



Newark South Groundwater Plume Site (aka DNREC's Newark South Well Field Site, DE-0342)

Frequently Asked Questions

Background

Following nearly two decades of successful efforts by the City of Newark, DNREC and the Division of Public Health Office of Drinking Water (DPH ODW) to maintain a safe drinking water supply for the city, DNREC is requesting federal assistance from the U.S. Environmental Protection Agency (EPA) to resolve groundwater concerns in the Newark area and determine the sources of contamination there.

The City of Newark has six municipal wells located in the area where groundwater has been impacted by volatile organic compounds (VOCs). VOCs are organic compounds found in some industrial and commercial products that can cause adverse human health effects. Newark's drinking water is treated by the city to remove VOCs from the water supply, enabling the water to continue meeting both federal and the more stringent state safe drinking water standards.

The source of the groundwater contamination has not been identified, despite numerous environmental investigations and remedial efforts by DNREC at sites of potential environmental concern in the area. DNREC subsequently has requested EPA's assistance to help fully investigate the site and identify the sources of VOC contamination in the groundwater.

- 1. Where is the site located?** The Newark South Groundwater Plume Site is located in southeast Newark, along Route 72, between Interstate 95 and Route 4 in New Castle County, Delaware. The site encompasses 50 property parcels, covering approximately 164 acres and includes portions of two commercial/industrial complexes and one shopping center plaza. DNREC's previous investigations in the same area refer to the site as the Newark South Well Field Site.
- 2. Is there a concern?** The City of Newark drinking water in the area is treated to meet all Federal and State safe drinking water standards and remains within normal limits. However, groundwater plumes underground may have an impact on water quality if not addressed. When contaminants are released to the soils, sediments, surface or shallow groundwater, they can migrate down to deeper groundwater aquifers, leading to extensive groundwater pollution. The resulting polluted water within an aquifer is called a plume.

Two groundwater plumes have been identified in the area. A northern groundwater plume is generally located beneath properties in the Pencader Plaza (formerly Castle Mall), the Blue Hen Industrial Park and the western edge of the Scottfield Housing Development. A southern

groundwater plume is generally located beneath a portion of the Diamond State Industrial Park along Bellevue Road, north of I-95. The EPA will investigate both plumes as a single site, called the Newark South Groundwater Plume Site, to ensure that they are fully studied and the source of contamination is determined.

3. **Where does my drinking water come from?** The City of Newark's drinking water supply wells produce water from the unconfined Columbia Aquifer and semi-confined Potomac Aquifer in the Newark South Well Field. Volatile organic compounds (VOCs) have been detected in both aquifers, based on laboratory analysis of groundwater samples collected from the aquifers. VOCs are organic compounds found in some industrial and commercial products that can cause adverse human health effects. The City of Newark has six municipal wells located in the area in which VOCs were detected in the untreated groundwater samples. The groundwater from the wells is blended and treated to meet Federal and State Safe Drinking Water Act standards.
4. **Is my drinking water safe to drink?** Yes. Newark's drinking water supply has been treated for nearly two decades to remove VOC contaminants, and the treated drinking water continues to meet Federal and State Safe Drinking Water Act standards, as shared annually in the city's water quality reports. To access the latest water quality reports, please visit:

<http://www.cityofnewarkde.us/Archive.aspx?AMID=59&Type=&ADID>

The City of Newark is responsible for ensuring that contaminants in the water do not exceed the EPA's maximum contaminant levels (MCLs) for public water supply systems. The EPA identifies contaminants to regulate in drinking water and sets the regulatory limits or MCLs for the amounts of certain contaminants in water provided by public water systems. These contaminant standards are required by the Safe Drinking Water Act (SDWA). For more information on the EPA's drinking water standards and regulations, please visit:

<https://www.epa.gov/dwstandardsregulations>

In Delaware, the Office of Drinking Water in the Department of Health and Social Services' (DHSS) Division of Public Health (DPH) regulates public water supply systems. The MCLs are achieved by blending and/or treatment of source water at Newark's South Well Field Plant prior to distribution of the treated water to the public.

5. **When did DNREC first report the contaminants in the water from the public drinking water supply wells?** DNREC Site Investigation & Restoration Section (DNREC) first collected groundwater samples for VOC analysis from Newark's public supply wells in 1994. At that time, raw groundwater samples from four of the wells were found to contain trace levels of VOCs at concentrations that did not exceed the respective maximum containment levels (MCLs). The EPA sets the legal threshold limit or MCL on the amount of a contaminant that is allowed in

public water systems under the Safe Drinking Water Act. The low levels of VOCs in the raw groundwater supply were monitored by the City of Newark and DPH's Office of Drinking Water to ensure that the finished water continued to meet the MCLs.

In 2002, DNREC collected groundwater samples from several of the Newark public supply wells as part of a statewide groundwater study. One of the raw groundwater samples had a concentration of a VOC, tetrachloroethylene (aka perchloroethylene - PCE), that was above the MCL. However, the finished water sample from the well was below the MCL.

In 2003, the City of Newark installed a treatment system to treat the water for VOCs, which were periodically elevated in the raw groundwater from the six public supply wells used for Newark's drinking water supply. DNREC reimbursed the City of Newark for the costs associated with construction of the VOC treatment system (\$541,427) in state fiscal year 2006.

- 6. What are the contaminants of concern?** PCE is the primary contaminant of concern, and to a much lesser extent, trichloroethylene or TCE, another VOC. Both are nonflammable, liquids that are used for metal degreasing. In addition, PCE or "Perc" is commonly used as dry cleaning agent. The Agency for Toxic Substances and Disease Registry (ATSDR) reports that the International Agency for Research on Cancer (ARC) considers PCE and TCE "probably carcinogenic to humans" - however, additional research is needed. In an abundance of caution, State and Federal officials take the potential presence of TCEs and PCEs seriously. For more information, please visit the ATSDR website for the most frequently asked health questions (FAQs) about PCE and TCE at:

<http://www.atsdr.cdc.gov/index.html>

- 7. What has DNREC done to investigate the groundwater contamination problem in the area?** From 1995-2013, DNREC-SIRS involvement primarily has been soil and groundwater investigations and remediation of sites in the Delaware Industrial Park, such as Syntech, AMP Circuits, Lilly Fasteners and Process Industries. To date, DNREC has expended over \$2 million for soil and groundwater investigation and remediation activities at the Syntech Site alone, which specifically impacted public well PW-16 and is no longer online. However, the primary source of the contamination in the Newark South Well Field has never been identified.

In 2010, DNREC requested funding from the EPA to conduct a preliminary assessment (PA) at the Newark South Well Field site to help identify the potential sources of the contamination in the groundwater. The PA identified multiple areas of potential environmental concern. Based on the results of the PA, DNREC recommended additional investigation to help identify specific parcels and/or businesses that might be the source, or contributing to the source of the contamination. Further action was recommended in four areas:

- Chestnut Hill Rd. south to Eastern Marine, north side of Blue Hen Drive;
- Blue Hen Industrial Park;
- The 18-acre DelDOT property; and,
- Large Resource Conservation and Recovery Act (RCRA) facilities and other businesses along Bellevue Road and north of I-95.

In 2014, EPA recommended that DNREC continue to assess the groundwater contamination with a site investigation (SI), a more in-depth investigation that exceeded previous efforts. As part of the SI, 68 groundwater samples were collected from multiple depths at 15 locations. Based on the results, eight monitoring wells were installed at various depths in the Columbia Aquifer throughout the Newark South Well Field Site. PCE was detected in six of the eight monitoring wells at various concentrations. During the completion of the SI in 2015, Delaware's Division of Public Health's Office of Drinking Water sampled three municipal wells that were also located in the Columbia Aquifer and confirmed low levels of PCE contamination in the untreated raw groundwater. The finished water samples were all within safe drinking water limits.

Based on the results of the SI, DNREC has recommended still further investigation to help fully define the groundwater contaminant plume and identify potential source(s). EPA will continue to work with DNREC and the City to determine the extent and impact of groundwater contamination and address potential long-term impacts.

- 8. Why is DNREC asking for the EPA's help?** Continuing levels of VOCs in the raw groundwater in the Newark South Well Field Site and a significant reduction in the state's funding of the Delaware Hazardous Substances Cleanup Act (HSCA) program for ongoing investigation and remedial action prompted DNREC to partner with the EPA, City of Newark and New Castle County to help identify and treat the source(s) of groundwater contamination.
- 9. What will determine whether the site is eligible for EPA's help?** The site is being scored by EPA using the Superfund Hazard Ranking System (HRS). Based on the results of the HRS, the site may meet the criteria for potential listing on the EPA's National Priorities List (NPL) because of a public drinking water source that has been affected by contaminants. The 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 financed under the Federal Superfund program. If the site is proposed, there will be a 60-day public comment period on the proposed listing. If comments do not affect EPA's scoring of the site using the HRS, the site would be eligible for listing on the NPL.

- 10. How will the EPA investigate the site?** If the site is included on the NPL, the EPA will use Superfund authorities and resources to begin long-term investigation. The EPA would investigate the two groundwater plumes as a single site, the Newark South Groundwater Plume Site.
- 11. Will the EPA’s investigations include a vapor intrusion study?** In an abundance of caution, the EPA may also conduct a limited vapor intrusion investigation, which is an environmental study to determine if there is any migration of vapor-forming chemicals into an overlying building or dwelling from an underground chemical source. The investigation will examine whether vapors from the VOC groundwater contamination are moving into nearby buildings and dwellings, and based on the results, will determine if any action is needed to protect human health and the environment. These investigations would further help evaluate and remedy the groundwater contamination problem in the area. The site does not have to be on the NPL to begin the vapor intrusion study.
- 12. Will the companies responsible for the contamination be identified?** If the site is included on the NPL, potentially responsible parties that contributed to the contamination in the groundwater will also be identified by the EPA to pay for the cleanup.
- 13. How will the community be updated on the site?** As part of the listing process, EPA will develop a Community Involvement Plan for the community with the goal of keeping the community informed and involved in EPA’s work at the site. In addition, the EPA will hold public workshops to address questions from the community.
- 14. Whom should I contact for additional questions?**

Please check DNREC’s Newark South Groundwater Plume Site webpage for more information and important links:

<http://www.dnrec.delaware.gov/dwhs/SIRB/Pages/NEWARK-SOUTH-GROUNDWATER-PLUME-SITE.aspx>

You may also call the following DNREC, EPA and City of Newark representatives as follows:

- **For more information about EPA’s Superfund program and the NPL, please visit: <https://www.epa.gov/superfund> or contact:**

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- **For more information about DNREC's remedial investigations and cleanups in the Newark South Well Field area, please visit: <http://www.nav.dnrec.delaware.gov/DEN3/> or contact:**

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- **For more information about the City of Newark's drinking water supply and treatment system, please visit: <http://www.cityofnewarkde.us/water>, or contact:**

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