Bridgeport Rental & Oil Services

New Jersey

EPA ID#: NJD053292652

EPA REGION 2

Congressional District(s): 01

Gloucester

NPL LISTING HISTORY
Proposed Date: 10/1/1981
Final Date: 9/1/1983

Site Description

The Bridgeport Rental and Oil Services (or BROS) site is a 30-acre parcel of land, formerly used as a waste oil storage and recovery facility, located in Logan Township, one mile east of Bridgeport and two miles south of the Delaware River. The property originally housed a tank farm, consisting of approximately 100 tanks and process vessels, drums, tank trucks, and a 13-acre waste oil and wastewater lagoon. Initial estimates indicated that the lagoon contained about 2.5 million gallons of oil contaminated with polychlorinated biphenyls (PCBs), 80,000 cubic yards of PCB-contaminated sediments and sludge, and 70 million gallons of contaminated wastewater. Groundwater underlying the site and extending about 2400 feet from the lagoon has been contaminated with volatile organic compounds (VOCs). The storage tanks contained sludge and sediment material similar to that in the lagoon. The area surrounding the site is primarily rural and agricultural. Little Timber Creek Swamp lies to the east and leads to Little Timber Creek, a tributary of the Delaware River. Cedar Swamp lies across Route 130 north of the site, and collects drainage from the site via Little Timber Creek.

The lagoon repeatedly threatened to breach its dike, and did so once in the early 1970s, causing widespread vegetative damage to about three acres of the adjacent wetland. The aquifer underlying the site is used for drinking water purposes in the Bridgeport area. The groundwater in the uppermost aquifer flows radially away from the site and includes a northerly flow component towards the Delaware River. At greater depths, the groundwater is flowing to the southeast. Domestic water supply wells lie to the north, northwest, and west of the site; ten are within 50 to 1,000 feet of the site.

Site Responsibility: This site is being addressed through Federal, State and private party actions.

Threat and Contaminants

VOCs, including benzene and methylene chloride, have entered groundwater from materials disposed at the site. Organic contaminants such as PCBs, and metals including lead, cadmium and chromium have been found in the lagoon sediments and sludges. PCB-laden oil residues have been found in surface water. Tanks on the site contained materials similar to those in the lagoon. Consumption of contaminated groundwater would pose an unacceptable risk. Contamination threatens Little Timber Creek Swamp which drains to Cedar Swamp, an ecologically sensitive area.

Cleanup Approach

The site is being addressed in three stages: emergency actions and two long-term remedial actions focusing on cleanup of the lagoon and tank farm area, and groundwater and wetlands remediation.

Response Action Status

Emergency Actions: EPA sent emergency workers to the BROS site on several occasions when the waste oil lagoon threatened to overflow its dike. The following actions were taken: (1) in 1981, the failing dike was reinforced, raising the height by about five feet; (2) in 1982, EPA pumped down the lagoon level by about two feet and treated the liquids removed; (3) affected homes were provided with filtration units for their well water; (4) in 1983, the lagoon level was lowered again by about two feet; (5) in early 1984, an initial cleanup measure was taken to address overflows by pumping down the lagoon water level by about 10 feet; (6) in late 1984, workers returned for cleanup and replacement when a failed oil boom spilled 50 gallons of PCB-contaminated oil; and (7) in 1990, drums containing contaminated materials were removed from a warehouse on the site to an EPA-approved facility.

Lagoon, Tank Farm, and Wells: In 1984, a Record of Decision (ROD) was signed selecting a remedy for the site. The following actions addressed the lagoon, tank farm, and potentially contaminated residential wells: (1) removing oily waste and contaminated sludge from the lagoon and treating them via on-site incineration; (2) excavating and disposing of

drums on the site; (3) continuing to pump aqueous waste from within the lagoon to prevent the further spread of contaminated groundwater and to contain any pollutants that might escape during the lagoon excavation effort; (4) removing all tanks and contained waste; and (5) installing a public water supply line from Bridgeport to homes with contaminated or threatened wells. A second phase remedial investigation to determine the appropriate groundwater and wetland cleanup actions was also part of the selected remedy. The drinking water line, providing potable water to 15 affected homes, was completed in 1987. The State undertook responsibility for the design and implementation of this action. Between 1987 and 1988, 100 tanks, many of which still contained hazardous wastes, were demolished and removed. More than 350,000 gallons of oils and sludges contaminated with PCBs and about one million gallons of liquids were removed from the tanks and taken to EPA-approved disposal facilities, as was debris from the buildings, tanks, vessels, drums and subsurface pipelines. In addition, about 21 million gallons of lagoon wastewater were treated through the on-site treatment system. In 1989, a contract was awarded to commence incineration of lagoon wastes (oil, sediment and sludges) and area soils. The on-site aqueous treatment system was also utilized to treat lagoon wastewater. The mobile incinerator was assembled on the site and a successful trial burn of the unit completed in April 1991. The contractor was issued a notice to proceed with the full production burn on November 6, 1991, thereby authorizing the full-scale operation of the incinerator on a 24-hour per day basis. As cleanup activities proceeded, significantly greater quantities of material were encountered at the site including drums, debris and sediments/sludges. Over 5,000 tons of drummed waste and debris were removed from the lagoon and shipped for off-site disposal, while 10,000 tons were incinerated in the on-site unit. A total of nearly 200 million gallons of lagoon waste water was treated and discharged to Little Timber Creek. Operation of the on-site incinerator ceased in January 1996, upon completion of the lagoon cleanup effort. Overall, about 172,000 tons of contaminated materials (oil, sediments/sludges, soils and debris) were processed through the thermal destruction unit.

Groundwater/Wetlands: As dictated by the 1984 ROD, EPA initiated a second study (Phase 2 Remedial Investigation and Feasibility Study (RI/FS)) at the site to determine the extent of contamination in the groundwater and adjacent wetlands. The Phase 2 RI included the installation and sampling of 44 new groundwater monitoring wells. The sampling data indicated that groundwater contamination had migrated about 300 feet north and 2400 feet southeast of the site. In the spring of 1993, EPA conducted additional sampling of monitoring wells and residential wells downgradient of the site, up to a distance of about 6,000 feet in some locations. No significant site-related contamination was detected at these more distant locations. This finding was confirmed during the re-sampling of these groundwater monitoring wells in 1999. Wetlands work evaluated over 300 acres within Little Timber Creek Swamp and Cedar Swamp. The results indicate contamination of a portion of Little Timber Creek Swamp and the potential for contamination in Little Timber Creek.

Under a settlement arrangement (discussed below), a group of private parties had been responsible for completing the Phase 2 R/FS under the direction of EPA. The resultant RI/FS reports include the findings of the field investigations as well as identification and evaluation of various remedial alternatives to address the groundwater and wetland contamination.

In September 2006, the second and final planned Record of Decision for the site was signed. The ROD selected a remedy for contaminated soils, shallow and deep groundwater, and wetlands. The primary technology for cleanup of groundwater involves extraction and ex-situ treatment along with in-situ chemical and biological treatment. Light non-aqueous phase liquid and on-site soil contamination will be treated with an innovative vacuum extraction technology known as bioslurping. Contaminated sediments in the wetland will be excavated and disposed off-site.

Site Facts: In June 1982, the Department of Justice (DOJ), on behalf of EPA, entered into a consent decree with the owners and operators of the BROS site under the Resource Conservation and Recovery Act (RCRA). In July 1992, DOJ, also on behalf of EPA, filed a cost recovery action pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) against several potentially responsible parties (PRPs) implicated at the BROS site. Following lengthy negotiations, a settlement was reached involving over 90 parties. The resultant Consent Decree was finalized in January 1997. It required the settling parties to pay past response costs and perform the Phase 2 RI/FS. The Consent Decree also requires the parties to implement the selected remedy. EPA will oversee all remedial activities.

Cleanup Progress

The numerous emergency and remedial actions taken at the BROS site have greatly reduced the potential for accidental contact with any remaining hazardous materials. Phase 1 remedial activities included cleanup of the 13-acre waste oil lagoon utilizing on-site incineration, dismantling and removal of the former tank farm, and construction of an alternate water supply for 15 nearby homes. These actions helped mitigate the risks associated with the site while further investigation of groundwater and wetland contamination continued. Phase 2 actions will address residual contamination remaining on the site as well as groundwater and wetland concerns. The Phase 2 RI/FS was performed by the settling parties with EPA oversight. The field investigation components of the EPA-approved work plan began in mid-1999 and were completed by 2001. A groundwater treatability study, to determine the viability of in-situ chemical and biological treatment as remedial technologies worthy of future consideration, was conducted in 2002. Draft RI and FS documents were submitted in late 2004. These documents were revised in 2006 to incorporate EPA comments.

A special project account within the Hazardous Substances Trust Fund (Superfund) was established in connection with the 1997 settlement with the PRPs. In January 2002, EPA began cleanup activities at select source areas on the site utilizing special account funds. These cleanup activities included the excavation and off-site disposal of 300 drums and associated contaminated soil, and the recovery of subsurface oil known as light non-aqueous phase liquid (LNAPL). The drum removal activity was completed in 2003. Both free and residual LNAPL contamination are present at the site. The LNAPL contains varying amounts of site-related compounds such as PCBs and VOCs. Five passive oil recovery pumps were operated until early 2007. Over 11,000 gallons of LNAPL have been recovered and transported off-site for disposal. LNAPL recovery is expected to continue through the use of a more sophisticated technology known as bioslurping. The bioslurping technology is expected to begin in 2009, as part of the upcoming Phase 2 remedy. The wastewater treatment plant used during the lagoon cleanup effort was abandoned a number of years ago and was demolished in early 2005. It too will be replaced by a new more sophisticated plant. An additional recent measure to help protect public health involved the extension of public water lines to a number of residences located just outside the boundary of the groundwater plume emanating from the site.

Due to the scale and potential cost of the remaining Groundwater and Wetland remedial actions, the cleanup alternatives were reviewed by the National Remedy Review Board. The board serves as an internal peer review group consisting of EPA experts across the country with various disciplines and areas of expertise. The remedy selected in the September 2006 ROD reflects the board's recommendations and input.

Phase 2 Groundwater and Wetlands contractor selection activities were completed in early 2008. Remedial design/action work plans and preliminary site work, including seep area hot-spot soil removal, cover and drainage improvements, and implemetation of other groundwater hydraulic control measures (i.e., planting of over 10,000 hybrid poplar trees) were completed by mid-year 2009. Groundwater and light non-aqueous phase liquid recovery treatability studies and treatment works design will be ongoing through 2010. Following design, the operation of the deep groundwater treatment system, including an in-situ chemical oxidation process, will take a number of years to complete. LNAPL recovery treatability study work and bioslurping system pilot testing began in 2009. Full-scale implementation of the bioslurping system is scheduled for 2010. The Wetlands remedial action is being completed in two phases. The first phase design was completed in 2009. The Phase 1 work, involving contaminated sediment excavation south of Route 130, is scheduled for completion in December 2009. The second phase of the Wetlands remedial action, including the excavation of contaminated sediments and stream corridor/wetlands restoration, is planned for 2010.

Site Repositories

Logan Township Municipal Building at 125 Main Street, Bridgeport, New Jersey 08014 U.S. EPA Docket Room, Region 2, 290 Broadway, 18th Floor, New York, New York 10007-1866