

onesky **SUCCESS** story

Soil and Groundwater Remediation Cumberland County, Pennsylvania

When a clean-up project in Cumberland County, Pennsylvania, stalled, Onesky Engineering, Inc. got the remediation back on track and into the Pennsylvania Department of Environmental Protection (PADEP) Act 2 Land Recycling Program.

Background

In August 1992, a tank wagon truck inadvertently released 574 gallons of unleaded gasoline into a leak detection observation well at this municipal services building in central Pennsylvania. Initial response to the spill included site characterization, underground storage tank (UST) closure, and the installation and operation of a groundwater remediation system in October 1993.

Revised remedies

In 1998, The SICO Company, a large, independent Lancaster County-based oil company, contacted Onesky Engineering, Inc. to review the remedial approach, explore the range of available technologies, and

implement the preferred remedial solution. After a comprehensive analysis, the firm submitted a revised Remedial Action Plan. PADEP approved the plan, which recommended replacement of the existing remedial system with a vacuum-enhanced groundwater extraction system. We brought the new system online in July 1998. To delineate the horizontal and vertical extent of the new system's impact on site groundwater, we installed 15 groundwater monitoring wells on and around the site.

Act 2

The original consultant had placed the project in Pennsylvania's Act 32 Storage Tank program. In January 2002, we submitted a Notice of Intent to Remediate to PADEP, entering the site into the Act 2 Land Recycling Program with the intention of demonstrating attainment of the statewide health standards and site-specific standards.

PROJECT HIGHLIGHTS

Soil and groundwater remediation for Pennsylvania Act 2 Land Recycling Program site

- **Revised Remedial Action Plan**
- **Replacement of existing groundwater remediation system with vacuum-enhanced groundwater extraction and treatment system**
- **Installation of groundwater monitoring wells**
- **Submission of Notice of Intent to Remediate under PADEP Act 2 Land Recycling Program**
- **Deactivation of remedial system**
- **Groundwater attainment monitoring and sampling**
- **Groundwater use determination study**
- **Fate and transport modeling**
- **Attainment of site-specific standards**
- **Liaison with insurers**



Groundwater investigation



Closure activities

On September 18, 2002, we deactivated the remedial system. The replacement groundwater remediation system had extracted and treated groundwater with 100 percent removal efficiency. The vapor extraction system had removed more than 2,100 pounds of hydrocarbons. To meet Land Recycling Program requirements, we completed two years of groundwater attainment monitoring. In addition, we conducted a groundwater use determination study and a door-to-door survey and determined that no potable supply wells were located in proximity to the site.

Successful attainment of standards

Through analytical sampling and fate and transport modeling, Onesky Engineering, Inc. demonstrated that we had attained both statewide health standards and site-specific standards for the petroleum release. Attainment of site-specific standards for groundwater at this site, with respect to two petroleum constituents, required a deed restriction that precludes the installation of groundwater supply wells or any other use of groundwater for drinking purposes. PADEP afforded Act 2 liability protection for the site.

*(above) Subsurface header construction
(above left) Treatment works and extraction wells completed*

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