

Rowe Industries Ground Water Contamination

New York

EPA ID#: NYD981486954

EPA REGION 2

Congressional District(s): 01

Suffolk

1,500 feet south of the Village of Sag Harbor

NPL LISTING HISTORY

Proposed Date: 6/1/1986

Final Date: 7/1/1987

Site Description

The 8-acre Rowe Industries Ground Water Contamination site, located on the eastern side of the Sag Harbor Bridgehampton Turnpike, was owned and operated by Rowe Industries, Inc. from the 1950s through the early 1960s. During that time, the company manufactured small electric motors and transformers. Rowe Industries, Inc. was purchased by Aurora Plastics, Inc. in the late 1960s, and by Nabisco, Inc. in the early 1970s. In 1980, the site was sold to Sag Harbor Industries, Inc., which currently uses the facility to manufacture electronic devices. Reports from former workers indicated that solvents were stored outside in a wooded area behind the facility; this area was determined to be the main source of the contamination. Ground water contamination was first discovered in the Sag Harbor area in 1983 when water samples collected from a private well by the Suffolk County Department of Health Services (SCDHS) revealed solvent contamination. As a result of these findings, the SCDHS and EPA conducted further investigations. The results of samples collected from 46 private wells and 21 observation wells in 1984 indicated that there was a volatile organic contaminant plume in the ground water that was approximately 500 feet wide.

Approximately 6,000 people within a 3-mile radius of the site use ground water as their primary source of drinking water.

Site Responsibility: This site is being addressed through federal and potentially responsible parties' actions.

Threat and Contaminants

Volatile organic compounds (VOCs), including tetrachloroethene and trichloroethene, were detected in the ground water. Potential contact with contaminated groundwater through drinking water is no longer a concern, since all of the affected residences were connected to a public water supply in 1985.

Because of concern that contaminated vapors within the residences located in the vicinity of the plume may be a concern, in 1997, prior to the start of the remediation, indoor air monitoring was performed in six residences located over the plume. VOCs were not found in the affected residences above background levels.

Because of nationwide concerns regarding vapor intrusion at residential properties located near sites with VOC-contaminated groundwater, a subslab vapor intrusion investigation was performed in 21 residences in February 2008. Follow up indoor air sampling was performed in two homes in March 2008. Based upon the sampling results, it has been concluded that soil vapor intrusion is not a pathway of concern at this site.

Cleanup Approach

The site is being addressed in two stages: immediate actions and a long-term remedial phase focusing on the cleanup of the entire site.

Response Action Status

Immediate Actions: In response to the contaminated drinking water, EPA extended the public water supply to 25 affected homes in 1985.

Entire Site: Under EPA oversight, the potentially responsible parties (PRPs), Nabisco Inc. and Sag Harbor Industries Inc., performed a remedial investigation and feasibility study (RI/FS) to determine the nature and the extent of contamination at the site and to identify and evaluate remedial alternatives. Based upon the results of the RI/FS, in September 1992, EPA signed a Record of Decision (ROD), selecting a remedy for the site, which includes excavating

volatile organic-contaminated soils located in a former solvent storage area, the excavation of three on-site dry wells, the off-site disposal of the contaminated soils and dry well contents, and the pumping and treatment of the contaminated ground water. As part of the remedial design effort, the PRPs' contractor collected numerous soil and ground-water samples and performed a number of ground water tests necessary to prepare the design of the selected remedy. As a result of this sampling effort, the estimated volume of contaminated soil requiring excavation increased from the ROD estimate of 360 cubic yards to approximately 1,700 cubic yards. In light of the significant increase in the volume of soils requiring excavation in the former drum storage area, the selected remedy was modified (via an Explanation of Significant Differences issued in July 1997) to include a partial excavation of the former drum storage area, the installation of soil vapor extraction (SVE) wells to remediate the remaining unsaturated (located above the water table) contaminated soils and air sparging wells to assist in the remediation of the saturated (located below the water table) contaminated soils during extraction and treatment of the ground water. In 1997, SVE wells and their associated piping were constructed on the facility's property. In April 1998, contaminated soils located in adjacent residential yards (the former drum storage area) were excavated to a depth of four feet and placed in a soil impoundment for pre-treatment (prior to off-site disposal). In addition, SVE wells and air sparging wells were installed. The excavated areas were sealed with a vapor barrier and were backfilled with clean fill. The disturbed areas were regraded and landscaped. The three dry wells were pumped out in June 1998; the contents were containerized and disposed of off-site at a regulated facility. Using the SVE wells, vacuum pumps drew contaminated vapors from the soils. These vapors were piped to the treatment units located on the facility. Confirmatory sampling of the soils and the extracted air was performed periodically to determine the effectiveness of the system. After operating the SVE system from December 1998 through March 2000, confirmatory soil sampling revealed one small area within the former drum storage area which required additional treatment. The SVE system was restarted in December 2000 to treat that area and operated until January 2004. The unsaturated soils have met the clean up objectives.

The ground water remedy includes six off-site and three on-site extraction wells placed strategically within the ground water contaminant plume, a piping network, and an air stripper treatment system. The system became operational in 2002.

The ROD called for the treated ground water to be discharged in Ligonee Creek/Inner Sag Harbor Cove. However, in response to public concerns about potential impacts resulting from the discharge of fresh water into a saline environment, the remedy was modified so as to allow for the discharge of the treated ground water to a recharge basin (the Town of Southampton granted the PRPs access to the Town's property for the construction of a recharge basin). Construction of the ground water extraction and treatment system and the recharge basin commenced in September 2001 and was completed in early September 2002. Following full scale testing of the system, full system startup began in mid-December 2002. The air sparging wells noted above were utilized from February 2003 to January 2004 to enhance the removal of contaminants from the ground water in the former drum storage area. This was accomplished by bubbling air down into the saturated soils, which then volatilized the solvents. The volatilized solvents were captured by the SVE wells and piped to treatment units. During the fall of 2000, four small ground water recovery wells were installed in a portion of the former drum storage area where water samples indicated elevated levels of VOCs. These recovery wells pumped contaminated ground water from March 2001 to December 2003. The ground water was treated using activated carbon and disposed of on-site.

In order to more effectively address the remaining contamination in this area, alternative ground water technologies were evaluated and a pilot-scale study was performed to evaluate the effectiveness of one of the more promising technologies. This pilot-scale study involved the injection of EHC, a patented mixture of very small iron particles and a food-grade organic carbon source into the area above the clay lens. This technology combines biological stimulation and chemical reduction to break down VOCs in-situ. Due to a lack of significant decrease in the concentration of VOCs in the groundwater in the vicinity of the former drum storage area, however, the recovery wells were restarted in May 2006 and run intermittently until April 2007 when they were shut down due to clogging of the system with mobilized EHC. The recovery wells located within the former drum storage area were connected to the main extraction and treatment system and restarted in September 2008.

Site Facts: Nabisco, Inc. and Sag Harbor Industries, Inc. signed a Consent Decree with EPA agreeing to design and implement the selected remedy for the site. A Notice of Lodging of the Consent Decree was published in the Federal Register on December 28, 1993. The Consent Decree was entered in U.S. District Court (approved by the Judge) on April 21, 1994.

Cleanup Progress

By providing a safe drinking water supply to the 25 residences affected by contaminated ground water, the potential of exposure to contaminants has been greatly reduced.

It is estimated that 80 tons of contaminated sludge and underlying soils associated with the dry wells and 336 tons of volatile-organic-contaminated soils within the former drum storage area were excavated during the spring of 1998. The sludge was disposed of off-site. The excavated drum storage area soils were treated on-site via an SVE system and

were disposed of at an off-site facility. Approximately 3,800 tons of contaminated soils were remediated via SVE and air sparging. To date, over 900 pounds of VOCs have been removed from the contaminated soils and ground water plume via the SVE and ground water pump and treatment systems. It is estimated that 110 million gallons of contaminated ground water will be extracted and treated annually for 10 years (1.1 billion gallons total).

Site Repositories

John Jermain Library, Main Street, Sag Harbor, NY 11963

EPA Region 2 Superfund Records Center, 290 Broadway, 18th Floor, New York, NY 10007-1866