



Blades Groundwater Site – FAQs

Where is the site located?

The Blades Groundwater Site is located in Sussex County adjacent to Town of Seaford. The area investigated was approximately 1 mile in diameter from the Blades public wells excluding anything beyond the Nanticoke River and Morgan Branch. These features are believed to be hydraulic barriers to groundwater contamination migration.

Is the water safe to drink?

The Town of Blades is currently treating the public drinking water to remove perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) so that the water does not exceed the health advisory level. The PFAS contamination is removed by using Granular Activated Carbon (GAC) filtration. The drinking water supplied by the Town of Blades meets the applicable standards.

What are PFOS and PFOA?

PFOS and PFOA, part of the group of chemicals known as PFAS, are man-made chemicals that were used in manufacturing and industrial operations, most prevalently in the 1950s-1970s. These chemicals are also referred to as perfluorinated compounds (PFCs) or perfluoroalkyls.

PFAS were first developed by companies like DuPont and 3M in manufacturing adhesives and non-stick Teflon™. They have been used in firefighting foams and other products with stain, water, oil and grease repellent properties such as clothing, food-wrappers and carpeting. Over time, PFAS have become widely distributed in the environment and have been detected in the blood of humans, wildlife, and fish across the globe.

When did the EPA first establish a health advisory level for PFOA and PFOS?

EPA established a lifetime health advisory level (HAL) of 0.07 micrograms per liter (ug/l) or 70 parts per trillion (ppt) in May 2016 for PFOS, PFOA, or combined PFOS/PFOA.

What were the levels of contamination detected in the samples from the public wells?

In early 2018, the combined concentrations of PFOA and PFOS were in the range of 96.2 to 187.1 parts per trillion (ppt), above the U.S. EPA's 2016 lifetime health advisory level of 70 ppt for combined PFOA and PFOS. The most recent sampling results for the **untreated** groundwater samples in Oct. 2019 indicate the combined concentrations of PFOA and PFOS

ranged from 136-148 ppt.

The most recent results for **treated** drinking water samples collected in Nov. 2019 show the concentrations of PFOA, PFOS, or combined PFOS/PFOA continue to remain well below the HAL of 70 ppt.

What adverse health effects may be associated with exposure to PFOS and PFOA?

In laboratory studies of animals given large doses of PFOS and PFOA, results indicate that the substances can cause developmental, reproductive, and other adverse health effects including increased liver weight in laboratory animals. In humans, research is ongoing, but the most consistent findings from epidemiology studies are elevated blood serum total cholesterol levels among exposed populations, and limited findings related to low infant birth weights.

Were any other contaminants detected in the public wells?

The Town of Blades public wells were sampled for PFAS, including PFOS and PFOA, hexavalent chromium, total chromium, and volatile organic compounds (VOCs). None of the other contaminants were detected above federal and state safe drinking water standards.

How long has the water been impacted?

DNREC does not know how long the water has been impacted. Commercial and consumer products containing PFOS and PFOA were first introduced in the 1950s. Two nearby metal plating businesses, Procino Plating and Peninsula Plating, which operated in the 1980s and 1990s, are being investigated. Metal plating operations are a potential source of PFAS and chromium contamination.

What are the potential sources of the contamination?

Sources of contamination near the wells include the Peninsula Plating Site and the Procino Plating Site. The Peninsula Plating Site is located on the property adjacent to the Town of Blades public water supply wells. The site was previously used in part as a metal plating company, which closed in 1995.

The Procino Plating Site is located approximately 0.25 miles south of the Town of Blades public water supply wells. Operations at the site included ornamental plating with copper, nickel and chrome; silver and nickel plating for commercial and military use; and fabrication and hard chrome plating of griddle tops.

How many people are served by the Blades water system?

According to the 2002 Source Water Assessment of the Public Water Supply Wells for Town of Blades completed by DNREC's Source Water Assessment and Protection Program, the town serves a population of approximately 1,600 people and has approximately 320 service connections.

How deep are the public supply wells and when were they installed?

The Town of Blades three public drinking water supply wells draw water from the unconfined Columbia aquifer. Wells #1 and #2, screened from 66-96 feet below ground surface, were constructed in 1978. Well #3 is screened from 65-90 feet below ground surface and was constructed in 2014.

Why were the Blades supply wells selected for sampling?

In late 2017, DNREC's Remediation Section developed a work plan as part of a Site Inspection (SI) to sample the Town of Blades public drinking water supply wells under a cooperative agreement with the EPA. DNREC first identified the public supply wells for sampling due to concerns for potential contamination associated with two metal plating facilities located in close proximity to the wells. The initial sampling was completed in January 2018.

The results of the SI are presented in the Weston Solutions, Inc. Final Site Inspection Report for the Blades Groundwater Site dated June 2019. The report is available at the Delaware Environmental Navigator (DEN) under the site code DE-1675, or site name, Blades Groundwater Site:

<http://www.nav.dnrec.delaware.gov/DEN3/>

What is the NPL and how does the listing process work?

The Superfund National Priorities List (NPL) process provides a means of identifying contaminated sites (and the associated potential responsible parties) that warrant remedial action or cleanup under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA). Cleanups at NPL sites are managed and financed under the Federal Superfund program.

The EPA ranks sites for further investigation using a Hazard Ranking System (HRS) screening. The Blades Groundwater Site exceeded the score required for potential listing on the NPL primarily because a public drinking water source was impacted by contaminants. After a site is proposed, there is a 60-day public comment period on the proposed listing. If the comments do not affect EPA's scoring of the site using the HRS, the site could be eligible for listing on the NPL.

EPA published a public notice about its intent to add the Blades Groundwater Site to the NPL in the Federal Register on Nov. 8 and is asking for comments. EPA also provided public notice through the local media and advertised a local public information meeting on Dec. 5 from 6:30-8:00 PM at the Blades Fire Hall. If eligible for listing, EPA will again provide public notice in the Federal Register and formally respond to the comments received. For more information on the Blades Groundwater Site and the NPL listing process, please visit:

- <https://www.epa.gov/superfund/bladesgroundwater>
- <https://www.epa.gov/superfund/superfund-national-priorities-list-npl>

Additional site information is available online at the following EPA and DNREC webpages:

- <https://www.epa.gov/superfund/bladesgroundwater>
- <https://dnrec.alpha.delaware.gov/waste-hazardous/remediation/blades-groundwater-site/>

Is there more information available on the contaminants of concern?

For more information on the primary contaminants of concern in the area, please visit:

- [EPA Technical Fact Sheet – Perfluorooctane Sulfonate \(PFOS\) and Perfluorooctanoic Acid \(PFOA\)](#)
- [Agency for Toxic Substances & Disease Registry \(ATSDR\) Toxic Substances Portal – Perfluoroalkyls](#)
- [ATSDR – ToxFAQs – Perfluoroalkyls](#)

Whom should I contact for additional questions?

For more information on the proposed listing and [EPA's Superfund Program](#), please contact:

- Amanda Miles, Community Involvement Coordinator, EPA Region 3 at: 215-814-5557 or 800-438-2474, or by email: Miles.Amanda@epa.gov
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- **For media inquiries:** David Sternberg, Office of Communications and Government Relations, U.S. EPA, Region 3 at: 215-814-5548, or by email: Sternberg.David@epa.gov

For additional questions regarding the Blades Groundwater Site, please contact:

- Rick Galloway, Project Manager, DNREC Remediation Section at: 302-395-2600, or by email: Rick.Galloway@delaware.gov
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