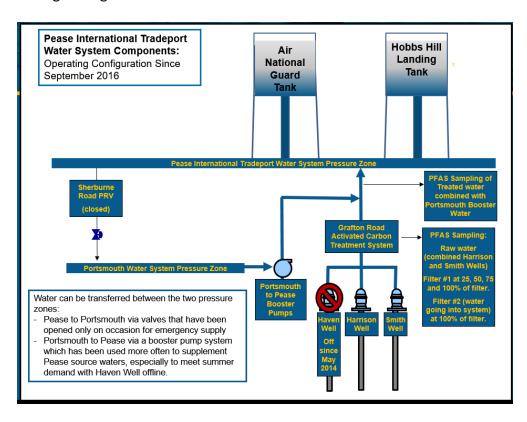
Department of Public Works



July 31, 2019

PEASE TRADEPORT WATER SUPPLY UPDATE

The City's engineering consultant continues to sample the performance of the activated carbon filters based on the amount of water treated. With the newly adopted New Hampshire Maximum Contaminant Levels (MCLs) for PFOA, PFOS, PFHxS and PFNA in place we are now sampling at the recommended lab detection limit which goes down to 2 ppt. Per NHDES, any sample with "estimated numbers below the reporting limit are considered non-detects." Due to the loss of the Haven Well, in order to meet the Pease Tradeport Water System demand, water from the Portsmouth water system is boosted into the Pease system and blended with the treated water from the Harrison and Smith wells. Samples of that blended water are also taken. The following graphic and table provides a summary of the system configuration and testing results. Comprehensive sample data since the filters were changed out in November 2018 is attached. Per NHDES rules, after October 1, 2019, we will begin to report the data as a 4-quarter rolling average.



PFAS Sampling for July 8, 2019

Sample Point	PFHxS	PFNA	PFOS	PFOA
NH MCLs (ppt)	18	11	15	12
Grafton Road	ND	ND	ND	ND
Treatment				
Blended Water	2	ND	ND	2

Notes:

"NH MCLs" are the New Hampshire Maximum Contaminant Levels (effective October 1, 2019) "ND" is considered Non Detect. Per NHDES, "estimated numbers below the reporting limit are considered Non Detects."

ONGOING WATER QUALITY MONITORING AND UPDATES

The Air Force's consultant continues to perform routine sampling of the water supply wells in the Pease water system. In addition to these water supply wells, the Air Force's consultant samples other monitoring wells in the surrounding area to track the aquifer and monitor for any PFAS moving toward the supply wells. Currently, with the demonstration filters on line, the supply wells are sampled monthly and eleven monitoring wells are sampled quarterly. Sampling data is posted on the City's website once it has been validated by the Air Force's engineering consultant. Information is also posted on the City's website for the City of Portsmouth's PFAS sampling program.

All samples collected are analyzed by Maxxam laboratories, the same laboratory that has been performing the Pease well PFAS analysis since 2014. Data for the Pease Well sampling is uploaded to the City's website when it is validated by the Air Force's consultant and sent to the City. A summary of the data for the Pease Well Carbon Treatment Demonstration Project is provided on the City's website.

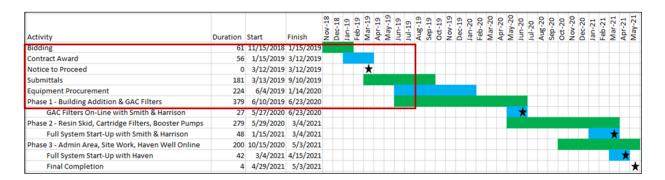
FINAL TREATMENT SYSTEM CONSTRUCTION



Rendering of Proposed Drinking Water Treatment Facility Upgrade – Grafton Road

Construction of the final treatment system, which will include both resin and activated carbon filters, began in April 2019. Demolition of older structures began at that time and continues.

Recent work includes construction of the underground treated water storage tanks and associated site work around the building. The following graphic provides the construction schedule:



REVIEW OF OTHER MUNICIPAL WATER SYSTEMS TREATING PFAS COMPOUNDS

The City's engineering consultant continues to gather information on drinking water systems located across the country that have been effected by Per- and Polyfluoroalkyl Substance (PFAS) contamination of their water supplies. Preliminary findings of their assessment were summarized in the City's April 2018 Pease Tradeport Water Supply Update. Updated information will be posted when that update is completed.

NEW HAMPSHIRE PFAS REGULATIONS

The state of New Hampshire's legislature's administrative rules committee approved drinking water standards for four Perfluorinated compounds (PFAS) compounds on July 18, 2019. These standards set maximum contaminant levels (MCLs) for public drinking water systems at the following levels:

- Perfluorooctanoic acid (PFOA): 12 ppt
- Perfluoroctane sulfonic acid (PFOS): 15 ppt
- Perfluorononanoic acid (PFNA): 11 ppt
- Perfluorohexane sulfonic acid (PFHxS): 18 ppt

ppt = Parts per Trillion

The new standards will take effect in October, when local water systems and others will have to begin sampling for PFAS on a quarterly basis. If the average PFAS level for first year of testing exceeds the new standards in any drinking water source they will have to explore options for treatment.

Air Force Interim Mitigation Treatment System

The following information was provided by the Air Force regarding the water treatment system that has been constructed to treat water in the Pease aguifer:

Pease Tradeport, NH – The Honorable John W. Henderson, Assistant Secretary of the Air Force for Installations, Environment and Energy is hosting a ribbon cutting on July 23 at 1:30 p.m., to

highlight the start-up of the Airfield Interim Mitigation System (AIMS) groundwater treatment plant.

"The start-up of this plant is an important milestone in our efforts to protect the drinking water supply at the Pease Tradeport. It represents not only environmental protection but also hard work, innovative thinking, and cooperation among many stakeholders, including our federal, state and local community partners," said Hon. Henderson. "Pease is an excellent example of what can happen when people work together as a team to accomplish a common goal. In this case, our goal is to ensure protection of drinking water from emerging contaminants."

Local elected officials, Restoration Advisory Board members, and representatives from the U.S. Environmental Protection Agency and New Hampshire Department of Environmental Services are also planning to attend. A tour of the newly operating system will include a demonstration of the technology and a walk through of the plant.

In May 2018, the Air Force Civil Engineer Center began construction of the \$12.6 million system. Its purpose is to protect drinking water from levels of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) that exceed EPA's health advisories. The PFOS and PFOA in the drinking water came from the use of fire-fighting foam at the former Pease Air Force Base.

To date, the Air Force Civil Engineer Center has expended \$57.9 million to ensure protection of drinking water at former Pease AFB and its adjoining communities. The Air Force has coordinated its efforts with the U.S. Environmental Protection Agency and the New Hampshire Department of Environmental Services.

The AIMS system is designed to pump up to 700 gallons per minute and uses granular activated carbon and ion exchange resin technology to filter contaminants. Currently it is pumping and treating groundwater prior to reinjection back to the groundwater. Its job is to intercept contamination spreading from up-gradient sources toward the Haven Well, a city of Portsmouth Drinking Water Supply Well. The Haven Well was shut down in 2014 when levels of PFOS and PFOA were found to exceed EPA's provisional health advisories.

Other major efforts in place to protect drinking water include:

A groundwater treatment plant, known as the Site 8 System, in the former fire training area on Pease, began operation in March 2018 at a cost of \$7.8 million. It protects private residences' drinking water supplies in Newington, north of the former fire training area.

Beginning in 2015, the Air Force has entered into a series of cooperative agreements with the city of Portsmouth. The latest, signed in September 2018, provides \$14.7 million to add treatment for removal of PFOS/PFOA at the city's Grafton Road drinking water plant.



AIMS TREATMENT SYSTEM FACILITY





AIMS TREATMENT SYSTEM FILTERS

Additional information can be accessed at:

www.cityofportsmouth.com/publicworks/water/pease-tradeport-water-system

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

Table 2 **Summary of PFAS Analytical Results Demonstration Project** December 2018 to July 2019 (PFNA) N-Methyl Perfluorooctane ulfonamidoethanol (MEFOS uorooctane (EtFOSA) N-Methyl Perfluorooctane Sulfonamide (MEFOSA) Filter 2 Bed Volumes octane sulfo (PFOSA) tetradecan (PFTeDA) otelomer s (6:2 FTS) rotelomer s (8:2 FTS) oundecan (PFUnA) N-Ethyl perfluc sulfonamide (N-Ethyl perfli 0.07 USEPA Health Advisory (HA) 0.07 0.07 0.0066 0.0043 0.0046 Method Detection Limit (MDL) 0.0065 0.0055 0.0053 0.0049 0.0040 0.0061 0.0019 0.0066 0.0057 0.0036 0.0047 0.0040 0.0046 0.0053 0.0058 0.0033 0.0036 0.0052 0.0032 0.0037 Reported Detection Limit (RDL) 0.020 GAC changed out in both vessels (11/7/2018) 06-Dec-18 2.2 0.0092 0.0140 0.0960 0.0360 0.0290 0.0470 0.0330 0.0760 Combined Raw 423 0.4 77 ilter 1- 25% 06-Dec-1 2.2 423 0.4 77 10-Jan-19 6.9 1,320 5.1 0.0280 0.0100 0.0084 0.0160 0.0100 0.0244 Combined Raw 973 ND ND ilter 1- 25% 10-Jan-19 6.9 1,320 5.1 973 Filter 2-100% 10-Jan-1 6.9 1,320 5.1 973 Combined Raw 07-Feb-19 18.0 3,430 16.2 3,083 0.0100 0.0130 0.0600 0.0220 0.0180 ND 0.0270 0.0210 0.0450 07-Feb-19 3,430 18.0 16.2 3,083 Filter 1- 25% NΓ 07-Feb-1 18.0 Filter 2-100% 3 430 16.2 3 083 07-Mar-1 29.0 5,590 27.2 0.0084 0.0130 0.0160 0.0920 0.0320 0.0280 0.0420 0.0310 0.0700 Combined Raw 5,243 Filter 1- 25% 07-Mar-19 29.0 5,590 27.2 5,243 ND ND ND ND 0.0089 ND 07-Mar-1 27.2 NΓ Filter 2-100% 29.0 5,590 5,243 05-Apr-19 40.9 7,816 7,469 0.0091 0.0660 0.0210 0.0180 0.0250 0.0210 0.0430 Combined Ray 39.1 05-Apr-19 40.9 7,816 39.1 7,469 ND ND ND ND ND ND ND 0.0059 ND Filter 1- 25% 05-Apr-19 40.9 7,469 ND ND Filter 1- 50% 7,816 39.1 ND 40.9 7,816 39.1 7,469 Filter 2-100% 05-Apr-1 09-May-19 10,434 0.0073 0.0095 0.0730 0.0240 0.0480 Combined Raw 54.7 52.9 10,087 ND ND ND ND ND 0.0200 ND ND 0.0280 0.0210 Filter 1- 25% 09-May-19 54.7 10,434 52.9 10,087 ND ND ND ND ND 0.0097 ND 0.0094 ND ND 0.0170 09-May-19 Filter 1- 50% 54.7 10,434 52.9 10,087 ND ND 0.0083 ND ND ND 0.0048 ND ND Filter 2-100% 09-May-19 54.7 10,434 52.9 10,087 66.4 Combined Raw 07-Jun-19 12,667 64 6 12,320 0.0007 0.0043 0.0084 0.0022 0.0100 0.0820 0.0240 0.0210 0.0009 0.0330 0.0220 0.0540 12,667 0.0017 0.0094 0.0061 ilter 1- 25% 07-Jun-19 66.4 64.6 12,320 0.0006 0.0040 0.0110 0.0140 0.0040 0.0021 0.0200 ilter 1- 50% 07-Jun-19 66.4 12,667 64.6 12,320 0.0005 0.0094 8000.0 0.0009 0.0047 0.0003 0.0140 12,667 0.0005 0.0097 0.0023 ilter 1- 75% 07-Jun-19 66.4 64.6 12,320 ND ND 0.0022 Filter 2-100% 07-Jun-19 66.4 12,667 64.6 12,320 0.0005 14,707 0.0079 0.0230 0.0010 Combined Raw 08-Jul-19 78.9 15,054 0.0006 0.0220 0.0074 Filter 1- 25% 08-Jul-1 78.9 15,054 77.1 14.707 0.0024 0.0052 0.0240 0.0160 0.0087 0.0070 0.0190 0.0157 08-Jul-19 15,054 77.1 14,707 0.0011 0.0082 0.0022 0.0043 0.0110 0.0024 0.0006 0.0170 0.0030 Filter 1- 50% 78.9 14,707 0.0093 Filter 1- 75% 08-Jul-19 78.9 15.054 77.1 0.0015 0.0110 Filter 1- 100% 08-Jul-19 78.9 15,054 77.1 14,707 0.0087 0.0014 0.0084 Filter 2- 100% 08-Jul-19 78.9 15,054 77.1 14,707 0.0057

Grey text indicates the parameter was not analyzed or not detected.

08-Jul-19

78.9

15,054

77.1

All concentrations in µg/L - micrograms per liter (ppb)

J - The result is an estimated value.

B - Detected in Blank.

100' S.L

USEPA - Environmental Protection Agency

0.0010

0.0042

NA - Not Analysed or Not Applicable

ND - Not detected

14,707

- - No Health Advisory available

- Denotes 'B' value, detected in blank

0.0020

0.0022

0.0018

0.0005

0.0018

0.0019

0.0040

- Denotes raw water influent sample

- Denotes short chain compound

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Sample Location	Collection Date	Filter 1 Volume (MG)	Filter 1 Bed Volumes	Filter 2 Volume (MG)	Filter 2 Bed Volumes	6:2 Fluorotelomer sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonate (8:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl Perfluorooctane Sulfonamide (MEFOSA)	N-Methyl Perfluorooctane ulfonamidoethanol (MEFOSE)	Perfluorobutanesulfonic acid (PFBS)	erfluorobutanoic acid (PFB/	Perfluorodecane sulfonate (PFDS)	erfluorodecanoic acid (PFDA	Perfluorododecanoic acid (PFDoA)	Perfluoroheptane sulfonate (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanes ulfonic acid (PFHxS)	Perfluorohexanoic acid (PFHxA)	erfluorooctanoic acid (PFOA)	erfluorononanoic acid (PFNA	Perfluorooctane sulfonamide (PFOSA)	Perfluorooctanesulfonic acid (PFOS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnA)	PFOS+PFOA
			LISED	A Health Ad	lvisory (HA):			_	<i>σ</i>	_	S	_	_	_		_	_	_	-	-	0.07	<u> </u>	-	0.07	-			_	0.07
				d Detection		0.0065	0.0055	0.0053	0.0049	0.0040	0.0061	0.0019	0.0066	0.0043	0.0066	0.0057	0.0036	0.0047	0.0040	0.0046	0.0053	0.0046	0.0058	0.0033	0.0036	0.0052	0.0032	0.0037	0.07
				ed Detection		0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	
Harrison Well	13-Sep-16					ND	ND	NA	NA	NA	NA	0.0029 B	ND	NA	NA	NA	ND	ND	0.0260 B		0.006 J	ND	ND	0.022 E	3 0.008 B	NA	NA	NA	0.028
Smith Well	19-Sep-16					ND	ND	NA	NA	NA	NA	0.0023 J	0.0067 J	NA	NA	NA	ND	ND	0.0150 J	0.0053 J	0.006 J	ND	ND	0.013	J 0.007 J	NA	NA	NA	0.019 J
Harrison Well	26-Sep-16	1	249	1	248	ND	ND	NA	NA	NA	NA	0.0072 U	ND	NA	NA	NA	0.0042 J	ND.	0.0340	0.0100 J	ND	ND	ND	0.024	0.014 J	NA	NA	NA	0.024
Smith Well	26-Sep-16	1	249	1	248	ND	ND	NA	NA	NA	NA	0.0029 J	ND	NA	NA	NA	0.0036 J	ND	0.0140 J	0.0050 J	ND	ND	ND	0.010	J 0.008 J	NA	NA	NA	0.010 J
Harrison Well	19-Oct-16	6	1,238	6	1,149	ND	ND	NA	NA	NA	NA	0.0038 J	0.0069 J	NA	NA	NA	ND	0.0057	0.0320	0.0059 J	ND	ND	ND	0.022	0.009 J	NA	NA	NA	0.022
Smith Well	19-Oct-16	6	1,238	6	1,149	ND	ND	NA NA	NA NA	NA	NA NA	0.0035 J	0.0009 3	NA NA	NA	NA	ND	ND	0.0130 J	ND	ND	ND	ND	0.010	J 0.005 J	NA	NA	NA	0.022 0.010 J
Harrison Well	17-Nov-16	18	3,358	17	3,269	ND	ND	NA	NA	NA	NA	0.0026 J	0.0072 J	NA	NA	NA	ND	0.0059	J 0.0350	0.0085 J	0.006 J	ND	ND	0.026	0.013 J	NA	NA	NA	0.010 3
Smith Well	17-Nov-16	18	3,358	17	3,269	ND	ND	NA NA	NA NA	NA	NA	0.0020 J	ND	NA	NA	NA	ND	ND	0.0140 J	ND	ND	ND	ND	0.020	J 0.008 J	NA	NA NA	NA	0.032 0.011 J
Harrison Well	14-Dec-16	24	4,491	23	4,402	ND	ND	NA	NA	NA	NA	0.0062 J	0.0068 J	NA	NA	NA	ND	ND	0.0350	0.0120 J	0.0078 J	ND	ND	0.026	0.012 J	NA	NA	NA	0.034
Smith Well	14-Dec-16	24	4,491	23	4,402	ND	ND	NA	NA	NA	NA	ND	ND	NA	NA	NA	ND	ND	0.0150 J	0.0065 J	ND	ND	ND	0.012	J 0.0059 J	NA	NA	NA	0.012 J
Smith Well (Dup)	14-Dec-16	24	4,491	23	4,402	ND	ND	NA	NA	NA	NA NA	0.0055 J	ND	NA	NA	NA	ND	ND	0.0150 J	0.0057 J	ND	ND	ND	0.012	J 0.006 J	NA	NA	NA	0.012 J
Harrison Well	11-Jan-17	31	5,845	30	5,809	ND	ND	NA	NA	NA	NA	0.0090 J	0.008 J	NA	NA	NA	ND	0.006	J 0.0380	0.0180 J	0.009 J	ND	ND	0.012	0.0160 J	NA	NA	NA	0.012 3
Smith Well	11-Jan-17	31	5,845	30	5,809	ND	ND	NA NA	NA NA	NA	NA NA	0.0080 J	ND	NA NA	NA	NA	ND	ND	0.0170	0.0100 J	ND	ND	ND	0.012	J 0.0080 J	NA	NA NA	NA	0.033 0.012 J
Harrison Well	17-Feb-17	39	7,388	38	7,299	ND	ND	NA NA	NA NA	NA	NA	0.0020 J	ND ND	NA NA	NA	NA	ND	ND	0.0360	0.0100 J	0.009 J	ND	ND	0.012	0.0130 J	NA	NA	NA	0.012 3
Smith Well	17-Feb-17	39	7,388	38	7,299	ND	ND	NA	NA	NA	NA	0.0020 J	ND	NA	NA	NA	ND	ND	0.0300 0.0100 J	ND	0.009 3 ND	ND	ND	0.027	J 0.0070 J	NA	NA NA	NA	0.030 0.013 J
	23-Mar-17	50	9,568	50	9,479	ND	ND	NA	NA NA	NA	NA	ND	ND	NA	NA	NA	ND	ND	0.0100 3	0.0052 J	ND	ND	ND	0.0210	0.0076 J	NA	NA	NA	0.013 3
Harrison Well	23-Mar-17	50		50	9,479	ND	ND	NA NA	NA	NA	NA NA	ND	ND	NA NA	NA	NA	ND	ND	-	0.0052 J	ND	ND	ND	0.0210	J ND	NA NA	NA NA	NA NA	0.021 0.007 J
Smith Well Filter 2 Effluent	23-Mai-17 22-Sep-16	0	9,568 70	0	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0093 J	ND	ND	ND	ND	0.0072 ND	ND ND	NA	ND	ND ND	#VALUE!
Filter 1 - 25%	06-Oct-16	3	646	3	557	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#VALUE!
Filter 2 Effluent	06-Oct-16	3	646	3	557	ND	ND	ND	ND	0.0065 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 25%	14-Oct-16	5	996	5	907	ND	ND	ND	ND	ND	ND	0.0022 B		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	14-Oct-16	5	996	5	907	ND	ND	ND	ND	ND	ND	0.0021 B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	14-Oct-16	5	996	5	907	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0053	J ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 25%	20-Oct-16	7	1,325	6	1,236	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	20-Oct-16	7	1,325	6	1,236	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	20-Oct-16	7	1,325	6	1,236	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 25%	28-Oct-16	10	2,002	10	1,913	ND	ND	ND	ND	ND	DID	ND	ND	ND	ND	0.0082 J	ND	ND	ND	0.0062 J	ND	0.0052 J	ND	ND	ND	ND	0.0082 J	0.0084 J	ND
Filter 1 Effluent	28-Oct-16	10	2,002	10	1,913	ND	ND	ND ND	ND	ND	ND ND	ND	ND	ND	ND	ND ND	ND ND	ND	ND 0.0040	ND	ND	0.0049 J	ND	ND	ND	ND	0.0078 J	0.0081 J	ND
Filter 2 Effluent Filter 1 - 25%	28-Oct-16 10-Nov-16	10 16	2,002 3,066	10 16	1,913 2,977	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	0.0040 J	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Filter 1 Effluent	10-Nov-16	16	3,066	16	2,977	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 25%	28-Nov-16	20	3,795	19	3,706	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	28-Nov-16	20	3,795	19	3,706	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 25%	27-Dec-16	27	5,143	26	5,054	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	27-Dec-16	27	5,143	26	5,054	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 25%	16-Jan-17	32	6,056	31	5,967	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	16-Jan-17	32	6,056	31	5,967	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 25%	10-Feb-17	37	7,117	37	7,028	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	10-Feb-17	37	7,117	37	7,028	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 25%	07-Mar-17	43	8,206	43	8,117	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 1 Summary of PFAS Analytical Results Demonstration Project

September 2016 to November 2018 Comparing the content of the co																													
Sample Location	Collection Date	Filter 1 Volume (MG)	Filter 1 Bed Volumes	Filter 2 Volume (MG)	Filter 2 Bed Volumes	6:2 Fluorotelomer sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonate (8:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl Perfluorooctane Sulfonamide (MEFOSA)	N-Methyl Perfluorooctane Sulfonamidoethanol (MEFOSE)	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonate (PFDS)	Perfluorodecanoic acid (PFDA)		Perfluoroheptane sulfonate (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorohexanoic acid (PFHxA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (PFOSA)	Perfluorooctanesulfonic acid (PFOS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnA)	PFOS+PFOA
	1	T		A Health A	dvisory (HA):	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	-	-	-	0.07
Filter 1 Effluent	07-Mar-17	43	8,206	43	8,117	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 25%	20-Mar-17	48	9,235	48	9,146	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	20-Mar-17	48	9,235	48	9,146	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 25%	27-Mar-17	52	9,886	51	9,797	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 50%	27-Mar-17	52	9,886	51	9,797	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0056 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	27-Mar-17	52	9,886	51	9,797	ND	ND	0.0097 J	ND	ND	0.0052 J	ND	ND	ND	ND	ND	ND	ND	0.0068 J	ND	ND	ND	ND	0.0036	ND	ND	0.0033 J	ND	0.0036 J
Filter 1 Effluent Rerun	27-Mar-17	52	9,886	51	9,797	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
			Metho	d Detection	n Limit (MDL)	0.0032	0.0036	0.0058	0.0063	0.0041	0.0043	0.0048	0.0066	0.0046	0.0040	0.0028	0.0048	0.0033	0.0034	0.0029	0.0046	0.0046	0.0036	0.0026	0.0027	0.0038	0.0033	0.0043	
			Reporte	ed Detectio	n Limit (RDL)	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	
Filter 1 - 25%	21-Apr-17	64	12,273	64	12,184	ND	ND	ND	ND	ND	ND	ND	0.0068 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0100 J	ND	ND	ND	ND
Filter 1 Effluent	21-Apr-17	64	12,273	64	12,184	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0052	ND	ND	ND	ND	0.0052 J
Filter 1 Effluent	21-Apr-17	64	12,273	64	12,184	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	24-Apr-17	66	12,521	65	12,432	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0240	0.0064 J	0.0049 J	ND	ND	0.0150	J 0.0053 J	ND	ND	ND	0.0199 J
Filter 1 - 25%	01-May-17	69	13,169	69	13,079	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	01-May-17	69	13,169	69	13,079	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	01-May-17	69	13,169	69	13,079	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	12-May-17	75	14,263	74	14,174	ND	ND	ND	ND	ND	ND	ND	0.0071 J	ND	ND	ND	ND	0.0040 J	0.0270	0.0087 J	0.0081 J	ND	ND	0.0190	J 0.0084 J	ND	ND	ND	0.0271
Filter 1 - 25%	12-May-17	75	14,263	74	14,174	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0067 J	ND	ND	ND	ND
Filter 1 Effluent	12-May-17	75	14,263	74	14,174	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	12-May-17	75	14,263	74	14,174	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	22-May-17	80	15,254	79	15,165	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0055 J	0.0280	0.0072 J	0.0088 J	ND	ND	0.0230	0.0089 J	ND	ND	ND	0.0318
Filter 1 - 25%	22-May-17	80	15,254	79	15,165	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0048	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	22-May-17	80	15,254	79	15,165	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	22-May-17	80	15,254	79	15,165	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	02-Jun-17	85	16,282	85	16,193	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0280	0.0090 J	0.0081 J	ND	ND	0.0200	J 0.0077 J	ND	ND	ND	0.0281
Filter 1 - 25%	02-Jun-17	85	16,282	85	16,193	ND	ND	0.0089 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	02-Jun-17	85	16,282	85	16,193	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	02-Jun-17	85	16,282	85	16,193	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	14-Jun-17	92	17,512	91	17,423	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0230	0.0063 J	0.0055 J	ND	ND	0.0190	J 0.0068 J	ND	ND	ND	0.0245
Filter 1 - 25%	14-Jun-17	92	17,512	91	17,423	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0052 J	ND	ND	ND	ND
Filter 1 Effluent	14-Jun-17	92	17,512	91	17,423	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	14-Jun-17	92	17,512	91	17,423	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	28-Jun-17	99	18,951	99	18,972	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0280	0.0080 J	ND	ND	ND	0.0170	J 0.0086 J	ND	ND	ND	0.0170 J
Filter 1 - 25%	28-Jun-17	99	18,951	99	18,972	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0035 J	ND	ND	ND	ND	0.0065 J	ND	ND	ND	ND
Filter 1 Effluent	28-Jun-17	99	18,951	99	18,972	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0058	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	28-Jun-17	99	18,951	99	18,972	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	07-Jul-17	104	19,916	104	19,827	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0240	0.0110 J	0.0064 J	ND	ND	0.0210	0.0085 J	ND	ND	ND	0.0274
Filter 1 - 25%	07-Jul-17	104	19,916	104	19,827	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0075 J	ND	ND	ND	ND
Filter 1 - 50%	07-Jul-17	104	19,916	104	19,827	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	07-Jul-17	104	19,916	104	19,827	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	07-Jul-17	104	19,916	104	19,827	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	19-Jul-17	112	21,313	111	21,224		-	-	-	-	-	-	-	-	Sa	ample dama	ged during	shipping; an	alysis not po	ossible.	<u>. </u>		ā.	-	<u>-</u>	-		-	-
Filter 1 - 25%	19-Jul-17	112	21,313	111	21,224	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0052 J	ND	ND	ND	ND
Filter 1 Effluent	19-Jul-17	112	21,313	111	21,224	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
									_																				

												Se	otember 2	2016 to N	ovember	2018													
Sample Location	Collection Date	Filter 1 Volume (MG)	Filter 1 Bed Volumes	Filter 2 Volume (MG)	Filter 2 Bed Volumes	6:2 Fluorotelomer sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonate (8:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl Perfluorooctane Sulfonamide (MEFOSA)	N-Methyl Perfluorooctane Sulfonamidoethanol (MEFOSE)	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonate (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoA)	Perfluoroheptane sulfonate (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorohexanoic acid (PFHxA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (PFOSA)	Perfluorooctanesulfonic acid (PFOS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnA)	PFOS+PFOA
			USEP	A Health A	dvisory (HA):	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	-	-	-	0.07
Filter 2 Effluent	19-Jul-17	112	21,313	111	21,224	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	26-Jul-17	116	22,162	116	22,073	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0034	0.0250	0.0076	J ND	ND	ND	0.0130	J 0.0073 J	ND	ND	ND	0.0130 J
Filter 1 - 25%	26-Jul-17	116	22,162	116	22,073	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0038	J ND	ND	ND	ND	0.0062 J	ND	ND	ND	ND
Filter 1 Effluent	26-Jul-17	116	22,162	116	22,073	ND	ND	ND	ND	ND	ND	ND	0.0047 J	ND	ND	ND	ND	0.0049	J ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	26-Jul-17	116	22,162	116	22,073	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0036 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	02-Aug-17	121	23,021	121	23,056	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0300	0.0099	J 0.0077 J	ND	ND	0.0190	J 0.0120 J	ND	ND	ND	0.0267
Filter 1 - 25%	02-Aug-17	121	23,021	121	23,056	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0069	J ND	ND	ND	ND	0.0092 J	ND	ND	ND	ND
Filter 1 Effluent	02-Aug-17	121	23,021	121	23,056	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	02-Aug-17	121	23,021	121	23,056	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	18-Aug-17	131	24,999	131	24,910	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0310	0.0120	J 0.0140 J	ND	ND	0.0240	0.0130 J	ND	ND	ND	0.0380
Filter 1 - 25%	18-Aug-17	131	24,999	131	24,910	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0100	0.0110	J ND	ND	ND	ND	0.0140 J	ND	ND	ND	ND
Filter 1 - 50%	18-Aug-17	131	24,999	131	24,910	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0068 J	ND	ND	ND	ND
Filter 1 Effluent	18-Aug-17	131	24,999	131	24,910	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	18-Aug-17	131	24,999	131	24,910	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0170	J ND	ND	ND	ND	ND
Combined Raw	25-Aug-17	135	25,806	135	25,717	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0066	J 0.0310	0.0130	J ND	ND	ND	0.0190	J ND	ND	ND	ND	0.0190 J
Filter 1 - 25%	25-Aug-17	135	25,806	135	25,717	ND	ND	ND	ND	ND	ND	ND	0.0160 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 50%	25-Aug-17	135	25,806	135	25,717	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0053 J	ND	ND	ND	ND
Filter 1 Effluent	25-Aug-17	135	25,806	135	25,717	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	25-Aug-17	135	25,806	135	25,717	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	01-Sep-17	140	26,644	139	26,555	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0410	0.0088	J 0.0087 J	ND	ND	0.0210	0.0130 J	ND	ND	ND	0.0297
Filter 1 - 25%	01-Sep-17	140	26,644	139	26,555	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0065	J ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND
Filter 1 - 50%	01-Sep-17	140	26,644	139	26,555	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	01-Sep-17	140	26,644	139	26,555	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	01-Sep-17	140	26,644	139	26,555	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	12-Sep-17	146	27,795	145	27,717	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0042	J 0.0340	0.0098	J 0.0069 J	ND	ND	0.0220	0.0140 J	ND	ND	ND	0.0289
Filter 1 - 25%	12-Sep-17	146	27,795	145	27,717	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0062	J 0.0064 v	J ND	ND	ND	ND	0.0130 J	ND	ND	ND	ND
Filter 1 - 50%	12-Sep-17	146	27,795	145	27,717	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND
Filter 1 - 75%	12-Sep-17	146	27,795	145	27,717	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	12-Sep-17	146	27,795	145	27,717	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	12-Sep-17	146	27,795	145	27,717	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	21-Sep-17	151	28,783	150	28,694	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0240	0.0075	J 0.0065 J	ND	ND	0.0130	J 0.0078 J	ND	ND	ND	0.0195 J
Filter 1 - 25%	21-Sep-17	151	28,783	150	28,694	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0088	0.0075	J ND	ND	ND	ND	0.0099 J	ND	ND	ND	ND
Filter 1 - 50%	21-Sep-17	151	28,783	150	28,694	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0089 J	ND	ND	ND	ND
Filter 1 Effluent	21-Sep-17	151	28,783	150	28,694	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0071 J	ND	ND	ND	ND
Filter 2 Effluent	21-Sep-17	151	28,783	150	28,694	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	02-Oct-17	157	29,951	156	29,861	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0110	0.0340	0.0110	J 0.0130 J	ND	ND	0.0210	0.0150 J	ND	ND	ND	0.0340
Filter 1 - 25%	02-Oct-17	157	29,951	156	29,861	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0120	0.0100	ND	ND	ND	ND	0.0150 J	ND	ND	ND	ND
Filter 1 - 50%	02-Oct-17	157	29,951	156	29,861	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0140 J	ND	ND	ND	ND
Filter 1 Effluent	02-Oct-17	157	29,951	156	29,861	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	02-Oct-17	157	29,951	156	29,861	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	13-Oct-17	163	31,126	163	31,037	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0490	0.0150	J 0.0088 J	ND	ND	0.0250	0.0100 J	ND	ND	ND	0.0338
Filter 1 - 25%	13-Oct-17	163	31,126	163	31,037	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0048	0.0038	J ND	ND	ND	ND	0.0087 J	ND	ND	ND	ND
Filter 1 - 50%	13-Oct-17	163	31,126	163	31,037	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0098	J ND	ND	ND	ND	0.0074 J	ND	ND	ND	ND
Filter 1 - 75%	13-Oct-17	163	31,126	163	31,037	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0042 J	ND	ND	ND	ND

Table 1 Summary of PFAS Analytical Results Demonstration Project

													ptember	2016 to N	-	2018													
Sample Location	Collection Date	Filter 1 Volume (MG)	Filter 1 Bed Volumes	Filter 2 Volume (MG)	Filter 2 Bed Volumes	6:2 Fluorotelomer sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonate (8:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl Perfluorooctane Sulfonamide (MEFOSA)	N-Methyl Perfluorooctane Sulfonamidoethanol (MEFOSE)	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonate (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoA)	Perfluoroheptane sulfonate (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorohexanoic acid (PFHxA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (PFOSA)	Perfluorooctanesulfonic acid (PFOS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnA)	PFOS+PFOA
	Ī		USEP	A Health A	dvisory (HA):	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	-	-	-	0.07
Filter 1 Effluent	13-Oct-17	163	31,126	163	31,037	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0058 J	ND	ND	ND	ND
Filter 2 Effluent	13-Oct-17	163	31,126	163	31,037	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	30-Oct-17	171	32,619	170	32,530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0089 J	0.0470	0.0140 J	0.0110 J	ND	ND	0.0280	0.0150 J	ND	ND	ND	0.0390
Filter 1 - 25%	30-Oct-17	171	32,619	170	32,530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0076 J	ND	ND	ND	ND	0.0087 J	ND	ND	ND	ND
Filter 1 - 50%	30-Oct-17	171	32,619	170	32,530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0095 J	ND	ND	ND	ND
Filter 1 - 75%	30-Oct-17	171	32,619	170	32,530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent Filter 2 Effluent	30-Oct-17 30-Oct-17	171	32,619 32,619	170 170	32,530 32,530	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
i illei Z Lilldelli	JU-UG-17	1/1			1 Limit (MDL)	0.0066	0.0066	0.0100	0.0079	0.0130	0.0120	0.0054	0.0055	0.0060	0.0061	0.0050	0.0080	0.0074	0.0056	0.0035	0.0033	0.0087	0.0034	0.0060	0.0075	0.0027	0.0038	0.0025	IND
					n Limit (RDL)		0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.0074	0.020	0.020	0.020	0.020	0.0004	0.000	0.020	0.0027	0.020	0.020	
Combined Bow	14-Nov-17	177	33,846	r	33,867	0.020 ND	0.020 ND	0.020 ND	0.020 ND	0.020 ND	0.020 ND	0.020 ND	0.020 ND	0.020 ND	0.020 ND	0.020 ND	0.020 ND	0.020 ND	0.020	0.020 0.0093 J	0.020 0.0110 J		0.020 ND	0.020	1	0.020 ND		0.020 ND	0.0300
Combined Raw Filter 1 - 25%	14-Nov-17	177	33,846	177 177	33,867	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0330 ND	0.0093 J	0.0110 J	ND ND	ND	0.0190 ND	ND ND	ND	ND ND	ND	0.0300 ND
Filter 1 - 50%	14-Nov-17	177	33,846	177	33,867	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 75%	14-Nov-17	177	33,846	177	33,867	ND	ND	ND	ND	ND	ND	ND	0.0057 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	14-Nov-17	177	33,846	177	33,867	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 50%	14-Nov-17	177	33,846	177	33,867	ND	ND	ND	ND	ND	ND	ND	0.0056 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	14-Nov-17	177	33,846	177	33,867	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	27-Nov-17	183	34,959	183	34,870	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0330	0.0043 J	0.0055 J	ND	ND	0.0120	ND	ND	ND	ND	0.0175 J
Filter 1 - 25%	27-Nov-17	183	34,959	183	34,870	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0056 J	0.0037 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 50%	27-Nov-17	183	34,959	183	34,870	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 75%	27-Nov-17	183	34,959	183	34,870	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 Effluent	27-Nov-17	183	34,959	183	34,870	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 50%	27-Nov-17	183	34,959	183	34,870	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	27-Nov-17	183	34,959	183	34,870	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	08-Dec-17	188	35,903	188	35,814	ND	ND	ND	ND	ND	ND	ND	0.0086 J	ND	ND	ND	ND	ND	0.0330	0.0140 J	0.0083 J	ND	ND	0.0160	0.0120 J	ND	ND	ND	0.0243
Filter 1 - 25%	08-Dec-17	188	35,903	188	35,814	ND	ND	ND	ND	ND	ND	ND	0.0090 J	ND	ND	ND	ND	ND	0.0100 J	0.0130 J	0.0047 J	ND	ND	ND	0.0140 J	ND	ND	ND	0.0047 J
Filter 1 - 50%	08-Dec-17	188	35,903	188	35,814	ND	ND	ND	ND	ND	ND	ND	0.0091 J	ND	ND	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND	0.0130 J	ND	ND	ND	ND
Filter 1 - 75%	08-Dec-17	188	35,903	188	35,814	ND	ND	ND	ND	ND	ND	ND	0.0099 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0100 J	ND	ND	ND	ND
Filter 1 Effluent	08-Dec-17	188	35,903	188	35,814	ND	ND	ND	ND	ND	ND	ND	0.0100 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0100 J	ND	ND	ND	ND
Filter 2 - 25% Filter 2 - 50%	08-Dec-17 08-Dec-17	188	35,903 35,903	188 188	35,814 35,814	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	0.0099 J 0.0100 J	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Filter 2 - 75%	08-Dec-17	188	35,903	188	35,814	ND	ND	ND	ND	ND	ND	ND	0.0100 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 Effluent	08-Dec-17	1	35,903	188	35,814	ND	ND	ND	ND	ND	ND	ND	0.0095 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	26-Dec-17	193	37,215	194	37,117	ND	ND	ND	ND	ND	ND	0.0057	0.0056 J	ND	ND	ND	ND	ND	0.0160 J		0.0059 J	ND	ND	0.0110	ND ND	ND	ND	ND	0.0169 J
Filter 1 - 25%	26-Dec-17	193	37,215	194	37,117	ND	ND	ND	ND	ND	ND	0.0059	0.0056 J	ND	ND	ND	ND	ND	0.0100 J	0.0110 J	0.0042 J	ND	ND	ND	0.0100 J	ND	ND	ND	0.0042 J
Filter 1 - 50%	26-Dec-17	193	37,215	194	37,117	ND	ND	ND	ND	ND	ND	ND	0.0058 J	ND	ND	ND	ND	ND	ND	0.0088 J	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND
Filter 1 - 75%	26-Dec-17	193	37,215	194	37,117	ND	ND	ND	ND	ND	ND	ND	0.0075 J	ND	ND	ND	ND	ND	ND	0.0054 J	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND
Filter 2 - 50%	26-Dec-17	193	37,215	194	37,117	ND	ND	ND	ND	ND	ND	ND	0.0097 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 75%	26-Dec-17	193	37,215	194	37,117	ND	ND	ND	ND	ND	ND	ND	0.0093 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	10-Jan-18	199	38,386	200	38,087	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0098 J	ND	ND	ND	ND	0.0076	ND	ND	ND	ND	0.0076 J
Filter 1 - 25%	10-Jan-18	199	38,386	200	38,087	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 50%	10-Jan-18	199	38,386	200	38,087	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 75%	10-Jan-18	199	38,386	200	38,087	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 1 - 100%	10-Jan-18	199	38,386	200	38,087	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

												Sej		2016 to N	lovember	2018													
Sample Location	Collection Date	Filter 1 Volume (MG)	Filter 1 Bed Volumes	Filter 2 Volume (MG)	Filter 2 Bed Volumes	6:2 Fluorotelomer sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonate (8:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl Perfluorooctane Sulfonamide (MEFOSA)	N-Methyl Perfluorooctane Sulfonamidoethanol (MEFOSE)	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonate (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoA)	Perfluoroheptane sulfonate (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorohexanoic acid (PFHxA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (PFOSA)	Perfluorooctanesulfonic acid (PFOS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnA)	PFOS+PFOA
	,				dvisory (HA):	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	-	<u> </u>	-	0.07
Filter 2 - 50%	10-Jan-18	199	38,386	200	38,087	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	10-Jan-18	199	38,386	200	38,087	ND	ND	ND	ND	DN	ND	DID	ND	DN	ND	DI	ND 0.0004	ND	ND	ND 0.0450	ND 0.0055	ND	ND	ND 0.0400	ND	ND	ND	ND	ND 0.0405
Combined Raw	25-Jan-18	206	39,311	206	39,235	ND	ND	ND	ND	ND	ND	ND	0.0063 J	ND	ND	ND	0.0084 J	0.0110	0.0400	0.0150 J	0.0055 J	ND	ND	0.0130	J 0.0130 J	ND	ND	ND	0.0185 J
Filter 1 - 25%	25-Jan-18	206	39,311	206	39,235	ND	ND	ND	ND	ND	ND	ND	0.0064 J	ND	ND	ND	ND	0.0081	0.0120 J	0.0130 J	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND
Filter 1 - 50%	25-Jan-18	206	39,311 39,311	206	39,235 39,235	ND ND	ND ND	ND ND	ND ND	ND ND	ND	ND	0.0069 J	ND ND	ND ND	ND ND	ND ND	ND	ND	0.0088 J 0.0041 J	ND	ND ND	ND ND	ND	0.0120 J 0.0098 J	ND ND	ND	ND ND	ND ND
Filter 1 - 75% Filter 1 - 100%	25-Jan-18 25-Jan-18	206 206	39,311	206	39,235	ND	ND	ND	ND	ND	ND ND	ND ND	0.0071 J 0.0069 J	ND	ND	ND	ND	ND ND	ND ND	0.0041 J	ND ND	ND	ND	ND ND	0.0098 J	ND	ND ND	ND	ND ND
Filter 2 - 50%	25-Jan-18	206	39,311	206	39,235	ND	ND	ND	ND	ND	ND	ND	0.0009 J	ND	ND	ND	ND	ND	ND	0.0048 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	25-Jan-18	206	39,311	206	39,235	ND	ND	ND	ND	ND	ND	ND	0.0074 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND ND
Combined Raw	15-Feb-18	214	40,868	214	40,784	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0074	0.0350	0.0110 J	0.0085 J	ND	ND	0.0170	J 0.0110 J	ND	ND	ND	0.0255 J
Filter 1 - 25%	15-Feb-18	214	40,868	214	40,784	ND	ND	ND	ND	ND	ND	ND	0.0063 J	ND	ND	ND	ND	ND	0.0120 J	0.0120 J	0.0051 J	ND	ND	ND	0.0130 J	ND	ND	ND	0.0051 J
Filter 1 - 50%	15-Feb-18	214	40,868	214	40,784	ND	ND	ND	0.0110 J	ND	0.0140 J	ND	0.0084 J	ND	ND	ND	ND	ND	ND	0.0099 J	ND	ND	ND	ND	0.0140 J	ND	ND	ND	ND
Filter 1 - 75%	15-Feb-18	214	40,868	214	40,784	ND	ND	ND	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND	ND	ND	0.0088 J	0.0038 J	ND	ND	ND	0.0160 J	ND	ND	ND	0.0038 J
Filter 1 - 100%	15-Feb-18	214	40,868	214	40,784	ND	ND	ND	ND	ND	ND	ND	0.0071 J	ND	ND	ND	ND	ND	ND	0.0043 J	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND
Filter 2 - 50%	15-Feb-18	214	40,868	214	40,784	ND	ND	ND	0.0082 J	ND	ND	ND	0.0120 J	ND	ND	ND	ND	ND	ND	0.0047 J	ND	ND	ND	ND	0.0084 J	ND	ND	ND	ND
Filter 2 - 100%	15-Feb-18	214	40,868	214	40,784	ND	ND	ND	ND	ND	ND	ND	0.0056 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	01-Mar-18	220	41,910	219	41,782	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0460	0.0160 J	0.0095 J	ND	ND	0.0180	J 0.0150 J	ND	ND	ND	0.0275 J
Filter 1 - 25%	01-Mar-18	220	41,910	219	41,782	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0130 J	0.0130 J	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND
Filter 1 - 50%	01-Mar-18	220	41,910	219	41,782	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND
Filter 1 - 75%	01-Mar-18	220	41,910	219	41,782	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND
Filter 1 - 100%	01-Mar-18	220	41,910	219	41,782	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 50%	01-Mar-18	220	41,910	219	41,782	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	01-Mar-18	220	41,910	219	41,782	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	14-Mar-18	225	42,877	224	42,791	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0390	0.0083 J	ND	ND	ND	0.0130	J 0.0095 J	ND	ND	ND	0.0130 J
Filter 1 - 25%	14-Mar-18	225	42,877	224	42,791	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0110 J	0.0056 J	ND	ND	ND	ND	0.0097 J	ND	ND	ND	ND
Filter 1 - 50%	14-Mar-18	225	42,877	224	42,791	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0050 J	ND	ND	ND	ND	0.0080 J	ND	ND	ND	ND
Filter 1 - 75%	14-Mar-18	225	42,877	224	42,791	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0077 J	ND	ND	ND	ND
Filter 1 - 100%	14-Mar-18	225	42,877	224	42,791	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 50%	14-Mar-18	225	42,877	224	42,791	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	14-Mar-18	225	42,877	224	42,791	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
			1				1		I , 1	,	1		1	hanged out			1		.1	1	1 1					1			
Combined Raw	26-Apr-18	234	44,680	3	542	ND	ND	ND	ND	ND	ND	ND	0.0060 J	ND	ND	ND	ND	0.0086	0.0480	0.0160 J	0.0130 J	ND	ND	0.0210	0.0150 J	ND	ND	ND	0.0340 J
Filter 1 - 25%	26-Apr-18	234	44,680	3	542	ND	ND	ND	ND	ND	ND	ND	0.0061 J	ND	ND	ND	ND	ND	0.0210	0.0140 J	0.0066 J	ND	ND	ND	0.0150 J	ND	ND	ND	0.0066 J
Filter 1 - 50%	26-Apr-18	234	44,680	3	542	ND	ND	ND	ND	ND	ND	ND	0.0068 J	ND	ND	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND	0.0150 J	ND	ND	ND	ND
Filter 1 - 75%	26-Apr-18	234	44,680	3	542	ND	ND	ND	ND	ND	ND	ND	0.0063 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0130 J	ND	ND	ND	DI
Filter 1 - 100%	26-Apr-18	234	44,680	3	542	ND	ND	ND	ND	ND	ND	ND	0.0076 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND
Filter 2 - 50%	26-Apr-18	234	44,680	3	542	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	26-Apr-18 09-May-18	234 240	44,680 45,720	8	542 1,593	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	0.0180 J	ND ND	ND ND	ND ND	ND ND	0.0099 J	ND 0.0430	0.0170 J	0.0150 J	ND ND	ND ND	0.0200	0.0190 J	ND ND	ND ND	ND ND	0.0350 J
Combined Raw Filter 1 - 25%	09-May-18	240	45,720	٥ و	1,593	ND	ND	ND	ND ND	ND	ND	ND	0.0180 J	ND	ND	ND ND	ND	0.0099 J	0.0430	0.0170 J	0.0150 J 0.0091 J	ND	ND	0.0200 ND	0.0190 J	ND	ND	ND	0.0350 J 0.0091 J
Filter 1 - 25%	09-May-18	240	45,720	a a	1,593	ND	ND	ND	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND	ND	0.0270 0.0100 J	0.0130 J	0.0091 J	ND	ND	ND	0.0170 J	ND	ND	ND	0.0091 J
Filter 1 - 50%	09-May-18	240	45,720	2	1,593	ND	ND	ND	ND ND	ND ND	ND	ND	0.0110 J	ND	ND	ND	ND	ND	0.0100 J	0.0130 J	0.0067 J	ND ND	ND	ND	0.0170 J	ND	ND	ND	0.0067 J
Filter 1 - 100%	09-May-18	240	45,720	a A	1,593	ND	ND	ND	ND	ND ND	ND ND	ND	0.0110 J	ND	ND	ND	ND	ND	ND	0.0074 J	ND	ND	ND	ND	0.0150 J	ND	ND	ND	ND ND
Filter 2 - 50%	09-May-18	240	45,720	8	1,593	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0009 J	ND	ND	ND	ND	0.0130 3	ND	ND	ND	ND
. III.O. 2 · 00 /0	00-iviay-10	47∪	70,120	U	1,000	IND	IND	IND	IND	IAD	IND	ND	IND	IND	IND	ND	ND	ND	IND	ND	ואט	IND	ND	ND	ND	IND	ואט	IND	IND

												Se	ptember 2	2016 to N	lovembei	2018													
Sample Location	Collection Date	Filter 1 Volume (MG)	Filter 1 Bed Volumes	Filter 2 Volume (MG)	Filter 2 Bed Volumes	6:2 Fluorotelomer sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonate (8:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl Perfluorooctane Sulfonamide (MEFOSA)	N-Methyl Perfluorooctane Sulfonamidoethanol (MEFOSE)	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonate (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoA)	Perfluoroheptane sulfonate (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorohexanoic acid (PFHxA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (PFOSA)	Perfluorooctanesulfonic acid (PFOS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnA)	PFOS+PFOA
			USEPA	A Health Ad	visory (HA):	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	-	<u> </u>	-	0.07
Filter 2 - 100%	09-May-18	240	45,720	8	1,593	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	24-May-18	247	47,190	16	3,060	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0430	0.0130	J 0.0049 J	ND	ND	0.0200	J 0.0140 J	ND	ND	ND	0.0249
Filter 1 - 25%	24-May-18	247	47,190	16	3,060	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0240	0.0140	J ND	ND	ND	ND	0.0130	ND	ND	ND	ND
Filter 1 - 50%	24-May-18	247	47,190	16	3,060	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0068	0.0120	J ND	ND	ND	ND	0.0130 J	ND	ND	ND	ND
Filter 1 - 75%	24-May-18	247	47,190	16	3,060	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0075	J ND	ND	ND	ND	0.0120	ND	ND	ND	ND
Filter 1 - 100%	24-May-18	247	47,190	16	3,060	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0063	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND
Filter 2 - 50%	24-May-18	247	47,190	16	3,060	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	24-May-18	247	47,190	16	3,060	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	13-Jun-18	258	49,310	27	5,180	ND	ND	ND	ND	ND	ND	0.0055 J	J 0.0093 J	ND	ND	ND	ND	0.0100	J 0.0440	0.0160	J 0.0130 J	ND	ND	0.0250	0.0160 J	ND	ND	ND	0.0380
Filter 1 - 25%	13-Jun-18	258	49,310	27	5,180	ND	ND	ND	ND	ND	ND	0.0055 J	0.0092 J	ND	ND	ND	ND	0.0088	J 0.0290	0.0150	J 0.0100 J	ND	ND	0.0120	J 0.0160 J	ND	ND	ND	0.0220
Filter 1 - 50%	13-Jun-18	258	49,310	27	5,180	ND	ND	ND	ND	ND	ND	ND	0.0093 J	ND	ND	ND	ND	0.0080	J 0.0150 、	0.0150	J 0.0071 J	ND	ND	ND	0.0160 J	ND	ND	ND	0.0071
Filter 1 - 75%	13-Jun-18	258	49,310	27	5,180	ND	ND	ND	ND	ND	ND	ND	0.0095 J	ND	ND	ND	ND	ND	ND	0.0130	ND	ND	ND	ND	0.0170 J	ND	ND	ND	ND
Filter 1 - 100%	13-Jun-18	258	49,310	27	5,180	ND	ND	ND	ND	ND	ND	ND	0.0093 J	ND	ND	ND	ND	ND	ND	0.0110	ND	ND	ND	ND	0.0160 J	ND	ND	ND	ND
Filter 2 - 50%	13-Jun-18	258	49,310	27	5,180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	13-Jun-18	258	49,310	27	5,180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	28-Jun-18	268	51,060	37	6,930	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0340	0.0097	J 0.0085 J	ND	ND	0.0170	J 0.0096 J	ND	ND	ND	0.0255
Filter 1 - 25%	28-Jun-18	268	51,060	37	6,930	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0280	0.0110	J 0.0079 J	ND	ND	0.0085	J 0.0110 J	ND	ND	ND	0.0164
Filter 1 - 50%	28-Jun-18	268	51,060	37	6,930	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0160	J 0.0120 .	J 0.0051 J	ND	ND	ND	0.0120 J	ND	ND	ND	0.0051
Filter 1 - 75%	28-Jun-18	268	51,060	37	6,930	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0093	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND
Filter 1 - 100%	28-Jun-18	268	51,060	37	6,930	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0079	J ND	ND	ND	ND	0.0130 J	ND	ND	ND	ND
Filter 2 - 50%	28-Jun-18	268	51,060	37	6,930	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	28-Jun-18	268	51,060	37	6,930	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	11-Jul-18	275	52,520	44	8,390	ND	ND	ND	ND	ND	ND	ND	0.0086 J	ND	ND	ND	ND	0.0089	J 0.0410	0.0170	J 0.0160 J	ND	ND	0.0230	0.0150 J	ND	ND	ND	0.0390
Filter 1 - 25%	11-Jul-18	275	52,520	44	8,390	ND	ND	ND	ND	ND	ND	ND	0.0087 J	ND	ND	ND	ND	0.0084	J 0.0310	0.0160	J 0.0130 J	ND	ND	0.0140	J 0.0160 J	ND	ND	ND	0.0270
Filter 1 - 50%	11-Jul-18	275	52,520	44	8,390	ND	ND	ND	ND	ND	ND	0.0055 J	0.0098 J	ND	ND	ND	ND	0.0082	J 0.0190 、	J 0.0170 .	J 0.0110 J	ND	ND	ND	0.0170 J	ND	ND	ND	0.0110
Filter 1 - 75%	11-Jul-18	275	52,520	44	8,390	ND	ND	ND	ND	ND	ND	ND	0.0089 J	ND	ND	ND	ND	ND	ND	0.0150	J ND	ND	ND	ND	0.0160 J	ND	ND	ND	ND
Filter 1 - 100%	11-Jul-18	275	52,520	44	8,390	ND	ND	ND	ND	ND	ND	ND	0.0091 J	ND	ND	ND	ND	ND	0.0058	J 0.0140 .	ND	ND	ND	ND	0.0160 J	ND	ND	ND	ND
Filter 2 - 50%	11-Jul-18	275	52,520	44	8,390	ND	ND	ND	ND	ND	ND	ND	0.0075 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	11-Jul-18	275	52,520	44	8,390	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	18-Jul-18	279	53,330	48	9,200	ND	ND	ND	ND	ND	ND	ND	0.0061 J	ND	ND	ND	ND	ND	0.0390	0.0140	J 0.0130 J	ND	ND	0.0180	J 0.0140 J	ND	ND	ND	0.0310
Filter 1 - 25%	18-Jul-18	279	53,330	48	9,200	ND	ND	ND	ND	ND	ND	ND	0.0064 J	ND	ND	ND	ND	0.0077	J 0.0310	0.0150	J 0.0110 J	ND	ND	0.0081	J 0.0140 J	ND	ND	ND	0.0191
Filter 1 - 50%	18-Jul-18	279	53,330	48	9,200	ND	ND	ND	ND	ND	ND	ND	0.0066 J	ND	ND	ND	ND	ND	0.0160	0.0150	J 0.0075 J	ND	ND	ND	0.0150 J	ND	ND	ND	0.0075
Filter 1 - 100%	18-Jul-18	279	53,330	48	9,200	ND	ND	ND	ND	ND	ND	ND	0.0070 J	ND	ND	ND	ND	ND	ND	0.0130	J ND	ND	ND	ND	0.0160 J	ND	ND	ND	ND
Filter 2 - 25%	18-Jul-18	279	53,330	48	9,200	ND	ND	ND	ND	ND	ND	ND	0.0085 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 50%	18-Jul-18	279	53,330	48	9,200	ND	ND	ND	ND	ND	ND	ND	0.0063 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 75%	18-Jul-18	279	53,330	48	9,200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	18-Jul-18	279	53,330	48	9,200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	30-Jul-18	287	54,720	56	10,590	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0380	0.0110	J 0.0053 J	ND	ND	0.0150	J 0.0100 J	ND	ND	ND	0.0203
Filter 1 - 50%	30-Jul-18	287	54,720	56	10,590	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0120	J 0.0110 .	J ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND
Filter 1 - 100%	30-Jul-18	287	54,720	56	10,590	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0088	J ND	ND	ND	ND	0.0130 J	ND	ND	ND	ND
Filter 2 - 25%	30-Jul-18	287	54,720	56	10,590	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 50%	30-Jul-18	287	54,720	56	10,590	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 75%	30-Jul-18	287	54,720	56	10,590	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-Jul-18	287	54,720	56	10,590	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

	Demonstration Project September 2016 to November 2018																												
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ple Location	lection Date	1 Volume (MG)	l Bed Volumes	2 Volume (MG)	2 Bed Volumes	otelomer sulfonate (6:2 FTS)	rotelomer sulfonate (8:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane Ifonamidoethanol (EtFOSE)	Perfluorooctane mide (MEFOSA)	Perfluorooctane oethanol (MEFOSE)	utanesulfonic acic (PFBS)	utanoic acid (PFB/	decane sulfonate (PFDS)	ecanoic acid (PFDA	ododecanoic acid (PFDoA)	oheptane sulfonate (PFHpS)	roheptanoic acid (PFHpA)	exanesulfonic acid (PFHxS)	rohexanoic acid (PFHxA)	ctanoic acid (PFOA)	onanoic acid (PFNA	octane sulfonamide (PFOSA)	ctanesulfonic acid (PFOS)	ropentanoic acid (PFPeA)	tetradecanoic acid PFTeDA)	rotridecanoic acid (PFTrDA)	oundecanoic acid (PFUnA)	:OS+PFOA
Sam	Coll	Filter 1	Filter 1	Filter 2	Filter 2	6:2 Fluoro (8:2 Fluord	N-Ethyl sulfona	N-Ethyl sulfonamid	N-Methyl Sulfonar	N-Methyl Sulfonamido	Perfluorob	Perfluorobu	Perfluoro	Perfluorode	Perfluore	Perfluoro	Perfluor	Perfluoroh	Perfluo	Perfluorooc	Perfluoronc	Perfluoroo	Perfluoroo	Perfluor	Perfluorol (Perfluore (Perfluor	4
			USEP	A Health Ac	dvisory (HA):	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	-	-	-	0.07
Combined Raw	10-Aug-18	293	55,970	62	11,940		1	1	ı				I	I	Sam	ples delivere	ed to incorre	ect location;	analysis not	possible.				I			1		
Combined Raw	17-Aug-18	297	56,780	68	12,750	ND	ND	ND	ND	ND	ND	ND	0.0089 J	ND	ND	ND	ND	0.0084	0.0420	0.0160	0.0130 J	ND	ND	0.0210	0.0140 J	ND	ND	ND	0.0340 J
Filter 1 - 50%	17-Aug-18	297	56,780	68	12,750	ND	ND	ND	ND	ND	ND	ND	0.0098 J	ND	ND	ND	ND	0.0082	0.0200 J	0.0170	0.0100 J	ND	ND	ND	0.0170 J	ND	ND	ND	0.0100 J
Filter 1 - 100%	17-Aug-18	297	56,780	68	12,750	ND	ND	ND	ND	ND	ND	ND	0.0097 J	ND	ND	ND	ND	ND	ND	0.0150	0.0054 J	ND	ND	ND	0.0170 J	ND	ND	ND	0.0054 J
Filter 2 - 25%	17-Aug-18	297	56,780	68	12,750	ND	ND	ND	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0150 J	ND	ND	ND	ND
Filter 2 - 50%	17-Aug-18	297	56,780	68	12,750	ND	ND	ND	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 75%	17-Aug-18	297	56,780	68	12,750	ND	ND	ND	ND	ND	ND	ND	0.0099 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	17-Aug-18	297	56,780	68	12,750	ND	ND	ND	ND	ND	ND	ND	0.0092 J	ND	ND	ND	ND	ND 0.0003	ND ND	ND	ND ND	ND	ND	ND	ND	ND	ND	ND	ND ND
Combined Raw Filter 1 - 50%	27-Aug-18 27-Aug-18	304	57,930 57,930	75 75	13,900 13,900	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	0.0077 J 0.0075 J	ND ND	ND ND	ND ND	ND ND	0.0083 ND	0.0500	0.0180	0.0130 J 0.0091 J	ND ND	ND ND	0.0230 ND	0.0170 J 0.0170 J	ND ND	ND ND	ND ND	0.0360 J 0.0091 J
Filter 1 - 30%	27-Aug-18 27-Aug-18	304	57,930	75	13,900	ND	ND	ND	ND	ND ND	ND ND	ND	0.0075 J	ND	ND	ND ND	ND	ND	0.0210 ND	0.0150	0.0091 J	ND	ND	ND	0.0170 J	ND	ND	ND ND	0.0091 J
Filter 2 - 25%	27-Aug-18	304	57,930	75	13,900	ND	ND	ND	ND	ND	ND	ND	0.0086 J	ND	ND	ND	ND	ND	ND	0.0054	ND	ND	ND	ND	0.0170 J	ND	ND	ND	ND
Filter 2 - 50%	27-Aug-18	304	57,930	75	13,900	ND	ND	ND	ND	ND	ND	ND	0.0097 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 75%	27-Aug-18	304	57,930	75	13,900	ND	ND	ND	ND	ND	ND	ND	0.0091 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	27-Aug-18	304	57,930	75	13,900	ND	ND	ND	ND	ND	ND	ND	0.0084 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	30-Aug-18	305	58,280	76	14,250	ND	ND	ND	ND	ND	ND	ND	0.0069 J	ND	ND	ND	ND	0.0080	0.0480	0.0170	0.0140 J	ND	ND	0.0210	0.0160 J	ND	ND	ND	0.0350 J
Filter 1 - 100%	30-Aug-18	305	58,280	76	14,250	ND	ND	ND	ND	ND	ND	ND	0.0083 J	ND	ND	ND	ND	ND	0.0062 J	0.0150	ND	ND	ND	ND	0.0180 J	ND	ND	ND	ND
Filter 2 - 100%	30-Aug-18	305	58,280	76	14,250	ND	ND	ND	ND	ND	ND	ND	0.0082 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	05-Sep-18	309	58,950	80	14,920	ND	ND	ND	ND	ND	ND	ND	0.0099 J	ND	ND	ND	ND	0.0100	0.0460	0.0180	0.0160 J	ND	ND	ND	0.0180 J	ND	ND	ND	0.0160 J
Filter 1 - 50%	05-Sep-18	309	58,950	80	14,920	ND	ND	ND	ND	ND	ND	ND	0.0100 J	ND	ND	ND	ND	0.0950	0.0230	0.0170	0.0100 J	ND	ND	ND	0.0190 J	ND	ND	ND	0.0100 J
Filter 1 - 100%	05-Sep-18	309	58,950	80	14,920	ND	ND	ND	ND	ND	ND	ND	0.0100 J	ND	ND	ND	ND	ND	0.0086 J	0.0150	ND	ND	ND	ND	0.0190 J	ND	ND	ND	ND
Filter 2 - 25%	05-Sep-18	309	58,950	80	14,920	ND	ND	ND	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0180 J	ND	ND	ND	ND
Filter 2 - 50%	05-Sep-18 05-Sep-18	309	58,950 58,050	80	14,920 14,920	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	0.0120 J 0.0120 J	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	0.0110 J	ND ND	ND ND	ND ND	ND ND
Filter 2 - 75% Filter 2 - 100%	05-Sep-18	309 309	58,950 58,950	80	14,920	ND	ND	ND	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND ND	ND ND
Combined Raw	13-Sep-18	314	59,860	85	15,830	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0540	0.0140	0.0089 J	ND	ND	0.0180	J 0.0130 J	ND	ND	ND	0.0269 J
Filter 1 - 50%	13-Sep-18	314	59,860	85	15,830	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0230	0.0110	0.0039 J	ND	ND	ND	0.0120 J	ND	ND	ND	0.0039 J
Filter 1 - 100%	13-Sep-18	314	59,860	85	15,830	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0069	0.0100	ND	ND	ND	ND	0.0140 J	ND	ND	ND	ND
Filter 2 - 25%	13-Sep-18	314	59,860	85	15,830	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0140 J	ND	ND	ND	ND
Filter 2 - 50%	13-Sep-18	314	59,860	85	15,830	ND	ND	ND	ND	ND	ND	ND	0.0057 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 75%	13-Sep-18	314	59,860	85	15,830	ND	ND	ND	ND	ND	ND	ND	0.0062 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	13-Sep-18	314	59,860	85	15,830	ND	ND	ND	ND	ND	ND	ND	0.0058 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	24-Sep-18	321	61,110	92	17,080	ND	ND	ND	ND	ND	ND	ND	0.0082 J	ND	ND	ND	ND	0.0110	0.0580	0.0170	0.0130 J	ND	ND	0.0220	0.0180 J	ND	ND	ND	0.0350 J
Filter 1 - 50%	24-Sep-18	321	61,110	92	17,080	ND	ND	ND	ND	ND	ND	ND	0.0079 J	ND	ND	ND	ND	0.0088	0.0230	0.0140	0.0073 J	ND	ND	ND	0.0150 J	ND	ND	ND	0.0133 J
Filter 1 - 100%	24-Sep-18	321	61,110	92	17,080	ND	ND	ND	ND	ND	ND	ND	0.0085 J	ND	ND	ND	ND	ND	0.0580	0.0140	ND	ND	ND	ND	0.0180 J	ND	ND	ND	ND
Filter 2 - 25%	24-Sep-18	321	61,110	92	17,080	ND	ND	ND	ND	ND	ND	ND	0.0089 J	ND	ND	ND	ND	ND	0.0087 J	0.0081	ND	ND	ND	ND	0.0180 J	ND	ND	ND	ND
Filter 2 - 50% Filter 2 - 75%	24-Sep-18 24-Sep-18	321 321	61,110 61,110	92 92	17,080 17,080	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	0.0098 J 0.0096 J	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	0.0140 J	ND ND	ND ND	ND ND	ND ND
Filter 2 - 100%	24-Sep-18	321	61,110	92	17,080	ND	ND	ND	ND	ND	ND	ND	0.0090 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND ND
Combined Raw	02-Oct-18	325	62,010	96	17,080	ND	ND	ND	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND	0.0093	0.0430	0.0190	0.0150 J	ND	ND	0.0220	0.0160 J	ND	ND	ND	0.0370 J
Filter 1 - 50%	02-Oct-18	325	62,010	96	17,980	ND	ND	ND	ND	ND	ND	ND	0.0073 J	ND	ND	ND	ND	0.0080	0.0260	0.0180	0.0100 J	ND	ND	ND	0.0170 J	ND	ND	ND	0.0160 J
Filter 1 - 100%	02-Oct-18	325	62,010	96	17,980	ND	ND	ND	ND	ND	ND	ND	0.0080 J	ND	ND	ND	ND	ND	0.0110 J	0.0160	0.0044 J	ND	ND	ND	0.0180 J	ND	ND	ND	0.0104 J
Filter 2 - 25%	02-Oct-18	325	62,010	96	17,980	ND	ND	ND	ND	ND	ND	ND	0.0093 J	ND	ND	ND	ND	ND	ND	0.0110	ND	ND	ND	ND	0.0200	ND	ND	ND	ND
Filter 2 - 50%	02-Oct-18	325	62,010	96	17,980	ND	ND	ND	ND	ND	ND	ND	0.0098 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0150 J	ND	ND	ND	ND

												Se	ptember 2	2016 to N	<u>ovember</u>	2018													
Sample Location	Collection Date	Filter 1 Volume (MG)	Filter 1 Bed Volumes	Filter 2 Volume (MG)	Filter 2 Bed Volumes	6:2 Fluorotelomer sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonate (8:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl Perfluorooctane Sulfonamide (MEFOSA)	N-Methyl Perfluorooctane Sulfonamidoethanol (MEFOSE)	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonate (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoA)	Perfluoroheptane sulfonate (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorohexanoic acid (PFHxA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (PFOSA)	Perfluorooctanesulfonic acid (PFOS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnA)	PFOS+PFOA
			USEP	A Health Ad	lvisory (HA):	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	-	-	-	0.07
Filter 2 - 75%	02-Oct-18	325	62,010	96	17,980	ND	ND	ND	ND	ND	ND	ND	0.0100 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	02-Oct-18	325	62,010	96	17,980	ND	ND	ND	ND	ND	ND	ND	0.0100 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Combined Raw	11-Oct-18	331	63,030	102	19,000	ND	ND	ND	ND	ND	ND	ND	0.0069 J	ND	ND	ND	ND	0.0075 J	0.0480	0.0160 J	0.0130 J	ND	ND	0.0220	0.0160 J	ND	ND	ND	0.0350 J
Filter 1 - 50%	11-Oct-18	331	63,030	102	19,000	ND	ND	ND	ND	ND	ND	ND	0.0086 J	ND	ND	ND	ND	ND	0.0260	0.0170 J	0.0082 J	ND	ND	ND	0.0170 J	ND	ND	ND	0.0142 J
Filter 1 - 100%	11-Oct-18	331	63,030	102	19,000	ND	ND	ND	ND	ND	ND	ND	0.0078 J	ND	ND	ND	ND	ND	0.0059 J	0.0140 J	0.0036 J	ND	ND	ND	0.0170 J	ND	ND	ND	0.0096 J
Filter 2 - 25%	11-Oct-18	331	63,030	102	19,000	ND	ND	ND	ND	ND	ND	ND	0.0081 J	ND	ND	ND	ND	ND	ND	0.0086 J	ND	ND	ND	ND	0.0170 J	ND	ND	ND	ND
Filter 2 - 50%	11-Oct-18	331	63,030	102	19,000	ND	ND	ND	ND	ND	ND	ND	0.0088 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0140 J	ND	ND	ND	ND
Filter 2 - 75%	11-Oct-18	331	63,030	102	19,000	ND	ND	ND	ND	ND	ND	ND	0.0099 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Filter 2 - 100%	11-Oct-18	331	63,030	102	19,000	ND	ND	ND	ND	ND	ND	ND	0.0097 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0110 J	0.0110 J	ND	ND
Combined Raw	26-Oct-18	340	64,730	111	20,700	ND	ND	ND	ND	ND	ND	ND	0.0099 J	ND	ND	ND	ND	0.0100 J	0.0440	0.0180 J	0.0160 J	ND	ND	0.0200 J	0.0170 J	ND	ND	ND	0.0360 J
Filter 1 - 50%	26-Oct-18	340	64,730	111	20,700	ND	ND	ND	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND	0.0110 J	0.0280	0.0220	0.0130 J	ND	ND	0.0100 J	0.0210	ND	ND	ND	0.0230 J
Filter 1 - 100%	26-Oct-18	340	64,730	111	20,700	ND	ND	ND	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND	0.0080 J	0.0110 J	0.0190 J	0.0091 J	ND	ND	ND	0.0220	ND	ND	ND	0.0151 J
Filter 2 - 25%	26-Oct-18	340	64,730	111	20,700	ND	ND	ND	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND	ND	ND	0.0140 J	ND	ND	ND	ND	0.0210	ND	ND	ND	ND
Filter 2 - 50%	26-Oct-18	340	64,730	111	20,700	ND	ND	ND	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0180 J	ND	ND	ND	ND
Filter 2 - 75%	26-Oct-18	340	64,730	111	20,700	ND	ND	ND	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND
Filter 2 - 100%	26-Oct-18	340	64,730	111	20,700	ND	ND	ND	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND
Combined Raw	02-Nov-18	344	65,530	115	21,500	ND	ND	ND	ND	ND	ND	ND	0.0084 J	ND	ND	ND	ND	0.0110 J	0.0620	0.0210	0.0180 J	ND	ND	0.0260	0.0210	ND	ND	ND	0.0440 J
Filter 1 - 25%	02-Nov-18	344	65,530	115	21,500	ND	ND	ND	ND	ND	ND	ND	0.0088 J	ND	ND	ND	ND	0.0100 J	0.0450	0.0200	0.0140 J	ND	ND	0.0170 J	0.0220	ND	ND	ND	0.0310 J
Filter 1 - 50%	02-Nov-18	344	65,530	115	21,500	ND	ND	ND	ND	ND	ND	ND	0.0086 J	ND	ND	ND	ND	0.0096 J	0.0300	0.0200	0.0099 J	ND	ND	ND	0.0220	ND	ND	ND	0.0159 J
Filter 1 - 75%	02-Nov-18	344	65,530	115	21,500	ND	ND	ND	ND	ND	ND	ND	0.0090 J	ND	ND	ND	ND	0.0080 J	0.0100 J	0.0180 J	0.0062 J	ND	ND	ND	0.0220	ND	ND	ND	0.0122 J
Filter 1 - 100%	02-Nov-18	344	65,530	115	21,500	ND	ND	ND	ND	ND	ND	ND	0.0089 J	ND	ND	ND	ND	ND	0.0086 J	0.0160 J	ND	ND	ND	ND	0.0200	ND	ND	ND	ND
Filter 2- 25%	02-Nov-18	344	65,530	115	21,500	ND	ND	ND	ND	ND	ND	ND	0.0100 J	ND	ND	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND	0.0240	ND	ND	ND	ND
Filter 2- 50%	02-Nov-18	344	65,530	115	21,500	ND	ND	ND	ND	ND	ND	ND	0.0110 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0200	ND	ND	ND	ND
Filter 2 - 75%	02-Nov-18	344	65,530	115	21,500	ND	ND	ND	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0130 J	ND	ND	ND	ND
Filter 2 - 100%	02-Nov-18	344	65,530	115	21,500	ND	ND	ND	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0120 J	ND	ND	ND	ND

Grey text indicates the parameter was not analyzed or not detected. All concentrations in µg/L - micrograms per liter (ppb)

B - Detected in Blank.

J - The result is an estimated value.

USEPA - Environmental Protection Agency NA - Not Analysed or Not Applicable ND - Not detected — - No Health Advisory available



- Denotes 'B' value, detected in blank
- Denotes raw water influent sample
- Denotes short chain compound