City of Portsmouth

Department of Public Works

September 23, 2021

PEASE TRADEPORT WATER SUPPLY UPDATE

Pease Drinking Water Treatment Facility

Construction of the Pease Drinking Water Treatment Facility was substantially complete in April 2021. The treatment process at this facility includes both ion-exchange resin and activated carbon filtration systems for the removal of PFAS. Water from the Harrison and Smith wells have been continuously treated through granular activated carbon (GAC) since 2016. The ion-exchange resin filters were added to the treatment system on April 20, 2021, and have since been removing PFAS from the Harrison and Smith well water.

The Haven Well, which has been out of service since the discovery of PFAS contamination in 2014, was reactivated and approved as a source of water for the Pease Water Treatment Facility in July 2021. Prior to this approval, a five-day pumping test was performed to assess the well's

hydraulic characteristics and the well water quality. The City worked with the Air Force to treat the pumping-test water at the Airfield Interim Mitigation System treatment facility. Also prior to reactivating the Haven Well, the Haven Well water was pumped through the new Pease Water Treatment process to test the system hydraulics and ensure anticipated PFAS removal efficiency prior to allowing the treated water from the Haven Well to enter the water distribution system.

Since August 3, 2021, water from Haven Well has been treated along with Smith Well and Harrison Well water through the Pease Water Treatment Facility. Over a four week startup testing period, samples were collected weekly and analyzed for PFAS from each ion-exchange resin filter and from the granular activated carbon filters. Samples are now being collected monthly throughout the treatment process and analyzed for PFAS. Samples are analyzed with EPA Method 533 which provides results for 25 PFAS compounds, of which four are regulated by the NHDES for drinking water. There have been no detections of these compounds in the water entering the distribution system from the treatment plant since it has been in operation.

Granular Activated Carbon (GAC) Filters


Ion-Exchange Resin Filters

The following table provides a summary of the most recent treatment system test results from samples taken on August 25, 2021.

PFAS Sampling for August 25, 2021

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

Notes:

"NH MCLs" are the New Hampshire Maximum Contaminant Levels (effective July 2020).

"ND" is considered Non Detect. Per NHDES, "estimated numbers below the reporting limit are considered Non Detects."

Haven Well reactivation testing and treatment certification are available on the City's website: https://www.cityofportsmouth.com/publicworks/water/pease-tradeport-water-system

Water quality test results for parameters including PFAS, synthetic organic, volatile organic, inorganic, and radioactive compounds are available from the NHDES OneStop data portal: https://www4.des.state.nh.us/DESOneStop/PWSDetail.aspx?ID=1951020#Samples

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. 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. 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.

The Air Force is currently installing additional sentry monitoring wells between the former Air Base and the City's Portsmouth and Collins wells to further identify the extent that PFAS from Pease may be migrating toward these two sources. The City staff continue to meet with the technical team of consultants and regulators to review the data, forensics and analysis of the PFAS contamination. Additional measures have been implemented and comprehensive sampling of water sources and sentry wells continues to assure that all water delivered to both the Pease and the Portsmouth systems is in compliance with current state and federal drinking water regulations.

PUBLIC OUTREACH AND OTHER INFORMATION

Advisory Groups and Health Studies

- The latest **Pease Restoration Advisory Board (RAB)** meeting occurred on September 14, 2021 as a virtual on-line meeting. This included updates of the Remedial Investigation and an update on the Pease Drinking Water Treatment Facility.

Minutes and meeting materials can be accessed via the following link: https://www.afcec.af.mil/Home/BRAC/Pease-Archives/

A recording of the RAB meeting can be accessed here: https://youtu.be/jL8vxzWQnlM

- **Pease Community Assistance Panel (CAP)** – The Agency for Toxic Substances and Disease Registry (ATSDR), a federal public health agency, is evaluating the public health impact of drinking water contaminated with per- and polyfluoroalkyl substances (PFAS) at the Pease International Tradeport site and nearby wells. ATSDR has created a Community

Assistance Panel (CAP) for Pease as a way for the community to participate directly in ATSDR's health activities. CAP members are voluntary, unpaid individuals from the Pease community. CAP members will work with ATSDR to gather and review community health concerns, provide information on how people might have been exposed to hazardous substances, and inform ATSDR how to involve the community. https://www.atsdr.cdc.gov/pfas/activities/pease/cap.html

- **The Pease Study: PFAS Health Effects** - The Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR) are studying the health effects from drinking PFAS (per and polyfluoroalkyl substances)-contaminated water in the Portsmouth, New Hampshire area.
    - Trained health professionals will be:
        - Testing blood and urine samples;
        - Taking body measurements;
        - Asking about medical history; and
        - Studying behaviors in child participants.
    - After the study ends and the results are analyzed, CDC and ATSDR will share results as soon as possible and will write and share a report with the public.
    - Additional information regarding the study, who qualifies, and signing up to participate can be found here: http://www.testingforpease.com/health-studies

- **PFAS-REACH (Research, Education, and Action for Community Health)** – Silent Spring Institute - A five-year project funded by a grant from the National Institute of Environmental Health Sciences (NIEHS), with is part of the National Institutes of Health. One of the major goals of PFAS-REACH is to evaluation immune system effects in children (ages 4 to 6) in communities with prior PFAS water contamination. PFAS-REACH is being led by Silent Spring Institute in collaboration with Northeaster University and Michigan State University. The main community partner organizations are Testing for Pease, Massachusetts Breast Cancer Coalition, and Toxics Action Center.
    - Goals of the Study:
        - To evaluation potential effects of PFAS exposures on the immune systems of young children in two communities that have had PFAS water contamination
        - To develop an innovative online resource center, called the PFAS Exchange, with data interpretation tools, tap water testing, and educational materials for affected communities and other audiences.
        - To conduct a social science analysis affected communities to assess individual, family, and community-level experiences of residents in areas impacted by PFAS-contaminated drinking water.
    - www.PFAS-Exchange.org/childrenstudy

- **PFAS Blood Testing Program – New Hampshire DHHS** - In 2015, the New Hampshire Department of Health and Human Services began a blood testing program for people who had lived on, worked on, or attended child care on the Pease Tradeport. A total of 1,578 individuals had their blood tested for PFAS between April to October 2015.
    - 1,181 Adults tested
    - 366 Children tested
    - Three public meetings announcing blood test results
    - Report can be accessed at:
        - https://www.atsdr.cdc.gov/pfas/Pease-Study.html

Treatment and Drinking Water System Studies

- **Haven well resin performance piloting study** – A treatment pilot system has been set up at the Air Force's AIMS treatment facility to study the performance of the resin media that will be installed at the new Grafton Road water treatment facility. This will help identify the filter run times for establishing time periods when the filter media should be changed out to assure adequate treatment of PFAS compounds.

- **Testing for Pease Tap Water Sampling Study** - The goal of the Testing For Pease Portsmouth Community Tap Sampling Program is to gather accurate data about the presence and concentration of PFAS coming out of city taps, enabling us to understand the precise nature of the PFAS load the public is being exposed to via the public water supply. Three rounds of testing have been performed to date with the City of Portsmouth's water staff. So far, results are what were expected based on the PFAS detections from the various water supply sources and the blending of waters in the City's 200 miles of water distribution system piping network. Results are posted on the Testing for Pease website: testingforpease.com

- **PFAS Costs Research Group** – Northeastern University, Dr. Phil Brown (formed August 2020) - This pilot project would be part of a larger project aimed at tallying the enormous costs to the United States due to PFAS exposures. These costs have not yet been calculated, but they are expected to be significant. The project will have two parts: One part, which is national in scope, will review newly available information showing linkages between PFAS exposure and specific health endpoints, to show how exposure to PFAS causes diseases. It will then calculate the economic burden of those diseases across the country, in terms of costs of medical care, lost workdays, and other aspects.

- **Non Target Analysis for PFAS Compounds** – October 2018 to July 2019 - In 2018, Testing for Pease was awarded grant money from the Seacoast Women's Giving Circle to fund additional water testing, which was performed by Dr. Chris Higgins, PhD, from the

Colorado School of Mines. Dr. Higgin's laboratory has technology used to conduct Non Target Analysis tests for many PFAS compounds not routinely tested for in commercial labs. Sampling occurred from October 2018 to July 2019 and results were presented to the Pease RAB at their December 5, 2020 meeting. Dr. Higgins stated that "All of the compounds that we see at Grafton can be removed by treatment. They clearly are being captured by the GAC. To the extent that GAC and resin are used in conjunction that would probably do a very good job for both of them."

- More information can be found at: www.testingforpease.com

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