welcome


Weston & Sampson
SM
transform your environment

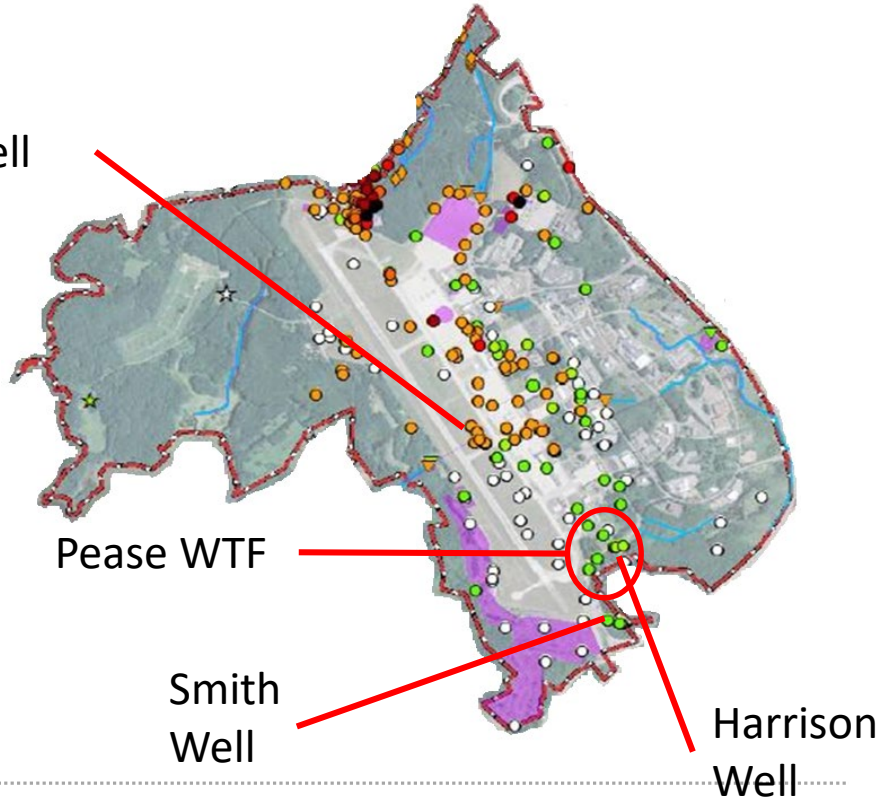
FORMER PEASE AIR FORCE BASE

Pease Well Is Shut Down After Unregulated Contaminant Discovered

By SAM EVANS-BROWN • MAY 22, 2014

Tweet Share Google+ Email

May 2014

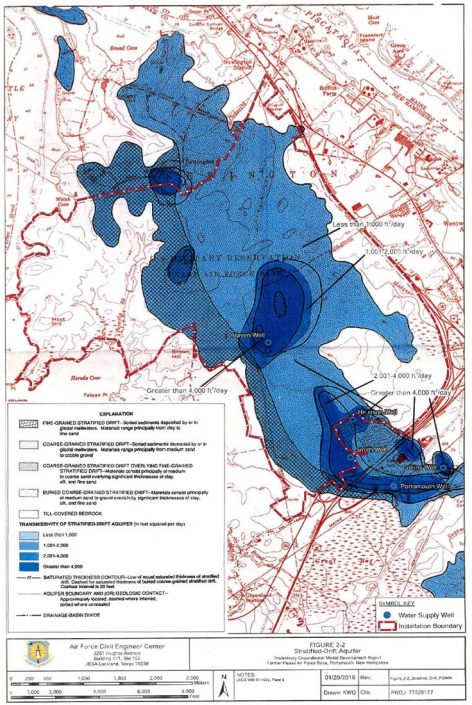


Weston & Sampson

PEASE DRINKING WATER SOURCES

Well	Flow Rate (gpm)	PFOA+PFOS (ng/L)
Harrison	286	29
Smith	343	12
Haven	534	1,495-2,600

Average PFOA+PFOS concentrations, Harrison and Smith: 2016-2017, Haven: 2016



Weston & Sampson

Article published May 22, 2014

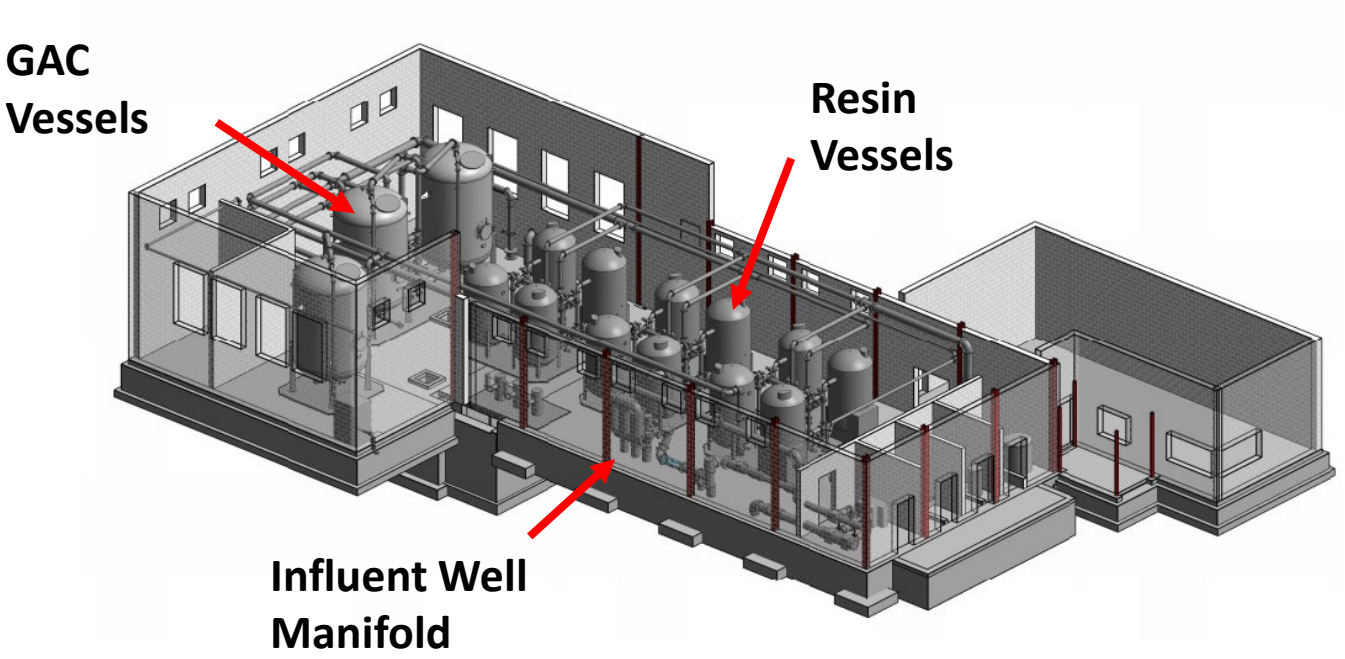
Contaminated well shut down at Pease Tradeport

PORTSMOUTH — A well that serves the Pease International Tradeport has been shut down after testing positive for a chemical contaminant, according to the state Department of Environmental Services.

Weston & Sampson

DEMONSTRATION STUDY-SEPT 2016

PROPOSED PERMANENT WTP LAYOUT



PEASE PERMANENT WTP

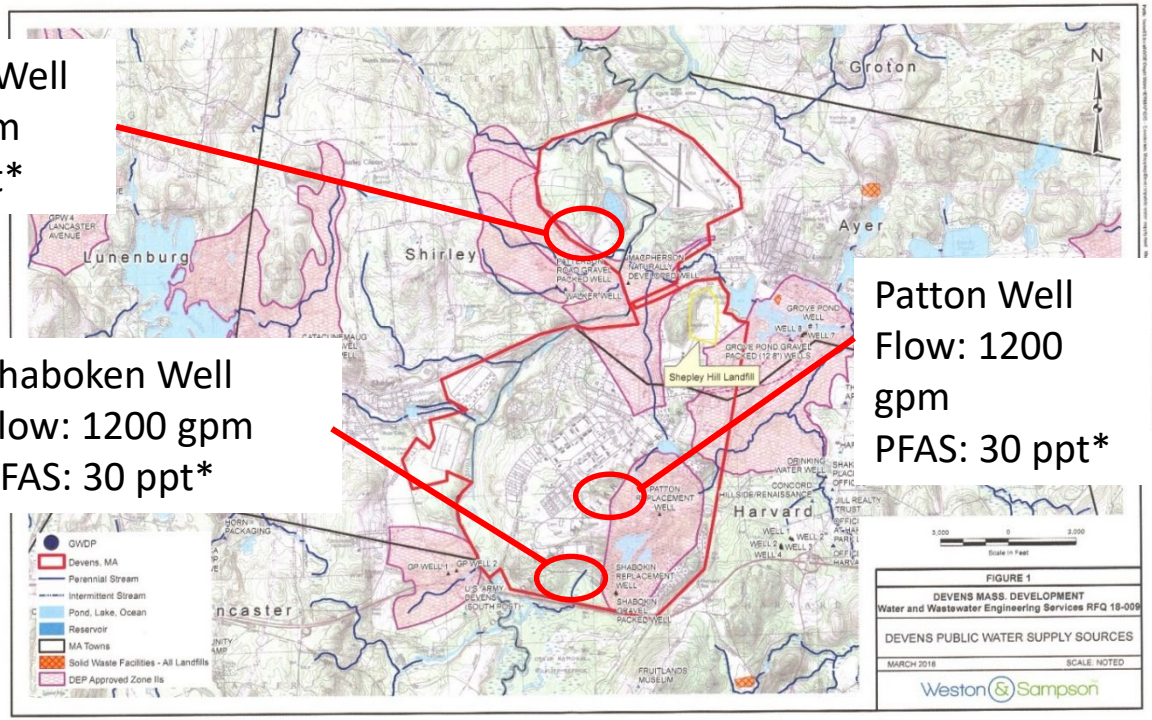
Weston & Sampson℠

CASE STUDY: FORMER US ARMY BASE FORT DEVENS

MacPherson Well
Flow: 650 gpm
PFAS: 120 ppt*

Shaboken Well
Flow: 1200 gpm
PFAS: 30 ppt*

Patton Well
Flow: 1200 gpm
PFAS: 30 ppt*



*Sum of PFOS + PFOA + PFHxS + PFHpA + PFNA + PFDA

MacPHERSON WELL TEMPORARY FILTER

- Well capacity: 650 gpm
- PFAS: ~120-130 ppt
- Temporary Design
  - Single 10’ GAC vessel
  - 400 gpm (10 min EBCT)
  - Insulated stick-built structure (installed at later date)

~4 months from initial meeting with DEP to startup to distribution system

MacPHERSON PERMANENT WTP

Weston & Sampson℠

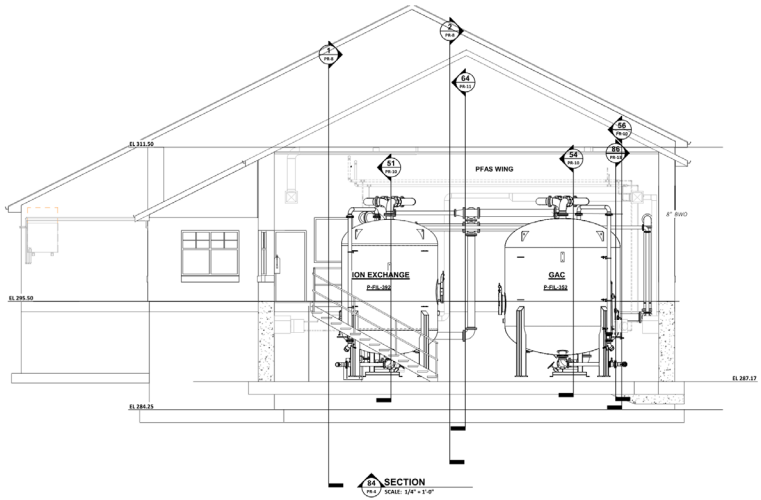
SHABOKEN WELL TEMPORARY FILTERS

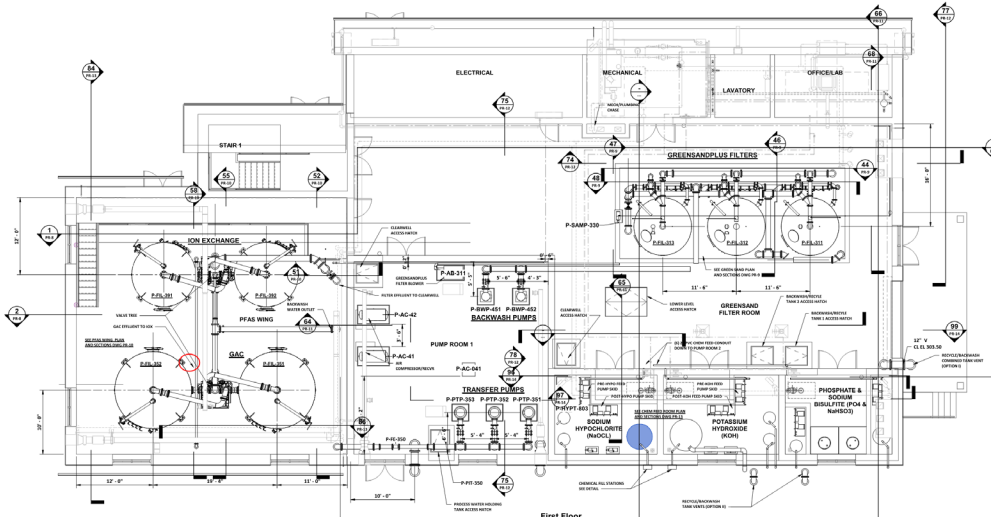
- Well capacity: 1,200 gpm
- PFAS ~30-40 ppt
- Temporary Design
  - Two pair 12’ GAC vessels
  - Up to 900 gpm (10 min EBCT)
  - Insulated membrane structure (installed at later date)

PATTON WELL

- Well Capacity: 1,200 gpm
- PFAS ~30-40 ppt
- Temporary Design
  - Three 4’ diameter resin filters
  - 200 gpm each (parallel flow)
  - Insulated storage container

PERMANENT WTP - SHABOKEN & PATTEN





CONCLUDING THOUGHTS

- GAC and resin media filters are both capable of removing PFAS(6) below current detection levels
- Iron, Manganese, organics, and other precursors can create operational challenges with both types of filters
- Temporary (fast-track) treatment at the well sources is becoming a widely accepted solution to this problem
- Local and federal funding for these types of projects have high potential

thank you

westonandsampson.com


Weston & Sampson
SM
transform your environment

MassDEP PFAS GUIDELINES

- May 2016 – EPA Health Advisory
  - **70 ppt (PFOS + PFOA)**

- June 2018 – Office of Research and Standards Guideline (ORSG)
  - 70 ppt (PFOS + PFOA **+ PFHxS + PFHpA + PFNA**)

- April 2019 – GW-1 Standard
  - **20 ppt** (PFOS + PFOA + PFHxS + PFHpA + PFNA **+ PFDA**)