



Marine Corps Outlying Landing Field Camp Davis

Marine Corps Base Camp Lejeune | Holly Ridge, North Carolina

PFAS Drinking Water Sampling



August 2021

PFAS are a family of thousands of different chemicals which have been widely used in industrial and consumer products since the 1950s. The Department of the Navy developed a proactive policy to address past releases of PFAS at installations nationwide, as several PFAS are now of emerging public concern. The United States Environmental Protection Agency (USEPA) has issued a lifetime health advisory for two commonly used and studied PFAS, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS).

The most common activity associated with the historical release of PFOA, PFOS, and other PFAS to the environment at MCB Camp Lejeune (**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 soil and/or groundwater on-base, and they may also be present in nearby off-base drinking water wells located in the direction that groundwater flows away from the Base.

MCB Camp Lejeune first investigated on-base areas with known AFFF releases for PFAS in 2017. In 2019, a comprehensive Basewide Preliminary Assessment (PA) was completed to identify all potential historical releases of PFAS to the environment. The additional potential release areas were then investigated during the Basewide Site Inspection (SI), which began in 2020. To date, over 200 groundwater samples have been collected on-base to determine if PFAS were historically released to the environment.

Based on the SI results received to date, one area at MCB Camp Lejeune – MCOLF Camp Davis South – was identified with the potential for PFAS to migrate off-base and impact nearby drinking water wells (**Figure 2**). The designated



Figure 1 – MCB Camp Lejeune

sampling area includes properties within 1 mile of the confirmed release area at MCOLF Camp Davis South.

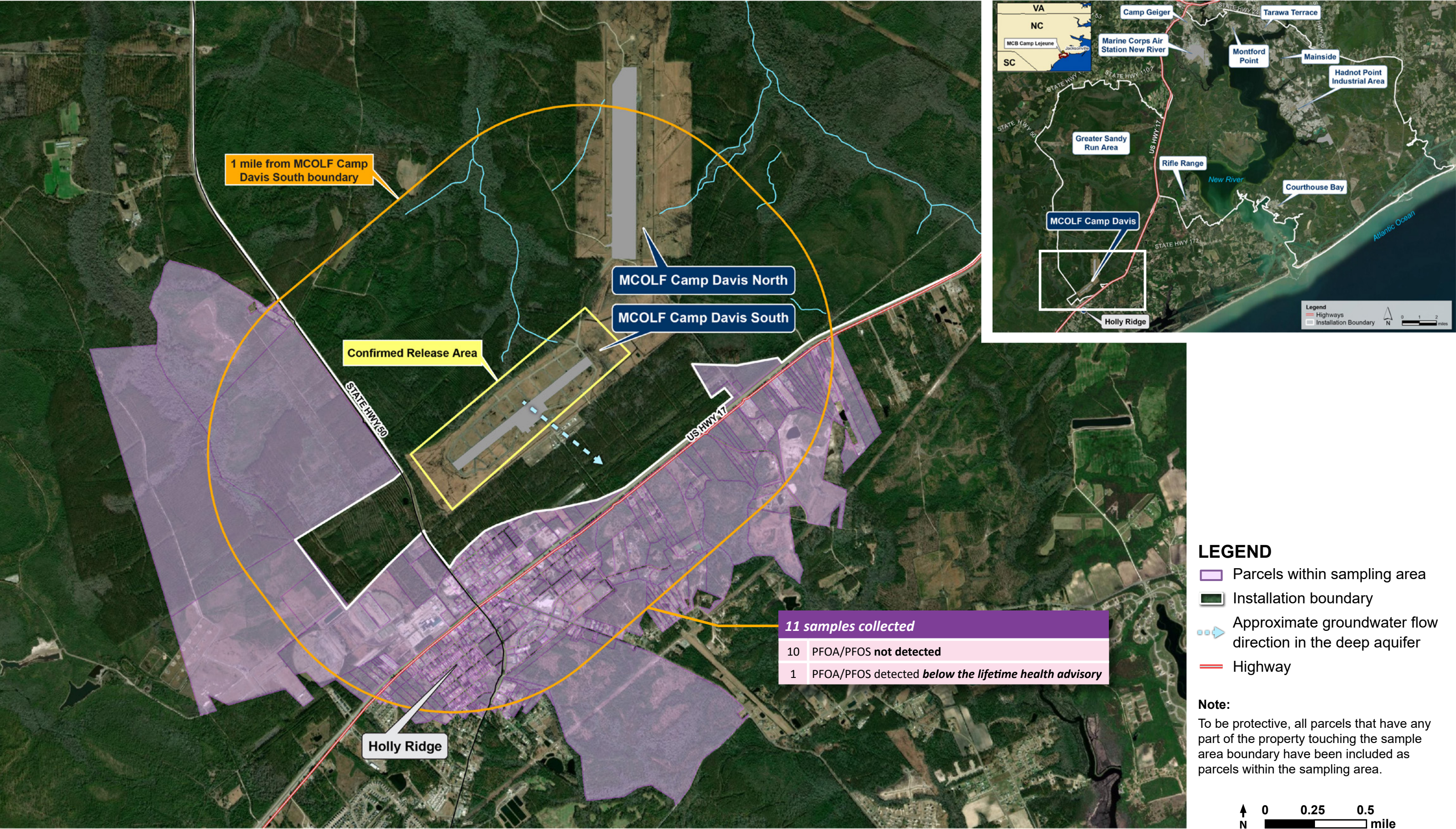
Records indicate that drinking water from the Onslow Water and Sewer Authority is available for the majority of properties within the designated sampling area; these properties do not need to be tested by the Navy. Only those properties within the sampling area that use a private well for drinking water are part of this testing.

PFAS

PFAS are man-made chemicals that have been used since the 1950s in many households and industrial products because of their stain- and water-repellent properties. 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 break down very slowly.

To be protective, the Department of the Navy will provide bottled water for drinking and cooking to any resident in the designated sampling area whose well contains drinking water with PFOA and/or PFOS above the USEPA lifetime health advisory. We will provide an alternate water source, such as bottled water, until a long-term solution is implemented.

Figure 2 – Designated Sampling Area



PFAS are chemicals of emerging concern, which have no Safe Drinking Water Act regulatory standards or routine water quality testing requirements. USEPA's lifetime health advisories are non-enforceable and non-regulatory. They provide technical information to states and other public health officials on health effects, analytical methodologies, and treatment technologies.

The USEPA is currently studying PFAS to determine if national regulation is needed. The USEPA'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 USEPA's health advisory for lifetime 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.

DEPARTMENT OF THE NAVY POLICY

Until a decision for regulating PFAS is made, the Department of the Navy has proactively developed a policy to conduct investigations at installations where there has been a known or suspected release of PFAS to the environment. Our 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 USEPA's lifetime health advisory as a result of a Navy/Marine Corps PFAS release. Since PFAS were detected in the shallow groundwater at MCOLF Camp Davis South, a sampling area was established 1 mile from the confirmed release area at MCOLF Camp Davis South. To ensure protectiveness, we offer sampling to all residents whose drinking water is supplied by groundwater wells in the designated area.

There is no legal requirement to conduct this drinking water testing. We are conducting this voluntary testing because it is important that our neighbors are not drinking water with PFOA and/or PFOS concentrations above the USEPA lifetime health advisory as a result of a known release of PFAS from MCB Camp Lejeune. We are conducting the sampling in collaboration with partners such as USEPA Region 4, the North Carolina Department of Environmental Quality, the North Carolina Department of Health and Human Services, and the Onslow County Health Department.

DRINKING WATER RESULTS

In March 2021, the Navy and Marine Corps initiated off-base drinking water sampling near MCOLF Camp Davis. **Table 1** summarizes the results of the 2021 sampling.

Table 1: Drinking Water Results near MCOLF Camp Davis for PFOA and PFOS	
SAMPLES COLLECTED	11
Not detected	10
Detections of PFOA and/or PFOS	1
Below the EPA lifetime health advisory	1
Above the EPA lifetime health advisory	0

Of the 11 samples collected, none exceeded the lifetime health advisory of 70 ppt set by the USEPA.

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 possible 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 exposure 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 USEPA.

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

For updates about this sampling, visit:
<https://go.usa.gov/xAFx5>
or scan the QR code →

If you have specific questions, contact:
866-MCDAVIS (866-623-2847)
or CampDavisPFAS@usmc.mil



The Navy and Marine Corps are still offering to sample drinking water wells within the sampling area that have not previously been tested. Any property owner with a drinking water well in the sampling area whose well has not been sampled can request that it be sampled by contacting us at 866-MCDAVIS (866-623-2847).

ACTIONS BASED ON RESULTS

Although no PFOA or PFOS has been detected above the USEPA lifetime health advisory in the sampled wells off-base, the Department of the Navy will continue the on-base environmental investigation for PFAS, which is conducted under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The next step is to document the results of the SI initiated in 2020.