

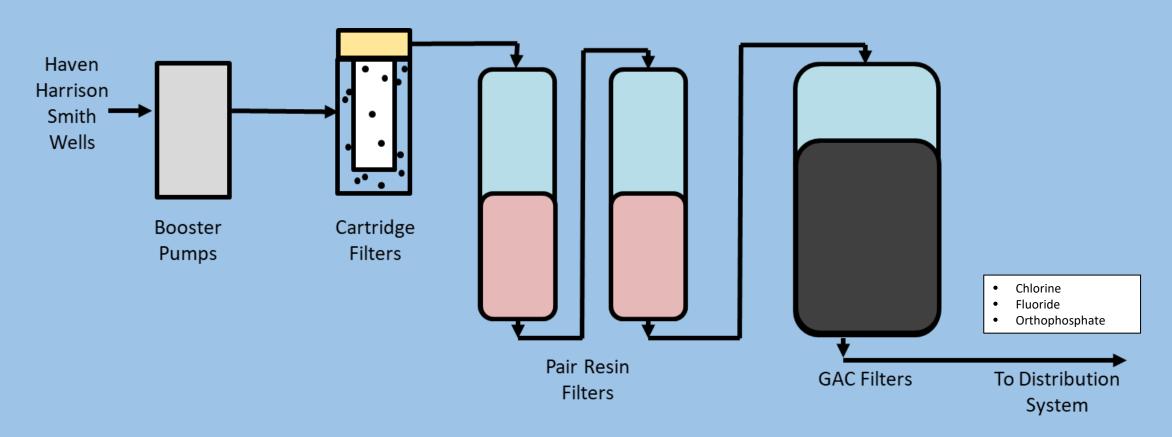


THE PEASE TRADEPORT WATER SYSTEM UPDATE

November 1, 2023

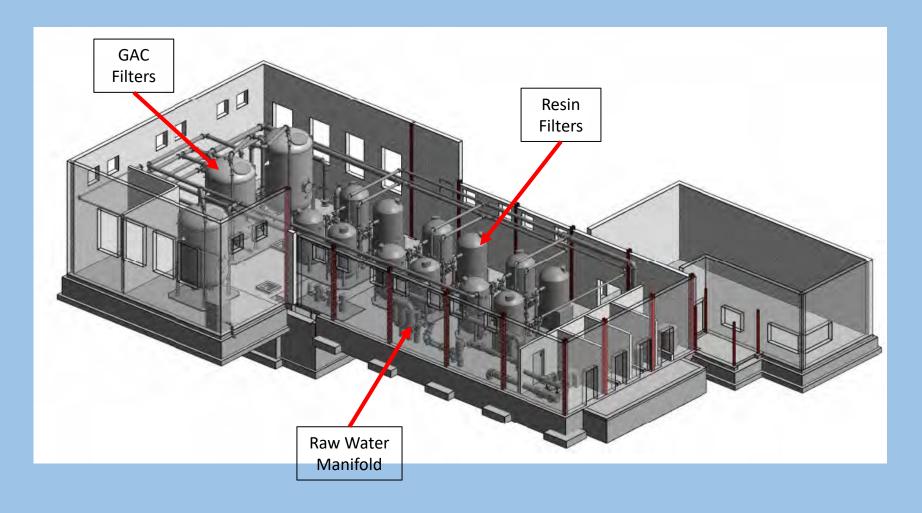
Pease Restoration Advisory Board

Pease WTF Process Schematic New Treatment System



2014 2015 2016 2017 **2018** 2019 2020 2021 2022 2023

Final Proposed Treatment Layout



2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

Filter Room – Resin and GAC Filters – March 2021



2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

Two Years of Construction

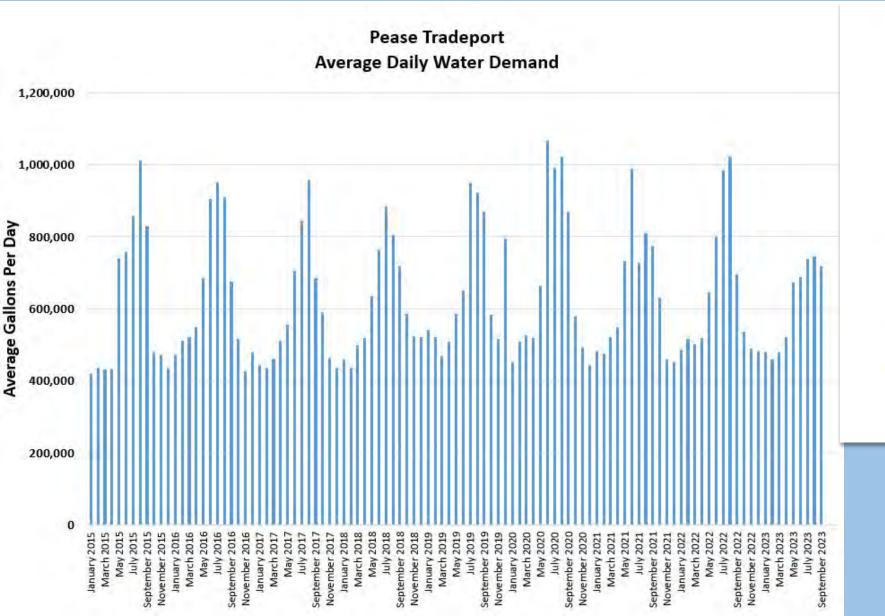
April 2019



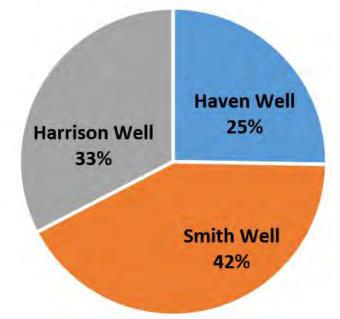
April 2021



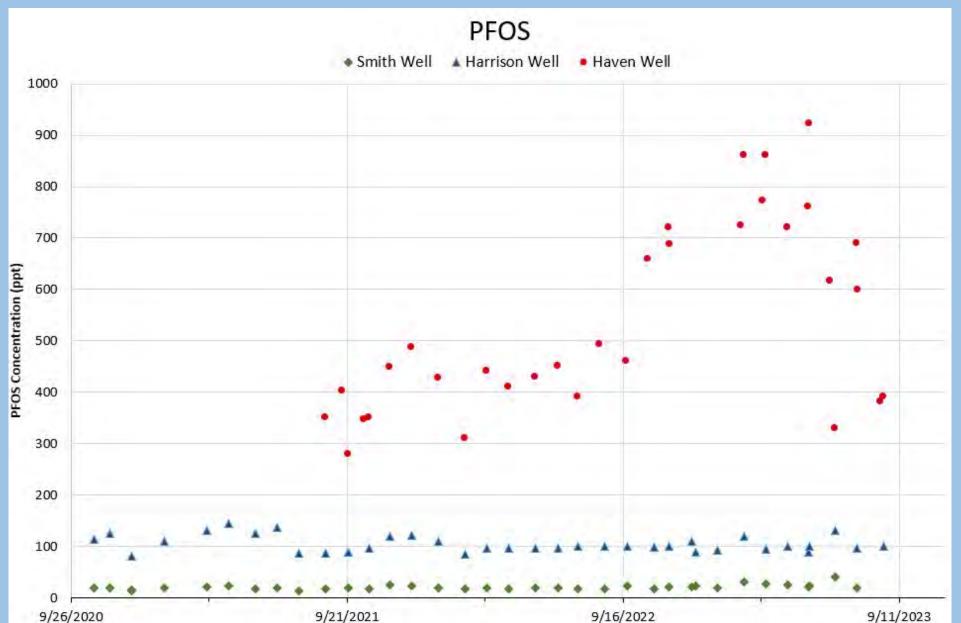
System Performance: Supply Wells



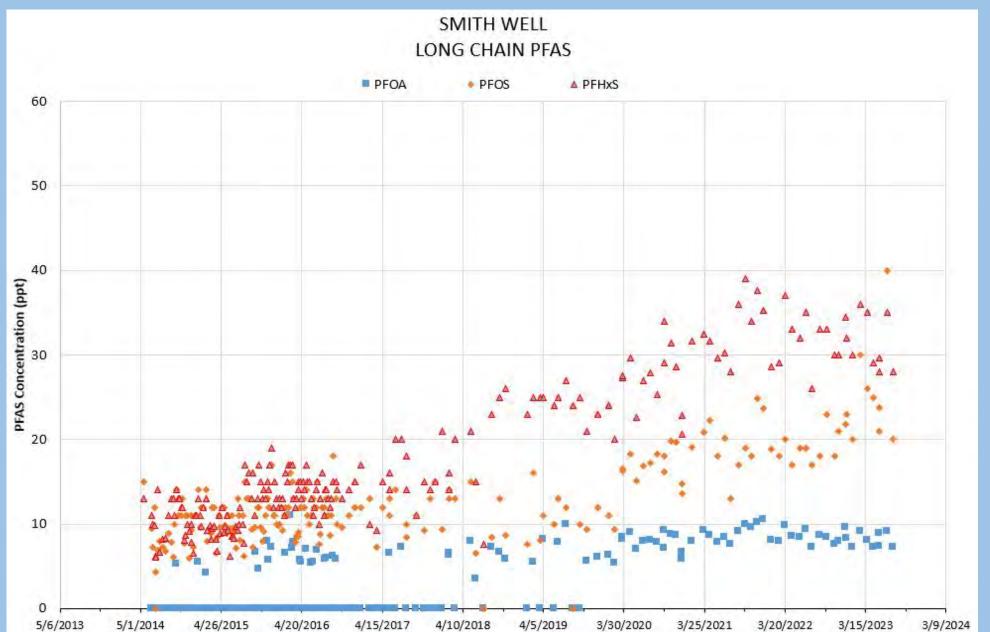
Pease Well Production May 2021 - April 2023



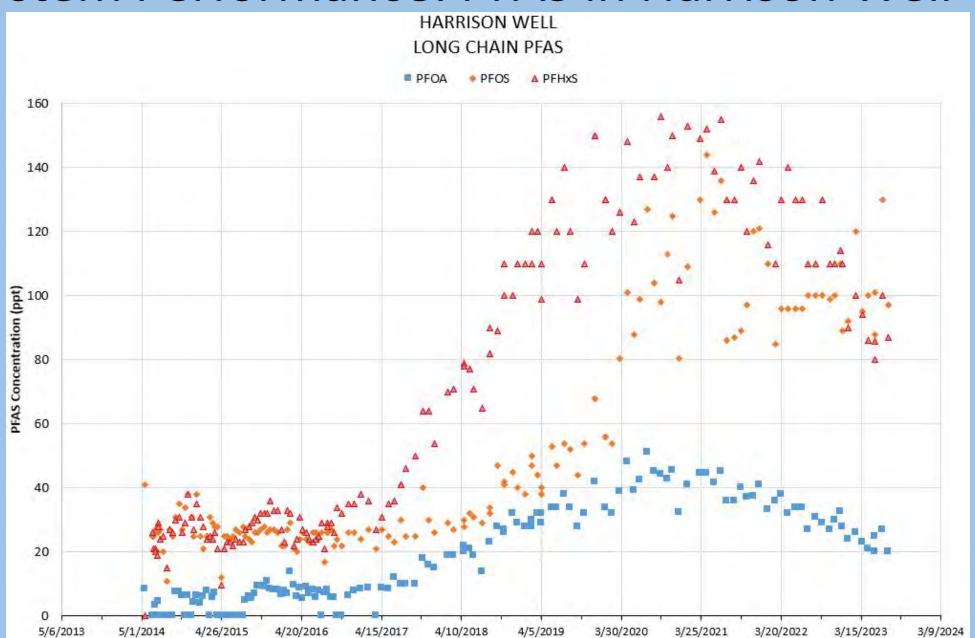
System Performance: PFOS in Supply Wells



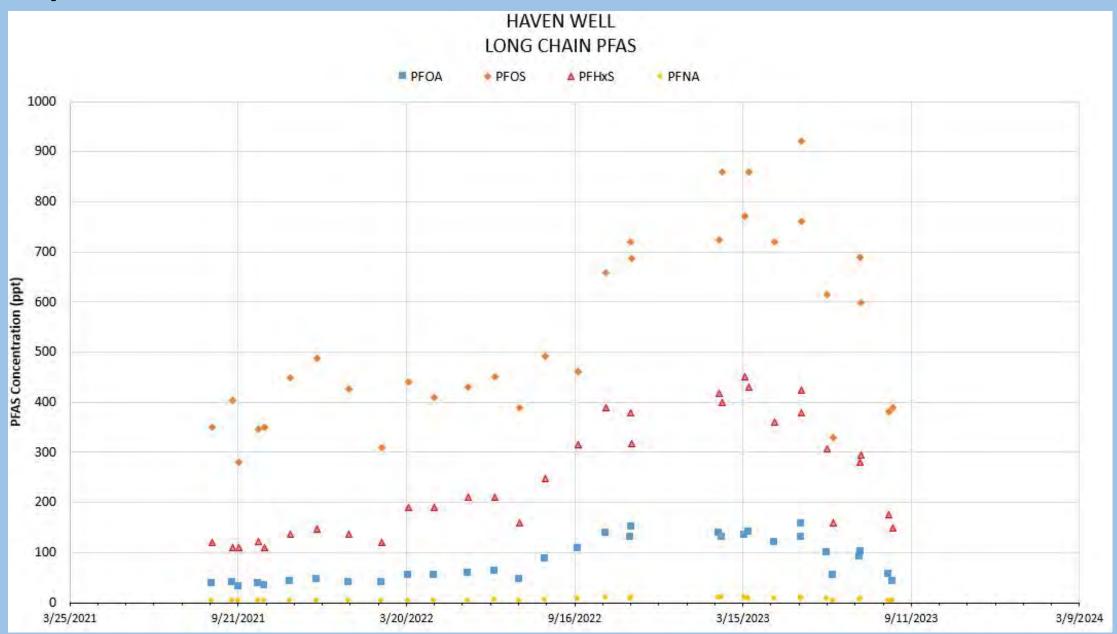
System Performance: PFAS in Smith Well



System Performance: PFAS in Harrison Well



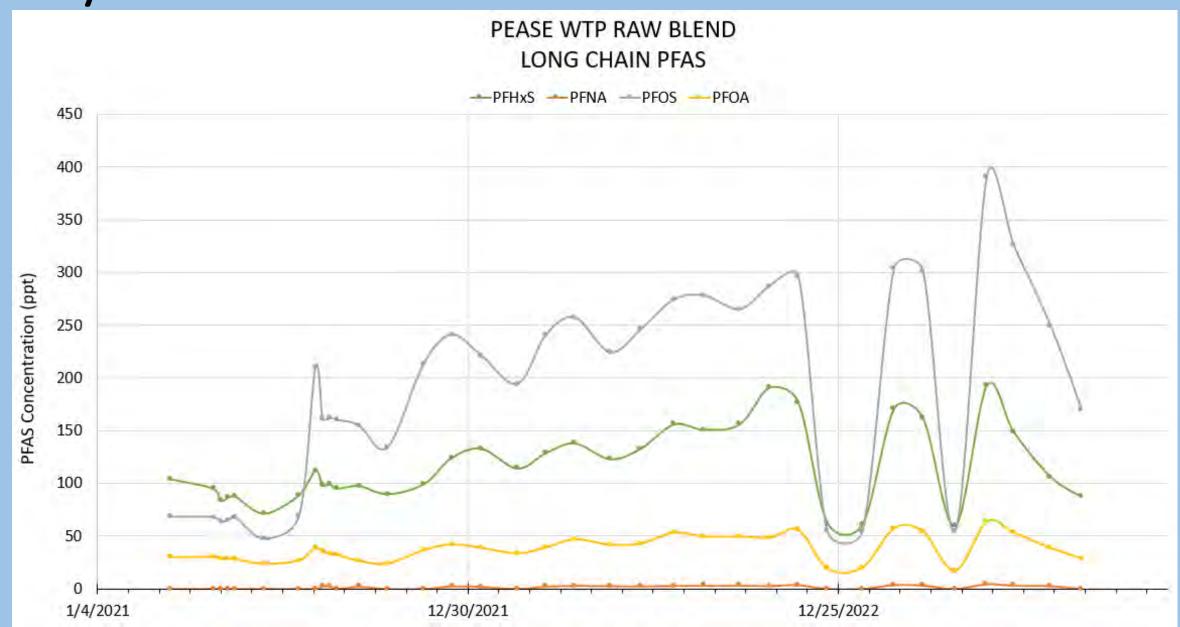
System Performance: PFAS in Haven Well

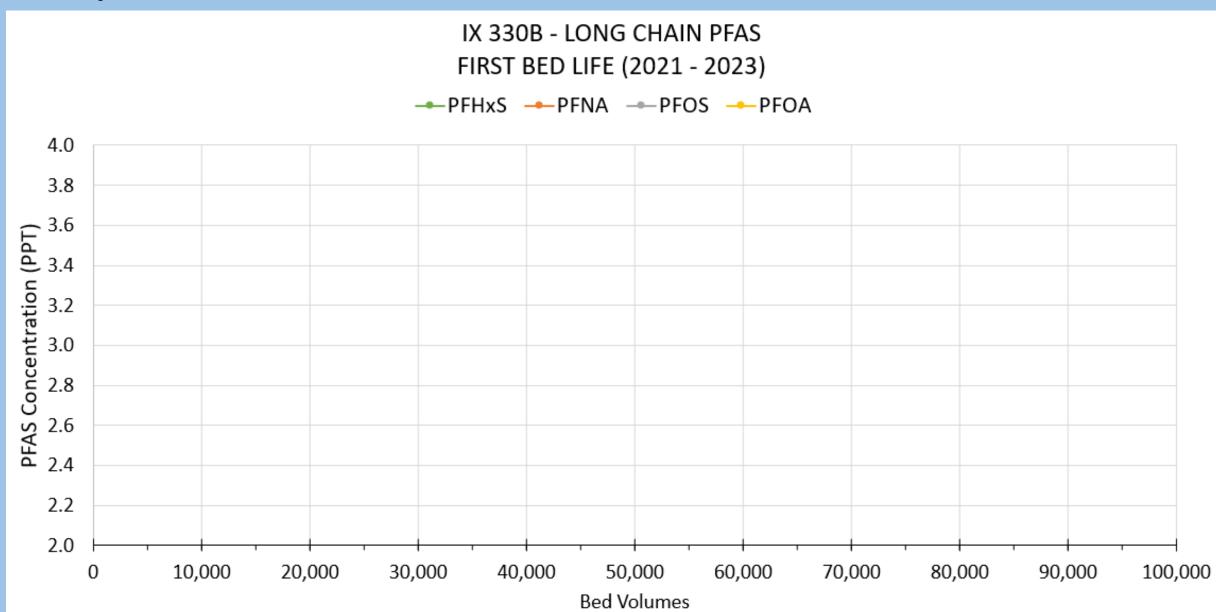


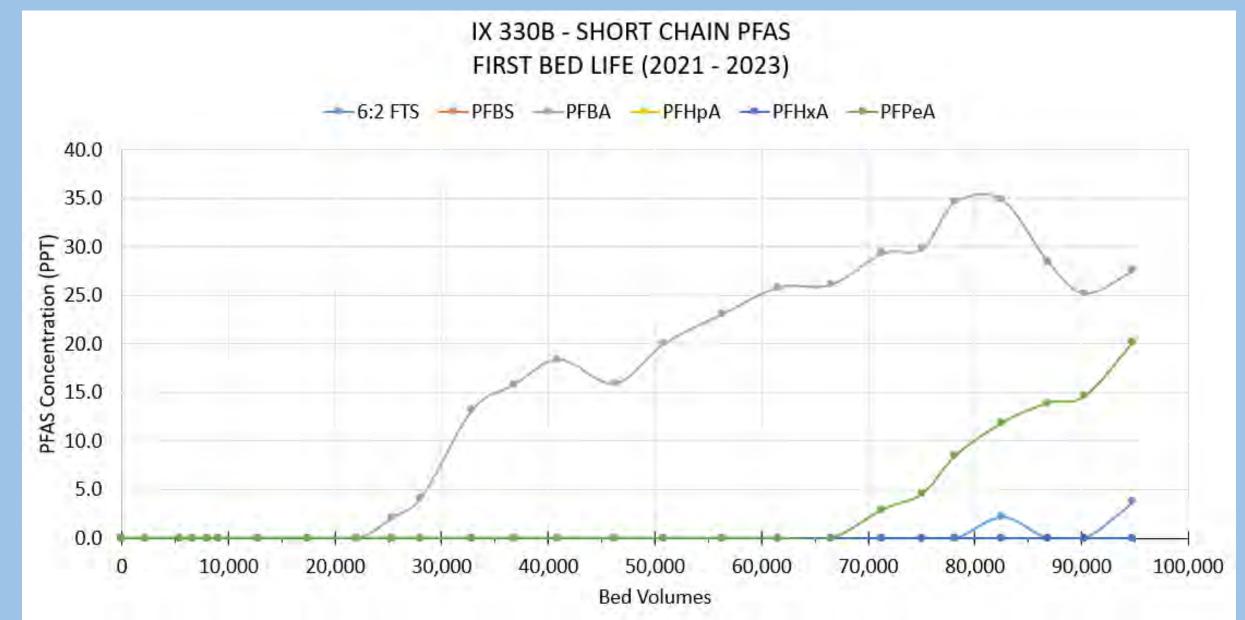
April 17, 2023 – 2 Years in Service

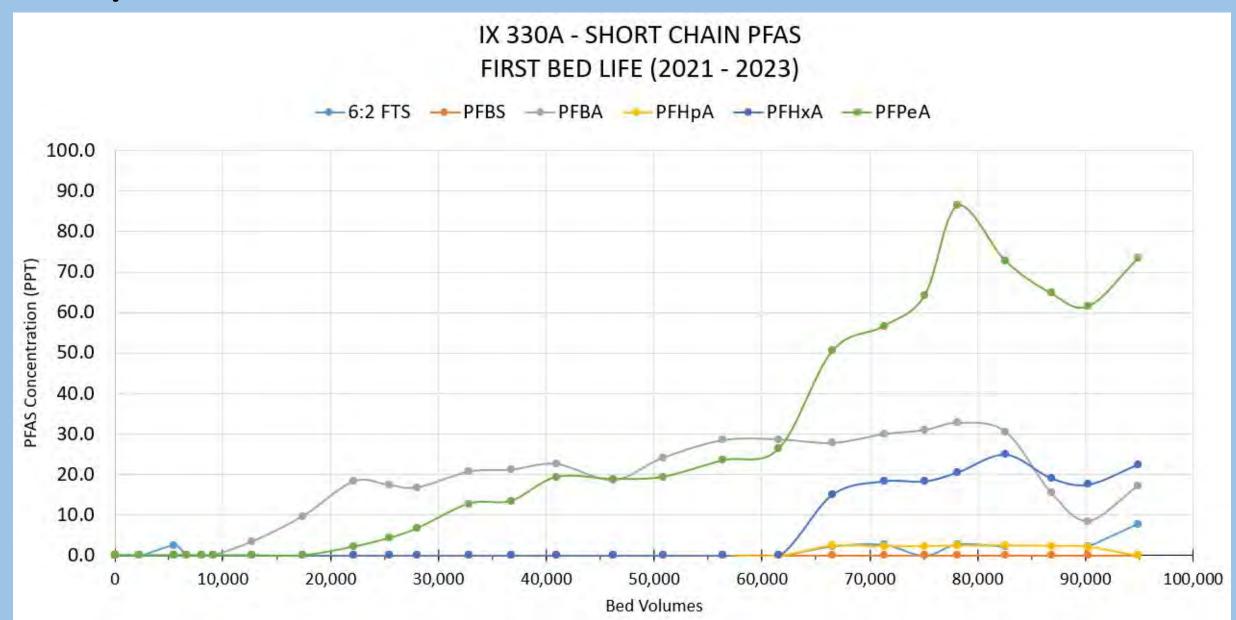
1 BV = 1,137 Gallons

	<u>Lead</u>	Lag	<u>MG</u>	Bed Volumes
\rightarrow	• IX 310 A -	> IX 310 B	107	94,110
	• IX 320 A -	> IX 320 B	26	23,149
\longrightarrow	• IX 330 A -	> IX 330 B	108	94,865
	• IX 340 A -	> IX 340 B	16	14,397
\longrightarrow	• IX 350 A -	> IX 350 B	104	91,557
	• IX 360 A -	> IX 360 B	52	45,468

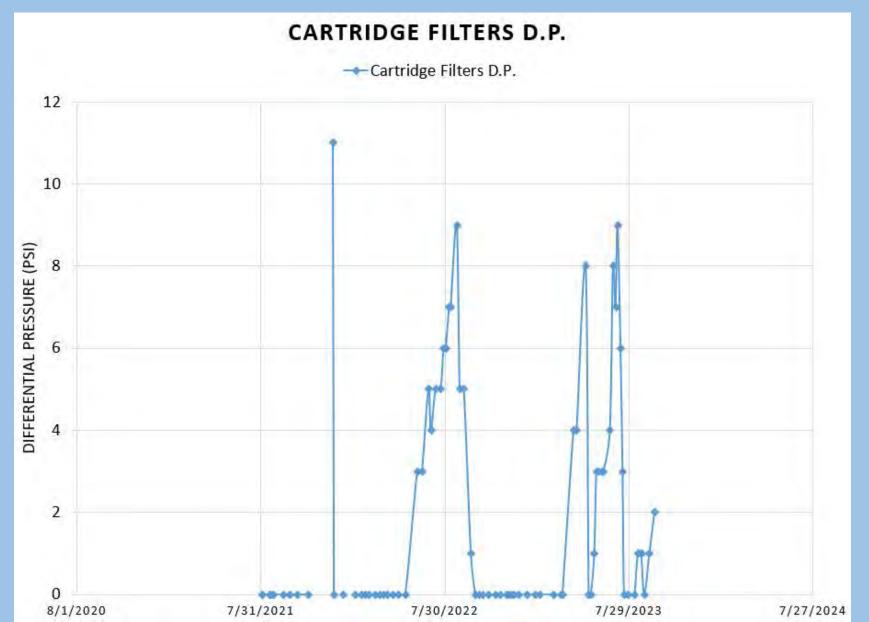




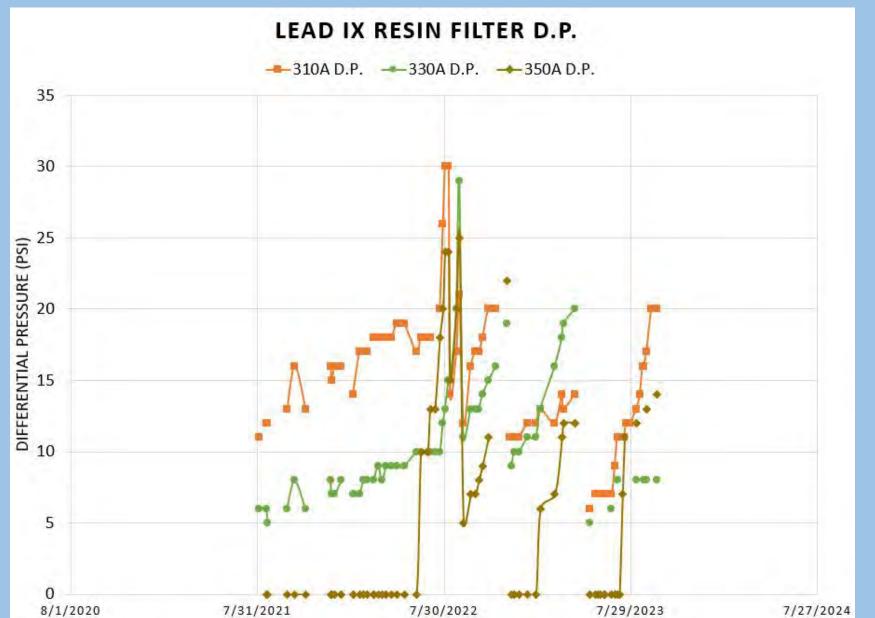




System Performance: Differential Pressure



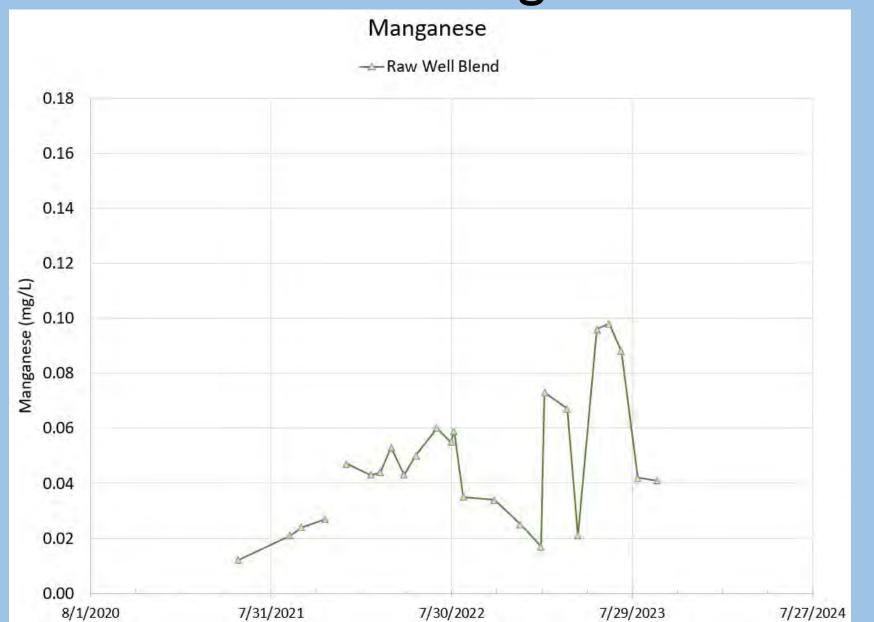
System Performance: Differential Pressure



System Performance: Manganese



System Performance: Manganese



System Performance: Manganese



Treatment Piloting

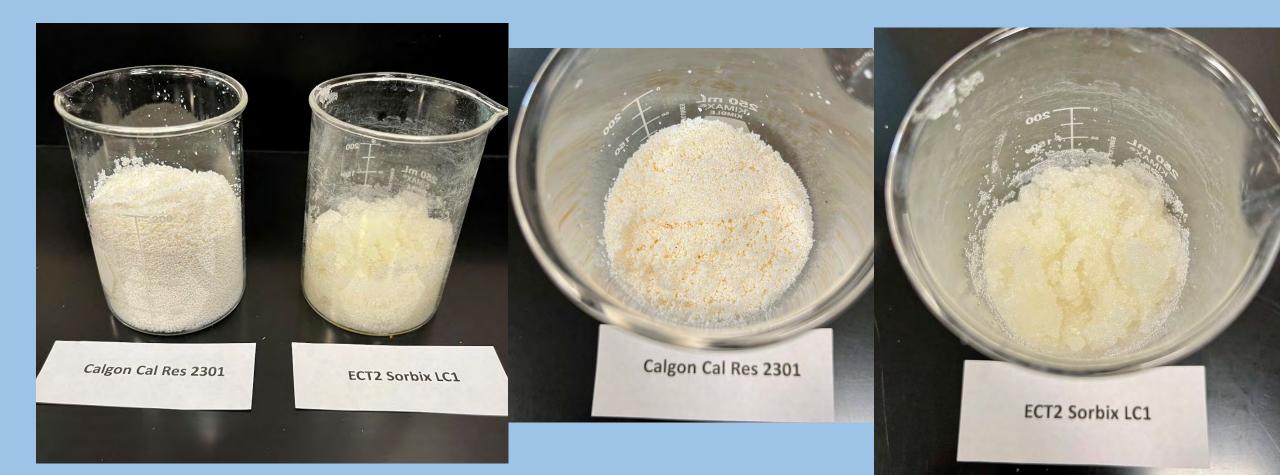
- Utilized to determine performance of other potential filter medias
- Four different medias can be compared
- Incoming water is only from Haven well



Tim Green, Chief Operator With Treatment Pilot System

System Performance: IX Resin Replacement

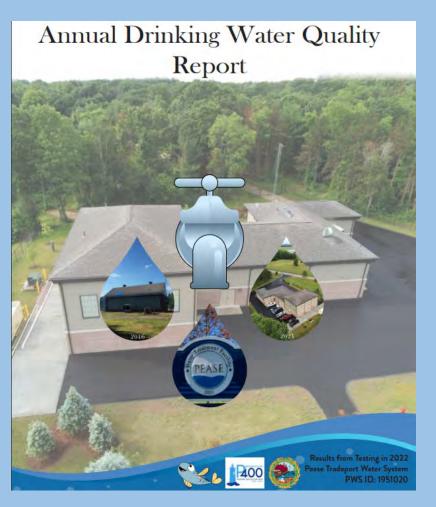
- IX Resin Replaced in Trains 310, 330 and 350 April 2023
- Calgon CalRes 2301 instead of Sorbix LC1



Forensics and Montoring Continues...



Outreach Continues...



2022 WATER QUALITY RESULTS

	CONTRAMMENT JUNIT OF MEASUREMENT			LEUR MARKEN	Carrol :		101.1	CONTRAMINATION
	Total Coliform Bacteria	/	N	NO total coliform bacteria detected in the 120 distribution system-samples that were collected and analyzed in 2021				Naturally present in the environment
DRIMESCHON	Haloacetic Acids (ppb)	/	N.	Highest Level Measured: <1	Non-Detect	N/A	60	Byproduct of drinking water disinfection
	Total Trihalomethanes (ppb) (Blumsdicthino-mini- arie Blumetein, Disness- methani, Chiopform)	V	N	Highest Level Measured: 0.7	0.5-0.7	N/A	80	Byproduct of drinking water chlorination
CORPE.	Lead (ppb)	/	N	90th Percentile = 2	0 sites above AL (42 sites sampled)	15	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits
	Copper (ppm)	/	N	90th Percentile = 0.485	1 site above AL (42 sites sampled)	1,3	AL = 1.3	Corresion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
INDISCANICCONTAKKINATS	Barium (ppb) 2018 - 2022 cmm	/	N	Highest Level Measured: 9.9 Avg Source Level: 9.7	9,4-9.9	2000	2000	Discharge of drilling wastes: discharge from metal refineries; erosion of natural deposits
	Chilorine (ppm)	/	N	Highest Level Measured: 1.13 Avg System Level: 0.77	0.30+1.13	MRDLG 4	MRDL #4	Water additive used to control microbes
	Chromium (total) (ppb)	/	N	Highest Level Measured; <1 Avg Source Level <1	Non-Detect	100	100	Discharge from steel and pulp mills; erosion of natural deposits
	Fluoride (ppm)	/	N	Highest Level Measured: 1.02 Avg Source Level: 0.60	0.09 - 1.02	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
	Nitrate (as Nitrogen) (ppm)	/	N	Highest Level Measured: 1.2 Avg Source Level: 0.97	0.85 - 1.2	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
PACEGACTIVE CONTRAGORANTS	Compliance Gross Alpha (pCVL)	/	N	Highest Level Measured: 1.1	<1-1.1	0	15	Erosion of natural deposits
	Dranium (ug/L)	/	N	Highest Level Measured: <1	Non-Detect	0	30	Erosion of natural deposits
	Combined Radium 226 + 228 (pCI/L)	/	N	Highest Level Measured: <1	Non-Detect	0	5	Erosion of natural deposits
SARSTANCES	Mangariese (ppb)	~	N	Highest Level Measured: 26	<1 - 26 Naturally-occurring eleme including use in seel groot suffreed and strength. Ess mineral supplement and to		nt used in a variety of application luction to improve hardness, ential nutrient found in vitamin/ infortified foods	
PRAS	Per- and Polyfluoroalkyl Substances (PFAS)	1	N	See PFAS section		Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff / leachate from landfills and septic systems		

2022 WATER QUALITY RESULTS

Per- and Polyfluoroalkyl Substances (PFAS)

On September 30, 2019 the NHDES established limits on the concentrations of four per- and polyfluoroalkyl substances (PFAS) in drinking water. The NHDES maximum contaminant level (MCL) for drinking water and groundwater is 15 parts per trillion (ppt) for perfluorooctane-sulfonic acid (PFOS), 12 ppt for perfluorooctanoic acid (PFOA), 11 ppt for Perfluorononanoic Acid (PFNA), and 18 ppt for Perfluorohexane sulfonic acid (PFHxS). These limits are based on an annual rolling average of the sample results. In March, 2023, the US EPA proposed regulations that would limit acceptable concentrations of six PFAS in drinking water, including the four PFAS currently regulated by the NHDES. The proposed regulation is currently open for public comment.

The US EPA's finalized regulation is expected in late 2023 or early 2024. Until the EPA finalizes the PFAS drinking water regulation, water suppliers in NH are required to meet the NHDES PFAS limits. Over the past nine years, the Harrison Well and Smith Well in the Pease Tradeport Water System, and Portsmouth Well #1 and Collins Well in the Portsmouth Water System, have been routinely monitored for PFAS by the Air Force. Since the activation of the Haven Well, it has been sampled monthly. The City of Portsmouth samples all of the Portsmouth water supply sources quarterly. Sample results from 2022 are summarized in the PFAS table in this report. All monitoring data is available online: cityofportsmouth.com/publicworks/water/pease-tradeport-water-system

		PORTSMO				PEASE TRADEPORT TREATED WELL WATER
ER: AND POLYFLUOROALKYL SLIBSTANCE MAINIM CONTAMINANT LEVEL (MCL)		POSTSMOUTH	COLLEGENBLL	GIERRAND	SLEPNED ATTRICKE TREATMENT	
	of sample	13	13	4	13	
% of wo	ter supplier	fin 2022	0.7%	0.3%	1.2%	97.8%
6:2 Fluorotelomer Sultonate (6:2 FTS)	ret	Auerage	BD	ND	ND	ND
6.2 Historoteloiner sultonase (6.2 Frs)	regulated	Range	ND - 1	ND	ND	ND
	not regulated	Autroga	3	12	2	ND
Perfluorobutane-sulfonic acid (PFBS)		Amp	2-3	5 - 20	ND-3	ND
	not regulated	Aurzge	4	4	2	16
Perfluorobutanoit acid (PFBA)		Range	2-5	2-10	ND - 3	4-30
Perfouoroheptanoic acid (PFHpA)	rog_Lead	Awage	4	BD	1	ND
Periodolompianoscacio (PPRDA)		Rings	2-6	ND - 2	ND-3	ND
Perfluorohexane-sulfonic acid (PFHxS)	18	Average	7	2	1	ND
Per ((uordinatame-succent, acid (PPPixs)	10	Range	5-10	ND - 3	ND-3	ND
Perfluorohexanoic acid (PFHxA)	ret regulated	Aurage	6	4	4	ND
Per Hadional Xande, and (PPH, CA)		Range	4-9	ND - 3	4-5	ND
Perfluoronomanoic acid (PFNA)	H	Aircage	BD	BD	ND	ND
Partitude distributed acted (Friend)		Rango	ND-<1	ND-<1	ND	ND
Perfluorooctane-sulfonic acid (PFOS)	15	Auroge	5	3	4	ND
Action desired Statement area It seeds	12	Rings	3-6	ND - 6	3-5	ND
Perfluorooctanoic acid (PFDA)	12	Average	5	3	4	ND
		Range	3-8	ND - 6	4-5	ND.
Perfluoropentanoic acid (PFPeA)	rice regulated	Average	7	2	5	ND
action openion was a see [177 and		Range	4-11	ND - 4	3-6	ND.

BD (fieldw detected level); Average calculated

undecine-1 Sulfanic Acid (110-7630UdS)

For more information about PFAS health effects: www.atsdr.cdc.gov/

Regulations Continue...

