



DOVER GAS LIGHT COMPANY SUPERFUND SITE UPDATE

Dover, Kent County, Delaware

April 2009

THE PLUME

Beginning again late this spring, the U.S. Environmental Protection Agency (EPA) will continue its field investigation of the Dover Gas Light Company Superfund Site located in the City of Dover, Kent County, Delaware. The former Dover Gas Light Company plant occupied the western half of the city block bound by New Street, Bank Lane, North Street, and Governors Avenue. The site was created when chemicals were dispersed by a spill, leak or other release and formed a plume of contamination in the groundwater. That plume is determining the size of the Superfund site. A plume can gain or lose size, but at the moment, the site is approximately 23 acres in size beneath the City of Dover. The Dover Gas Light facility, once located on a one-acre plot of land in downtown Dover is a likely source of contamination.

RECENT WORK

During the first phase of the groundwater investigation in 2006, EPA began to take an up-to-date 'snapshot' of the condition of groundwater at the site using existing wells and began determining where additional wells might need to be installed.

The second phase, conducted by EPA in 2007, concentrated on:

- Surface water and sediment sampling in the St. Jones River to the east,
- Installation and sampling of new monitoring wells to determine the extent of groundwater contamination to the north, east and south, and
- An initial vapor intrusion (VI) screening to determine the potential for volatile groundwater contaminants to enter buildings above the plume.

PHASE 3—A CLOSER LOOK

EPA and the State of Delaware Department of Natural Resources and Environmental Control (DNREC) expect to begin Phase 3 in June 2009 near the former Dover Gas Light Co. and the former Capitol Cleaners facilities to determine the nature of contaminants in the groundwater plume from both sources beneath the City of Dover. Phase 3 of the ground water investigation will involve a more extensive determination of that plume. And, the third phase will also include a groundwater investigation into a deeper aquifer, about 75 to 85 ft below ground surface, the installation of additional monitoring wells and the repair or replacement of some existing wells along with soil and groundwater sampling.

PLUME MAPPING

EPA plans to begin Phase 3 by mapping the plume in the vicinity of both former facilities. This will be done by taking samples on a grid pattern. Instead of drilling and installing numerous wells, EPA will use an innovative approach that pushes a two-inch diameter probe into the ground as deep as 100 feet – the "direct push" method (picture below). Through that opening, EPA can record chemical and geological data and more easily take samples to help to locate and define the plume more quickly. This testing is a much less invasive than conventional methods and takes only a few hours to complete at each location.



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ON TO SOLUTIONS

This is the last planned phase of the groundwater study at the Site and EPA hopes to complete this work before the end of the year. Once completed, EPA and DNREC will use the results of Phase 3 to decide how to address the contaminated groundwater beneath the City of Dover. EPA and DNREC will also use this information to determine if additional VI testing is needed in Dover. Such work, if needed, will be done at a future date.

EPA AND THE STATE

Contamination was first discovered at the Site in 1984. Remnants of the coal gasification plant were found buried onsite and oily soil samples were significantly contaminated. As a result, DNREC installed monitoring wells at the Site. The shallow groundwater was contaminated with several coal tar derivatives. These compounds include benzene, toluene, methylbenzene, and xylenes, naphthalene and acenaphthylene. The Site was proposed for inclusion on the National Priorities List (NPL) in January 1987 and was listed on the NPL in October 1989.

SITE HISTORY

DOVER GAS MEETS ELECTRIC LIGHT

The Dover Gas Light Company was a coal gasification plant, which operated in the City of Dover from 1859 to 1948. Coal gas was used as a fuel for cooking and lighting in many homes in the late 19th and early 20th centuries. As coal gas was replaced by more modern natural gas and electricity, demand for the product waned and the plant was closed in 1948. Much of the plant was removed at that time, but sections of tanks and other processing equipment containing coal oil, coal tar, coke, and possibly acids, were buried on-site.



Typical well drilling operation

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COMPLICATIONS

In 1989, a fire destroyed Capitol Cleaners, a dry-cleaning facility located at 411 South Governors Avenue, near the site of the former Dover Gas Light Company. After the fire, investigators found underground storage tanks (“USTs”) and contaminants that included oils and dry cleaning solvents and their breakdown products, such as perchloroethene, trichloroethylene, 1,1-dichloroethene, and 1,2-dichloroethene. Several USTs appeared to have leaked their contents into the ground. The dry cleaning facility also had several leaking USTs which were used to store fuel oil. The USTs have also contributed to contamination in the groundwater. These compounds are present in soils deep below the ground surface and below the water table, extending far from the former coal gas plant towards the southeast. They are also “commingled” or mixed together with chemicals from the former Dover Gas Light facility. This may present a problem for future remediation because the contaminants from each source are different and may need to be addressed separately.

ASKING YOUR HELP

EPA will be contacting a number of property owners where this testing is planned to obtain access for this work over the spring and summer. Following that effort, EPA will conduct its deep aquifer investigation, well replacements and repairs and additional studies on contaminated groundwater that has moved away from the original sources to the north, east and south.

CLEANUP BEGINS

In July 1990, a Remedial Investigation and Feasibility Study (RI/FS) was conducted at the Site. The purpose of the RI/FS was to determine the nature and extent of contamination at the Site, and to develop and evaluate potential clean-up options. The first Record of Decision (ROD) for this Site was issued on August 16, 1994. A ROD explains EPA's decision on how to address contamination at a specific Superfund Site. In the first ROD, EPA's selected remedy included the excavation and off-site treatment of contaminated soils. At that time, EPA selected a combination of containment and natural attenuation for the groundwater.

SOIL VAPOR EXTRACTION

In December 1997, EPA modified the soil cleanup requirements. Contaminated soil was excavated from three underground brick structures from the former gas plant. Remaining soil contamination was addressed by using soil vapor extraction (SVE) technology and by capping the one-acre area with an asphalt parking lot. In 2000, the SVE system finished removing contamination from the soil. The parking lot construction began in April 2002 and was completed in late 2004.

AND NOW..... THE VICTROLA MUSEUM

Today, the site of the former Dover Gas Light plant has been replaced with a paved parking lot that services the Johnson Victrola Museum adjacent to the Site. This was the result of several years of investigation and cleanup of contaminated soils at the Site under EPA and DNREC oversight.



EPA Update for the Dover Gas Light Company Superfund Site

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For Additional Information

For additional information about the Dover Gas Light Company Superfund Site, please contact an EPA representative listed below:

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Additional information about the Dover Gas Light Company Superfund Site is available on EPA's website at: U.S. EPA Region 3 - ID # DED980693550

www.epa.gov/reg3hwmd/super

Select the 'DE' link and then, on the next page, click on the 'Dover Gas Light' link. To review site-related documents, click on the 'Administrative Record' link.

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