

Pine Lake Park

Manchester Township, Ocean County

June 2009



The New Jersey Department of Environmental Protection (DEP) has contracted the Louis Berger Group, Inc. to perform a Remedial Investigation (RI) of the ground water at Pine Lake Park in Manchester Township.

Site History

Ground water contamination was discovered at Pine Lake Park in 1987 when routine sampling of a potable well was conducted due to a home sale. Contaminants detected in the ground water included carbon tetrachloride, trichloroethylene (TCE), trichloroethane (TCA) and 1,1-dichloroethane (DCA). The Ocean County Department of Health performed sampling of private wells and identified a large number of wells with concentrations above DEP contaminant action levels.

To delineate the extent of contamination and to identify the potential sources, DEP installed 33 monitoring wells in the southwest portion of Pine Lake Park. The wells ranged in depth from 16 feet to 95 feet. Based on the study, DEP determined that the plume of ground water contamination was entering Pine Lake Park from the southwest corner, which is downgradient of the South Brunswick Asphalt (SBA) site.

Several contaminated sites are located near Pine Lake Park, including the Ciba-Geigy site immediately to the south; however, previous investigations indicate the likely source of the ground water contamination is SBA. SBA is located on the west side of Route 37 west, directly up-gradient of the site. Manufacturing of asphalt was conducted at the SBA facility since 1951. SBA is currently being remediated by a developer as a Brownfield Site.

In 1988 and 1989, DEP sampled 1,337 potable wells in Pine Lake Park. A total of 1,012 wells within the Pine Lake Park subdivision had detectable levels of volatile organic compounds (VOCs) and 157 wells had contaminants above the maximum contamination level (MCL) drinking water standard. The Manchester Municipal Utilities Authority installed water lines in 1990 to provide public water to the residents.

Remedial Investigation (RI)

Through previous investigations, the extent of the ground water contamination at the site has been partially characterized.



The primary objectives of this RI include:

- ❖ Characterization and delineation of VOCs constituents in ground water
- ❖ Characterize surface water and sediments associated with wetland areas and nearby bodies of water
- ❖ Assess the potential interaction between ground water and wetland areas
- ❖ Assess potential receptors, including ecological receptors.

Field Activities

A comprehensive assessment of the existing monitoring wells will be conducted as part of the investigation activities. The wells will be inspected for casing damage and obstructions. After completion of any repair, an initial round of groundwater samples will be collected. Up to 33 groundwater samples will be analyzed for VOCs and naphthalene.

To accurately define the contamination, ground water screening will be conducted. This will be performed at 25 initial screening locations and up to 25 additional locations across the site.

Based on data collected through ground water screening activities, additional permanent groundwater monitoring wells will be installed and sampled to supplement the existing wells.

Two monitoring well sampling events will be completed after installation of the monitoring wells. To address the wetland areas and nearby bodies of

water, up to five stream gauges will be installed and surface water and sediment samples will be collected and analyzed. The samples will be analyzed and compared to New Jersey Surface Water Quality Criteria.

Vapor Intrusion Assessment

Once ground water contamination has been delineated, the DEP will assess the potential for vapor intrusion. Vapor intrusion is the migration of volatile chemicals from the subsurface ground water, through the soil and into enclosed buildings. The presence of these compounds in the soil or ground water can potentially impact the indoor air quality of the affected building. Contingent upon results of the groundwater screening, an assessment of the potential for vapor intrusion into residential homes will be conducted. Homeowners will be notified in advance, if the need for vapor intrusion sampling arises.

The Louis Berger Group will prepare a Remedial Investigation Report describing site activities and sampling results. DEP will review the report and upon approval the report will be made available to the public.

**For additional
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