City of
Portsmouth
Department of Public Works

March 21, 2017

PEASE TRADEPORT WATER SUPPLY UPDATE

ACTIVATED CARBON FILTERS – WATER QUALITY MONITORING

The activated carbon demonstration filters for the Harrison and Smith wells have been on line since mid-September 2016. The City's engineering consultant continues to sample the performance of the filters based on the volume of flow going through the filters. To date, eleven sample round results have been received. Results for all sample rounds have resulted in "non detect" (ND) for PFOS and PFOA. All samples collected are analyzed by Maxxam laboratories, the same laboratory that has been performing the Pease well PFC 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 attached. Analysis of the well water quality is also included. Over 42 million gallons of water has been treated through these filters since they went on line in September.

PEASE TRADEPORT WATER SYSTEM AGREEMENT WITH THE UNITED STATES AIR FORCE

The City of Portsmouth and the United States Air Force's latest agreement will provide the City with reimbursement for engineering work to further determine the parameters and components of the final water treatment system for all three wells. Additionally, the City's engineering consultant will perform and analysis of other existing municipal treatment plants currently treating PFCs to better define operating parameters.

This next phase of work will better define the final design and operating parameters necessary for the long-term operation of the Pease Tradeport wells. Information gathered as part of this process will also be presented to the public in a future forum so that all are aware of the selected technologies and anticipated water quality. The City will then meet with the Air Force to discuss the findings and recommendations.

The City staff and engineering consultant will be providing and update on this design effort and study as part of the next Pease Restoration Advisory Board (RAB) meeting to be held on March 22, 2017 at the Pease DES offices at 6:30 PM.

WATER TREATMENT PILOT TESTING REPORT

The City's engineering consultant recently submitted the testing report for the carbon filtration pilot they performed in 2016. That document can be accessed on the City's website at: http://www.cityofportsmouth.com/publicworks/PeaseTradeportWaterSystemWellTreatmentPilotReportFinal.pdf

ONGOING WATER QUALITY MONITORING

The Air Force's consultant has been performing frequent routine sampling of the water supply wells in the Pease water system since May 2014. The Smith Well was originally sampled weekly for PFCs and the Harrison Well sampled every two weeks. 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 PFCs 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.

EPA HEALTH ADVISORY

In May 2016, the EPA issued new health advisories of 0.070 µg/L (micrograms per liter) for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS). The Smith and Harrison wells that supply the Pease Tradeport Water System have combined levels PFOA and PFOS that have consistently been below this limit since sampling began in 2014.

The City will continue to work towards the appropriate water quality monitoring and treatment methods to assure that all drinking water is in compliance with current regulations.

Additional information can be accessed at:

http://www.cityofportsmouth.com/publicworks/phwn.html

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

Pease PFC Demonstration Project Data

Sample Location	Sample ID	Collection Date	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 Health Advisory (HA):			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	-	-	-	0.07
Method Detection Limit (MDL)			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	
Reported Detection 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	
Harrison Well		13-Sep-16	ND	ND	NA	NA	NA	NA	0.0029 B	ND	NA	NA	NA	ND	ND	0.0260 B	0.0071 J	0.006 J	ND	ND	0.022 B	0.008 B	NA	NA	NA	0.028
Smith Well		19-Sep-16	ND	ND	NA	NA	NA	NA	0.0072 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	ND	ND	NA	NA	NA	NA	0.0040 J	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	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	ND	ND	NA	NA	NA	NA	0.0038 J	0.0069 J	NA	NA	NA	ND	0.0057 J	0.0320	0.0059 J	ND	ND	ND	0.022	0.009 J	NA	NA	NA	0.022
Smith Well		19-Oct-16	ND	ND	NA	NA	NA	NA	0.0035 J	ND	NA	NA	NA	ND	ND	0.0130 J	ND	ND	ND	ND	0.010 J	0.005 J	NA	NA	NA	0.010 J
Harrison Well		17-Nov-16	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	0.032
Smith Well		17-Nov-16	ND	ND	NA	NA	NA	NA	0.0020 J	ND	NA	NA	NA	ND	ND	0.0140 J	ND	ND	ND	ND	0.011 J	0.008 J	NA	NA	NA	0.011 J
Harrison Well		14-Dec-16	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	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	ND	ND	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
Filter 2 Effluent	S1	22-Sep-16	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%	PV1-25	06-Oct-16	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	PV2-100	06-Oct-16	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%	PV1-25	14-Oct-16	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	ND
Filter 1 Effluent	PV1-100	14-Oct-16	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	PV2-100	14-Oct-16	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%	PV1-25	20-Oct-16	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	PV1-100	20-Oct-16	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	PV2-100	20-Oct-16	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%	PV1-25	28-Oct-16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0082 J	ND	ND	ND	0.0062 J	ND	0.0052 J	ND	ND	ND	0.0082 J	0.0084 J	ND	ND
Filter 1 Effluent	PV1-100	28-Oct-16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0049 J	ND	ND	ND	0.0078 J	0.0081 J	ND	ND
Filter 2 Effluent	PV2-100	28-Oct-16	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
Filter 1 - 25%	PV1-25	10-Nov-16	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	PV1-100	10-Nov-16	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%	PV1-25	28-Nov-16	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	PV1-100	28-Nov-16	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%	PV1-25	27-Dec-16	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	PV1-100	27-Dec-16	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%	PV1-25	16-Jan-17	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	PV1-100	16-Jan-17	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%	PV1-25	10-Feb-17	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	PV1-100	10-Feb-17	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%	PV1-25	07-Mar-17	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	PV1-100	07-Mar-17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
Grey text indicates the parameter was not analyzed or not detected.
All concentrations in µg/L - micrograms per liter (ppb)
J - The result is an estimated value.
B - Detected in Blank.

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