



# Naval Support Activity (NSA) Mechanicsburg Mechanicsburg, Pennsylvania Results of Off-Base PFAS Drinking Water Investigation

April 2022

**In early 2022, the Navy sampled 8 drinking water wells near Naval Support Activity (NSA) Mechanicsburg for certain chemicals referred to as per- and polyfluoroalkyl substances, commonly known as PFAS. None of the 8 wells sampled contained these chemicals at levels greater than the Environmental Protection Agency's (EPA's) drinking water lifetime health advisory.**

PFAS are a family of thousands of different chemicals which have been widely used in industrial and consumer products since the 1950s. The EPA has issued a drinking water lifetime health advisory for two commonly used and studied PFAS, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS).

The most common Navy activity that could have resulted in the historical release of PFOA, PFOS, and other PFAS to the environment at NSA Mechanicsburg (Figure 1) is the use of firefighting foam (specifically aqueous film-forming foam, or AFFF) for testing, training, firefighting, and other life-saving emergency responses. Because of this historical use, PFOA, PFOS, and other PFAS are present in the groundwater on-base, resulting in the potential for them to migrate to off-base drinking water wells in the direction that groundwater flows away from the installation. The Navy developed a proactive policy to sample off-base drinking water wells that could be impacted by past releases of PFAS on-base.

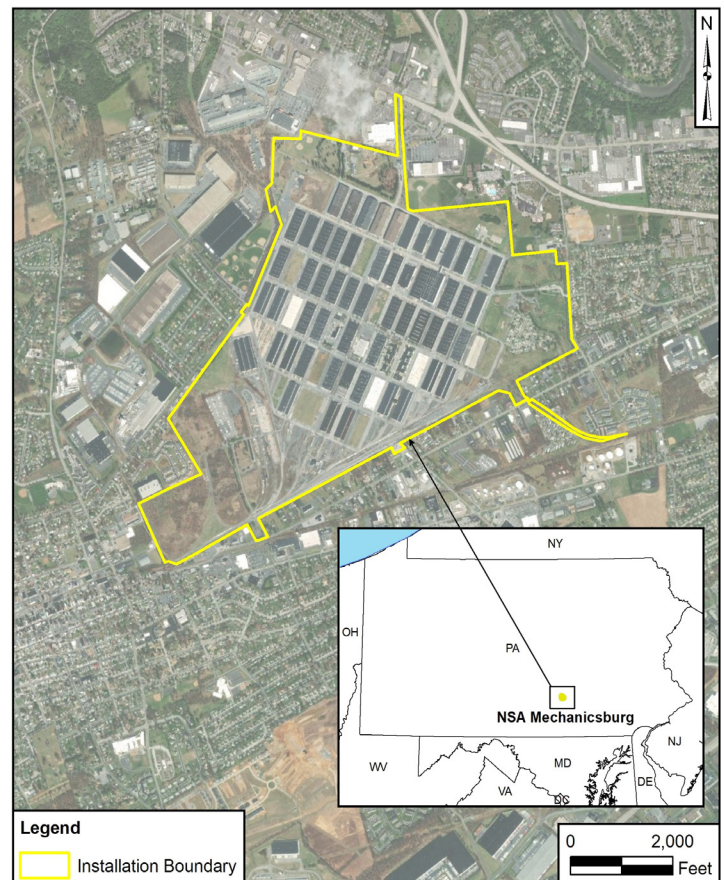
There is no legal requirement to conduct this drinking water testing. We conducted this voluntary testing because it is important that our neighbors are not drinking water with PFOA and/or PFOS concentrations above the EPA lifetime health advisory as a result of PFAS releases at NSA Mechanicsburg. We are conducting the investigation in collaboration with partners including EPA Region 3, the Pennsylvania Department of Environmental Protection, and the Pennsylvania Department of Health.

Records indicate that many residents near NSA Mechanicsburg purchase their drinking water from either SUEZ Water Company (SUEZ) or Pennsylvania American Water Company (PA American). The Navy did not test drinking water from homes that are serviced by SUEZ or PA American.

## **PROJECT BACKGROUND**

In 2018, a comprehensive Preliminary Assessment (PA) was completed to identify all potential releases of PFAS to the environment on NSA Mechanicsburg. Eight known or suspected PFAS release areas (shown on Figure 2) were identified in the PA. Therefore, following Navy policy, an off-base sampling area was established in 2019 in the direction of groundwater flow, as understood at that time, from the known or suspected PFAS release areas (Figure 2).

A Site Inspection (SI) began in 2021 to further investigate the potential PFAS release areas at NSA Mechanicsburg. During the SI, additional information about the direction of groundwater flow and confirmed releases on the base was obtained. Based on this updated understanding, a new sampling area was established for the off-base drinking water investigation. The additional sampling area is shown on Figure 2. Community



**Figure 1- NSA Mechanicsburg**

outreach to identify properties with drinking water wells and to request sampling was completed and included postcards, letters, newspaper advertisements, virtual open house, and property visits. Similar efforts were completed in 2019.

## **PFAS**

PFAS are now present virtually everywhere in the world because of the large amounts that have been manufactured and used. Once these compounds are released, they remain in the environment for a long time.

The EPA is currently studying PFAS to determine if national regulation is needed. The EPA's lifetime health advisory provides Americans, including the most sensitive populations, with a margin of protection from a lifetime of exposure to PFOA and PFOS in drinking water. The EPA's lifetime health advisory for exposure is 70 parts per trillion (ppt) for PFOA and 70 ppt for PFOS. When both PFOA and PFOS are found in drinking water, the combined concentrations should not exceed 70 ppt.

**NAVY POLICY**

Until a decision for regulating PFAS is made, the Navy has proactively developed a policy to conduct investigations at bases where there has been a known or suspected release of PFAS to the environment. The Navy's first priority with these investigations is to ensure people are not being exposed to PFOA and/or PFOS in their drinking water at concentrations exceeding the EPA's lifetime health advisory as a result of a Navy PFAS release. When a known or suspected release of PFAS is identified on a Navy base, a sampling area is established one mile in the direction the groundwater flows away from a release site. To be protective, the Navy offers sampling to all residents whose drinking water is supplied by private groundwater wells in these sampling areas. Once any potential exposure from drinking water has been addressed, the Navy will then complete the full investigation to determine the extent of these compounds on our bases.

**OFF-BASE DRINKING WATER RESULTS SUMMARY**

Table 1 summarizes the results of the 2019 Sampling Area drinking water well sampling, and Table 2 summarizes the results of the 2022 Sampling Area sampling.

**2019 Sampling Area**

Table 1 summarizes the results of the sampling in the 2019 Sampling Area near NSA Mechanicsburg. Sixty-two (62) wells were sampled in 2019, and three wells were sampled in 2022. The ranges of detections are presented in Table 1 and on Figure 2. The single property with drinking water containing PFOA and PFOS levels above the EPA lifetime health advisory was provided bottled water for drinking and cooking within 24 hours of receipt of the result.

Table 1 Summary of Results - 2019 Sampling Area				
PFOA + PFOS	August 2019 - January 2020		January - February 2022	
	Number of Wells	Range of Detections	Number of Wells	Range of Detections
Not Detected	3	--	0	--
Less than 70 ppt	58	0.58 - 50.7 ppt	3	2.6 - 11.27 ppt
Above 70 ppt	1	205.89 ppt	0	--
70 parts per trillion (ppt) - EPA Lifetime Health Advisory				

**2022 Sampling Area**

Table 2 summarizes the results from the sampling of five drinking water wells in the 2022 Sampling Area. PFOA and PFOS were detected in samples from all of these wells. All of the results from the 2022 Sampling Area are below the EPA lifetime health advisory of 70 ppt.

**Table 2**  
**Concentrations of PFOA and PFOS in Drinking Water**  
**Wells Sampled in 2022 near NSA Mechanicsburg**

PFOA+PFOS	January - February 2022	
	Number of Wells	Range of Detections
Not Detected	0	--
Less than 70 ppt	5	2.09 - 33.2 ppt
Above 70 ppt	0	--
70 parts per trillion (ppt) - EPA Lifetime Health Advisory		

**PATH FORWARD**

The Navy will continue the on-base environmental investigation for PFAS. The Navy initiated the PFAS SI for NSA Mechanicsburg in 2021 with the purpose of identifying and confirming PFAS release areas on-base, and the SI will be on-going in 2022. The SI is a step in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process of site investigation and clean up. Throughout the on-going CERCLA process, the Navy will continue to communicate with local residents and partner with Federal, State, and local agencies.

**HEALTH INFORMATION**

Exposure to PFOA and PFOS appears to be global. Studies have found both compounds in the blood samples of the general population. Studies on exposed populations indicate that PFOA and/or PFOS may have caused elevated cholesterol levels and possibly low infant birth weight. In studies conducted using laboratory animals, effects on developmental, neurological, immune, thyroid, and liver function were observed.

Health effects from exposure to low levels of PFAS are not well known and studies are continuing. At this time, it is not possible to link exposures to PFOA and/or PFOS to a person's individual health issues. Blood tests are available to measure these chemicals, but they are not routinely done because the results can be inconclusive and test results do not predict health effects. Long-term exposure effects are still being investigated by the EPA.

Based on what is known and still unknown about PFOA and PFOS, EPA recommends people not drink or cook with water that contains these compounds above the EPA's lifetime health advisory.

**FOR MORE INFORMATION**

<https://go.usa.gov/xmM9q>

If you have questions, contact NSA Mechanicsburg Public Affairs Office: 717-605-2448



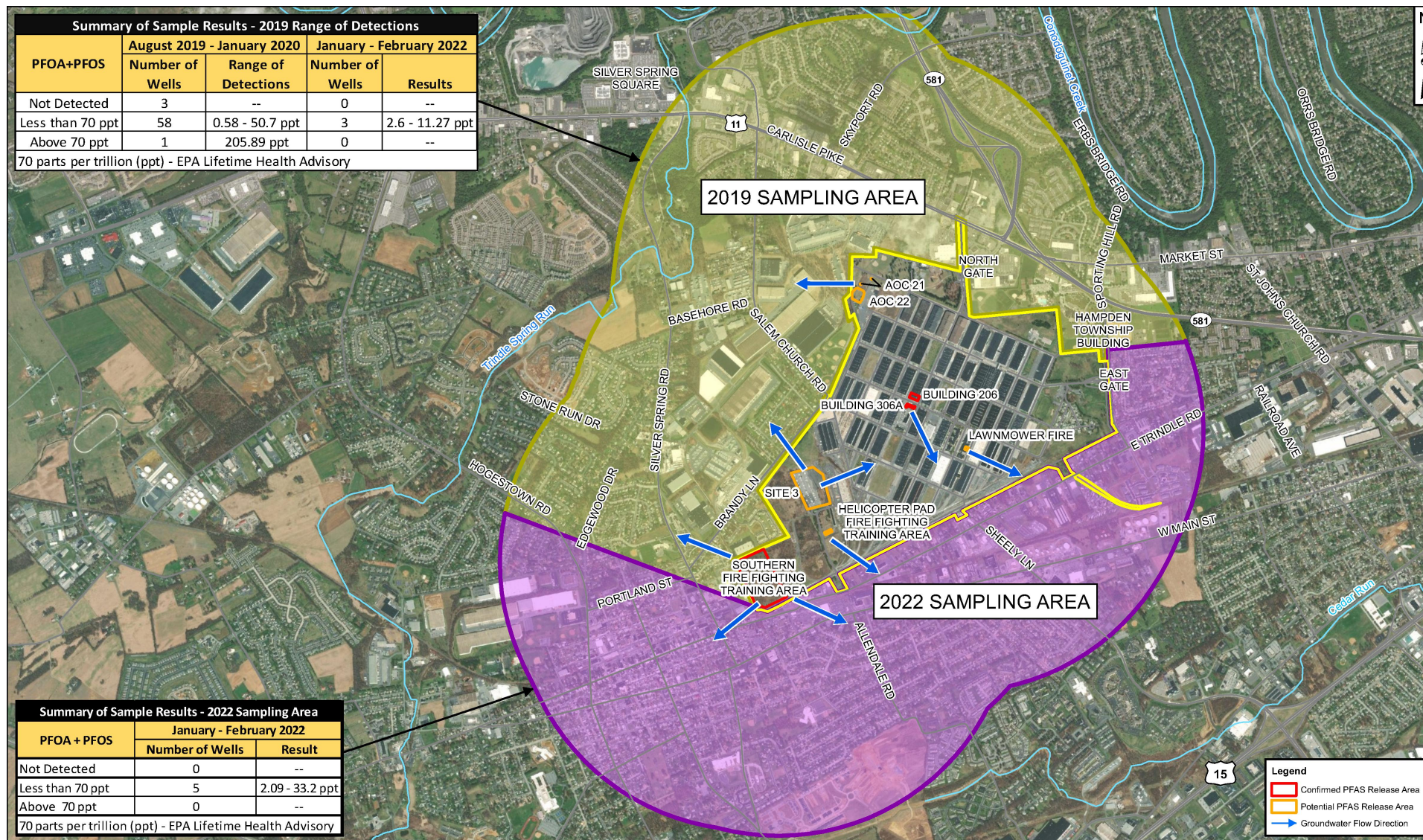


Figure 2 - Drinking Water Investigation Sampling Areas