



TESTING *for* PEASE

PFAS Remediation at Pease: A Community Perspective

3rd National PFAS Conference | June 17, 2022

Andrea Amico, Co-founder Testing for Pease

Who is Testing for Pease?

Testing for Pease is a community action group, whose mission is to be a reliable resource for education and communication while advocating for a long-term health plan on behalf of those impacted by the PFAS water contamination at the former Pease Air Force Base in Portsmouth, NH

From left to right: Alayna, Andrea & Michelle



TESTING *for* PEASE



TESTING *for* PEASE

Why Did We Form?

- May 2014 – newspaper revealed that PFAS contamination was discovered in three wells supplying drinking water to the Pease International Tradeport (former Pease Air Force Base)
- One well (Haven well) tested over the EPA PHAs that were in place at that time (PFOS = 2500 ppt, PFOA = 350 ppt, PFHxS = 830 ppt) in April 2014
- All of our families were exposed to contaminated public drinking water at Pease



Pease Air Force Base (1956-1991)

- 1956 to 1991 Strategic Air Command (SAC) Base
- 4,365 acres of land with 3 on site wells
- In 1991 Pease AFB closed and became the first base in the nation to be closed under Base Realignment and Closure (BRAC)
- In 1991 Pease became a Superfund site



New Hampshire



A Superfund site is any land in the US that has been contaminated by hazardous waste and identified by the EPA as a candidate for cleanup because it poses a risk to human health and/or the environment. These sites are placed on the National Priorities List (NPL)

Pease Tradeport (1991 to current)

- Pease International Tradeport started development in 1991
- 3 municipal wells supply drinking water (Haven, Smith, & Harrison)
- Currently home to over 200 businesses
 - 2 large daycare centers
 - Restaurants
 - Healthcare/medical office buildings
 - Multiple colleges
 - Golf course
- Portsmouth International Airport (PSM) currently in operation
- Pease Air National Guard base remains active



How was Pease Contaminated with PFAS?

- Pease drinking water became contaminated with PFAS by a fire fighting foam known as AFFF (Aqueous Film Forming Foam)
- Used by the Air Force/DoD since the 1970's
- AFFF was used because it is effective in putting out petroleum based fires & only foam to meet military specifications



PFAS Contamination at Pease

- Groundwater impacts
- Drinking water impacts
 - Municipal wells
 - Residential/private wells
- Impacts to wildlife, plants, surface water, and soil (investigation is ongoing)
- PFAS detections in:
 - Shellfish
 - Freshwater fish
 - Deer liver
 - Chicken eggs
 - Sediment
 - Surface water
 - Soil
 - Dry pasture grass



NEWS

New Hampshire Great Bay shellfish test results raise concerns about PFAS



(Photo: Waste Dive)

PFAS Contamination at Pease: Drinking Water

- July 2015 - US EPA region 1 issues administrative order to US Air Force to clean up PFAS at Pease
- August 2015 - US Air Force agrees to treat all 3 drinking water wells on Pease with GAC
- September 2016 - GAC filtration of 2 wells placed online

PORTSMOUTH HERALD

Air Force agrees to treat contaminated wells

Agency is complying with EPA order

Jeff McMenemy jmcmenemy@seacoastonline.com

Published 8:26 p.m. ET Aug. 18, 2015 | Updated 9:16 p.m. ET Aug. 18, 2015

[View Comments](#)



PORTSMOUTH — The U.S. Air Force confirmed Tuesday that it will “comply with an Environmental Protection Agency order” to clean up contaminated water at the former Pease Air Force Base.

“The Air Force is committed to the protection of human health and the environment in connection with releases or potential releases of perfluorooctanoic acid and perfluorooctane sulfonate at Pease,” said Mark Correll, deputy assistant secretary of the Air Force for Environment, Safety and Infrastructure.

GAC Filter Installation – September 2016



PFAS Contamination at Pease: Drinking Water

- Oct 2016 - Haven Well piloting of activated carbon and resin treatment systems begins
- April 2019 - Construction of new Treatment system begins
- April 2020 - New Resin Filters approved by NHDES and put into service for Harrison and Smith Wells
- July 2021 - NHDES approval to reactivate the Haven Well and begin treatment through the Pease WTP
- August 2021 - Haven Well is reactivated



Portsmouth to add resin, carbon filters to target water contamination

By KIMBERLEY HAAS Union Leader Correspondent Oct 2, 2018 Updated Dec 22, 2018

PORTSMOUTH — The city will be moving forward with the latest technology as officials here work to filter out contamination from drinking water at Pease International Tradeport.



Portsmouth's Haven well to supply water again, 7 years after PFAS contamination found

Jeff McMenemy Portsmouth Herald
Published 5:00 a.m. ET Aug. 3, 2021

Virtual tour of Pease drinking water plant: <https://www.youtube.com/watch?v=02PMHbC0W7A>

PFAS Contamination at Pease: Groundwater

2 major areas of PFAS contamination at Pease

1) Site 8 / Firefighting training area

GAC & Resin pump and treat water treatment plant built and placed online in 2018



Site 8 IMS – System Components



Pretreatment bag filters & GAC



IX resin polish vessels



Distiller



IX resin vessel skid



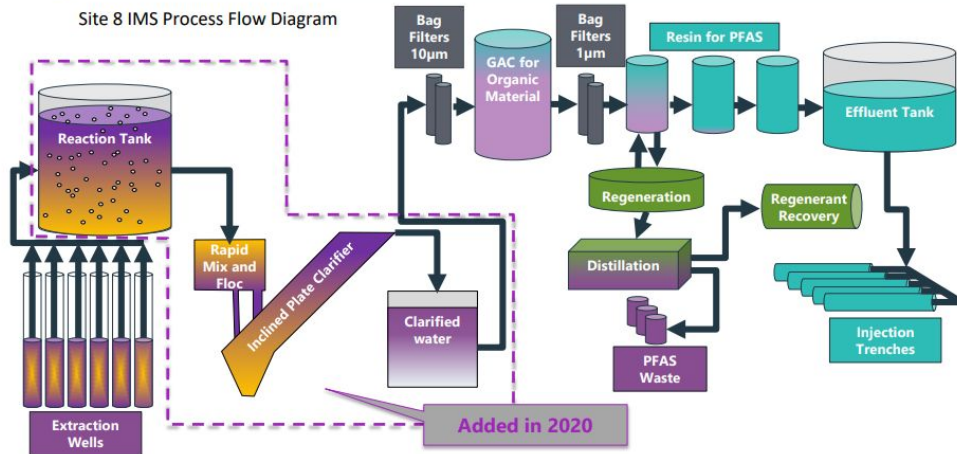
Regeneration skid

30



Site 8 IMS - What is the Site 8 IMS?

Site 8 IMS Process Flow Diagram



TESTING for PEASE

PFAS Contamination at Pease: Groundwater

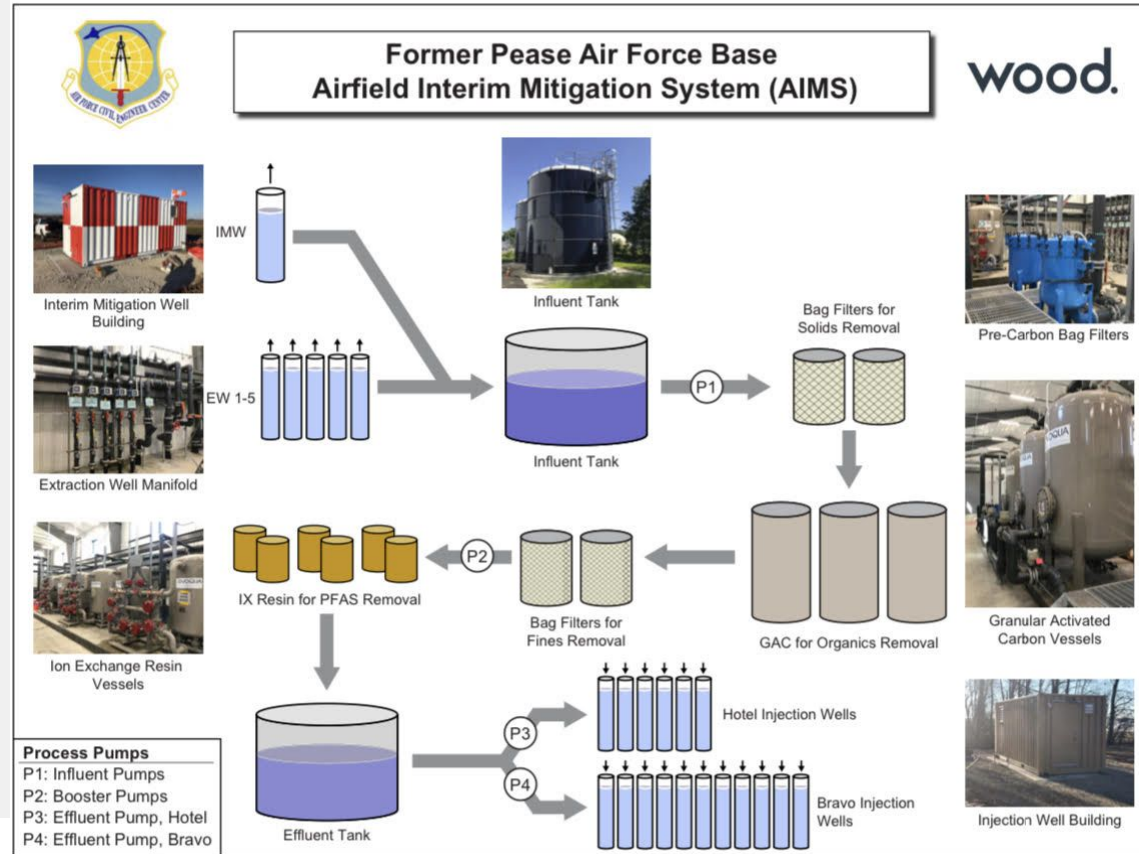
2 major areas of PFAS contamination at Pease

2) KC-135E Plane Fire in 1990

- Airfield Interim Mitigation Systems (AIMS) GAC & Resin pump and treat water treatment plant built and placed online in 2019



KC-135E Fire at Pease AFB January 1990



Video of KC-135E Fire: https://www.youtube.com/watch?v=8W_zJfJGhSI

Pease Groundwater and Drinking Water Treatment

- 1) Former Fire Training Center
 - In Operation

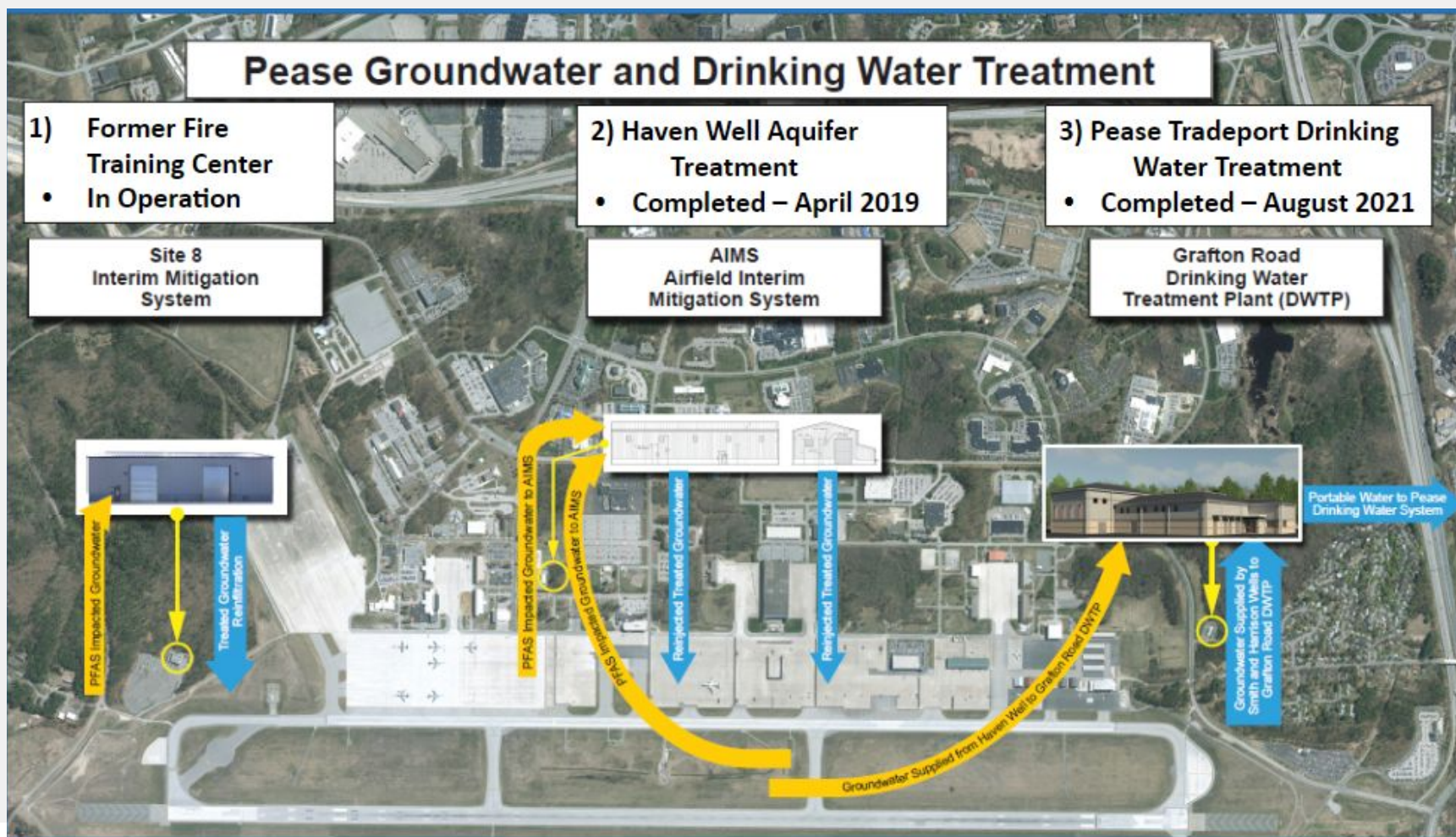
Site 8
Interim Mitigation
System

- 2) Haven Well Aquifer Treatment
 - Completed – April 2019

AIMS
Airfield Interim
Mitigation System

- 3) Pease Tradeport Drinking Water Treatment
 - Completed – August 2021

Grafton Road
Drinking Water
Treatment Plant (DWTP)



PFAS Contamination at Pease: CERCLA Process

- CERCLA is the US federal Superfund law, officially the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, established the federal Superfund program, administered by the Environmental Protection Agency.
- The Air Force uses the CERCLA process at Pease to guide their work.



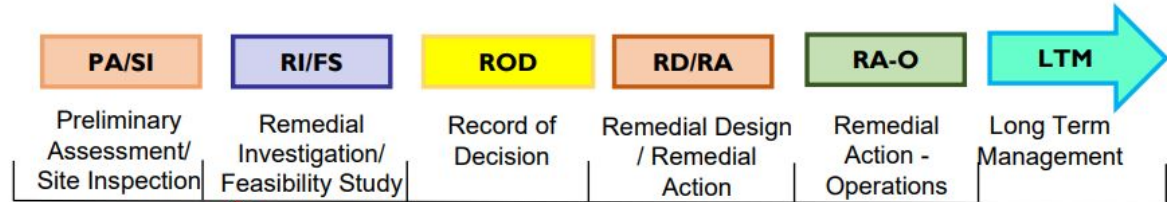
CERCLA Overview



Conceptual Process



CERCLA Nomenclature



Begin Summer 2020

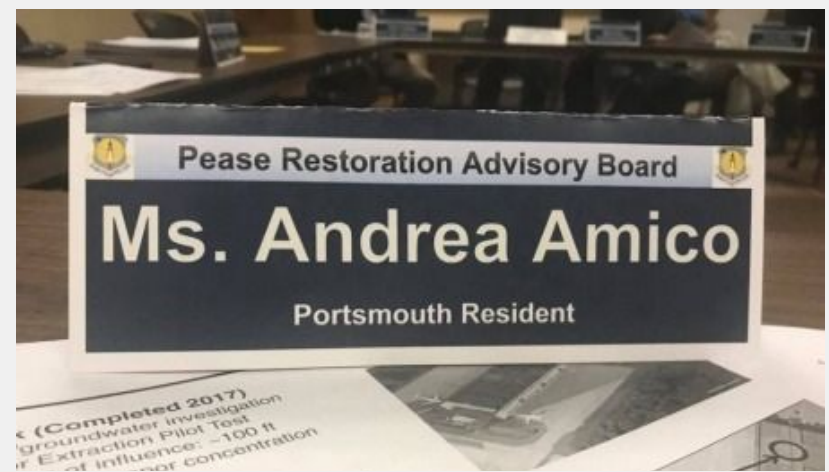
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)



TESTING for PEASE

Pease Community Challenges

- Unregulated compounds = lack of action on all PFAS
- PFAS waste was being incinerated, now being sent to Subtitle C landfill
- RAB set up in a way that does not allow full community engagement and input
- Lack of technical assistance to community
- Treatment technology still allowing short chain PFAS to breakthrough
- Lack of analytical methods to detect ALL PFAS to better understand full exposure
- AFFF is a mixture of PFAS - not all PFAS used in AFFF is known
- DoD was not complying with State of NH drinking water standards in residential private wells from 2019-2021 (DoD has recently agreed to comply in 2022)



Pease RAB Meeting | 9/18/2019

Pease Community Challenges

- CERCLA is a very slow process
- Fire fighting foams w/short chain PFAS still in use
- Full extent of the contamination to the environment still not known
- Community engagement frustrating at times due to lack of transparency and comprehensive data given to communities (made worse by section 345 in NDAA)
- DoD focuses on limited number of PFAS
- Community with many unanswered questions (i.e. how will we address remediation in other areas - soil, surface water, wildlife, etc?)



Families on edge over water contamination at former New Hampshire air base

By Michael Casey, The Associated Press

Mar 4, 2017



In this March 4, 2017 photo, Michelle Dalton, Andrea Amico and Alayna Davis, all mothers with children at a daycare center at Pease International Tradeport in Portsmouth, N.H., pose together at the tradeport. Several hundred children who drank contaminated water at day care centers located on the former Air Force Base have been found to have elevated levels of chemicals in their blood. Given so little is known about the health impacts of the chemical, PFOA, the parents are struggling for answers and wondering what might happen to their children. (AP Photo/Elise Amendola)

PORTSMOUTH, N.H. — The Pease International Tradeport, which features an airport, hundreds of businesses and several day care centers, has been called a textbook example of how to redevelop an air base.

Pease Community Remediation

Key Takeaways

- \$76 million spent at Pease by the Air Force so far in addressing PFAS
- The extent of the PFAS contamination and how long it will take to fully clean it up has not yet been determined
- It has taken a multi agency and team approach to address PFAS
 - US Air Force
 - US EPA
 - NH DES
 - NH Fish & Game
 - City of Portsmouth
 - Town of Newington
 - Pease Development Authority
 - Community Advocacy Groups

NEWS

Shaheen unveils \$20 billion PFAS water bill

Staff Writer Fosters Daily Democrat

Published 1:40 p.m. ET March 12, 2020

[View Comments](#)



Sen. Jeanne Shaheen, D-N.H., seen on Capitol Hill, Tuesday, May 7, 2019 in Washington, on Thursday introduced legislation to provide \$20 billion over the next decade to help communities clean-up PFAS contamination. [AP photo/Alex Brandon, file] Fosters Daily Democrat

PORTSMOUTH — Sen. Jeanne Shaheen has introduced legislation to provide \$20 billion over the next decade to help communities clean-up PFAS contamination in drinking water and private wells.

- Significant Congressional support has assisted in holding DoD accountable
 - PFAS legislation
 - Multiple amendments in NDAA
 - Meetings with key DoD officials
 - Congressional hearings
- Strong community advocacy has helped with action and remediation
 - NH MCLs
 - Treatment of all 3 wells
 - GAC & resin technology to address long & short chain PFAS
 - DoD agreeing to comply with NH state standards



TESTING for PEASE

Pease Community Remediation

Key Takeaways

- Community engagement and RABs/RACs needs more transparency and improvement at DoD sites nationwide
- Technical assistance needed for community to better understand data and plan to address contamination
- DoD must fully own their responsibility in causing global PFAS contamination and work efficiently and effectively to test for all PFAS, clean up all PFAS, and make impacted communities whole

'Improve transparency': Portsmouth's Andrea Amico makes case on PFAS water contamination in U.S. Senate

Jeff McMenemy Portsmouth Herald

Published 1:35 p.m. ET Dec. 10, 2021

[View Comments](#)



Portsmouth environmental activist Andrea Amico testified at a U.S. Senate



TESTING *for* PEASE

Thank you for listening....

“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever has.”

~ Margaret Mead

For more information, please visit:

www.testingforpease.com



facebook.com/TestingforPease



twitter.com/Testing_4_Pease



TESTING for PEASE

NEWS

Moms put face on PFAS contamination

EPA to hold two community events in Exeter this week to discuss chemicals

Jeff McMenemy jmcmenemy@seacoastonline.com

Published 4:15 p.m. ET June 23, 2018 | Updated 5:07 p.m. ET June 23, 2018

[View Comments](#)



From left, Lindsey Carmichael, Alayna Davis, Andrea Amico and Michelle Dalton are parents who work with Testing for Pease, a community action group advocating for a long-term health plan on behalf of those affected by the water contamination at the former Pease Air Force Base in Portsmouth. [Rich Beauchesne/Seacoastonline] *Fosters Daily Democrat*

PORTSMOUTH — The dangers posed by PFAS chemicals hit home to Testing for Pease co-founders Andrea Amico, Alayna Davis and Michelle Dalton.