

Lipari Landfill

New Jersey

EPA ID#: NJD980505416

EPA REGION 2 Congressional District(s): 02

Gloucester
Mantua Township

NPL LISTING HISTORY
Proposed Date: 12/1/1982
Final Date: 9/1/1983

Site Description

The 16-acre Lipari Landfill site includes a 6-acre inactive landfill that, between 1958 and 1971, accepted household waste, liquid and semi-solid chemical wastes, and other industrial materials. These wastes were disposed of in trenches originally excavated for sand and gravel. Approximately 3,000,000 gallons of liquid wastes and 12,000 cubic yards of solid wastes were disposed of at the site. Some of the wastes included solvents, paints and thinners, formaldehyde, dust collector residues, resins, and solid press cakes from the industrial production of paints and solvents. Prior to the closing of the landfill in 1971 by the New Jersey Department of Environmental Protection, at least one explosion and two fires were reported at the site. Contaminants seeped into the underlying aquifers and leached into nearby marshlands, Chestnut Branch Stream, Rabbit Run Stream, and Alcyon Lake. The lake was closed for recreational use. Although approximately 11,000 people depend on ground water for drinking water supplies within 3 miles of the site, drinking water supplies were not found to be contaminated. Fruit orchards are located adjacent to the site. Chestnut Branch is a tributary to the Delaware River.

Site Responsibility: This site is being addressed through Federal actions

Threat and Contaminants

Prior to cleanup actions at the site, chemical contaminants threatened human health and the environment. Air was contaminated with various volatile organic compounds (VOCs). Ground water, surface water, and sediments were contaminated with VOCs and heavy metals including arsenic, chromium, and lead. Soil was contaminated with VOCs, heavy metals, and phthalates. Leachate seeps contained VOCs, arsenic, beryllium, chromium, lead, nickel, zinc, and phenols. People who came into direct contact with the seeps or contaminated ground water may suffer adverse health effects. Although Alcyon Lake was closed, people who trespassed for swimming or who consumed fish taken from the lake were potentially exposed to contaminants. Pollutants that seeped into the marshlands and streams may have harmed the wildlife inhabiting the area.

Cleanup Approach

This site is being addressed in four stages: initial actions and three long-term remedial phases focusing on source control, cleanup of ground water and leachate, and off-site cleanup activities.

Response Action Status

Initial Actions: EPA drilled and sampled 16 monitoring wells to determine the groundwater flow and the extent of contamination. A security fence was installed by EPA to restrict access to the landfill in 1982, and additional fencing was installed by EPA between 1983 and 1985 to restrict access to neighboring wetlands areas.

Source Control: In 1982, EPA selected a remedy to stop pollutants from migrating from the landfill by constructing a landfill containment system consisting of an underground cut-off wall around the area and a synthetic membrane cover over the landfill surface. EPA completed the cut-off wall and landfill cap in 1984.

Ground Water, Leachate and Vapor Treatment: In 1985, EPA selected a remedy to clean up the ground water and leachate from the landfill including: (1) installing extraction and injection wells within the landfill containment to batch flush the system of water soluble contaminants and pump out the contaminated leachate and ground water for treatment; (2) installing wells within the underlying Kirkwood aquifer to monitor the ground water downgradient of the site; and (3) treating the pumped water on site and then discharging it to a nearby county sewer system. EPA installed the landfill

injection and extraction wells and completed construction of the treatment plant in January 1992. Shakedown operations of the wells and treatment plant were completed in 1993 and batch flushing was initiated. Over 295 million gallons of landfill leachate containing approximately 87 tons of contaminants have been extracted and treated to date. During year 2000, the batch flushing system was adapted for simultaneous soil vapor extraction to enhance the removal of volatile, less water soluble site contaminants. The soil vapor extraction system has so far removed and treated approximately 140 tons of contaminants.

Off-Site Contamination: In 1988, EPA selected a remedy to clean up the off-site contamination including: (1) collecting the ground water and leachate in the aquifers outside the containment system for treatment at the on-site treatment plant; (2) excavating the contaminated soils in Chestnut Branch Marsh and dredging and dewatering the contaminated sediments in Alcyon Lake, Chestnut Branch and Rabbit Run, then removing the pollutants using a low temperature volatilization system (LTVS), and finally placing the lake sediments and the treated marsh soils on the former Alcyon Lake Racetrack; (3) instituting temporary measures, if necessary, to minimize the escape of vapors from the leachate seepage areas in Chestnut Branch Marsh; and (4) monitoring the off-site areas to ensure the effectiveness of the on-site cleanup. EPA designed the technical specifications to clean up the marsh, aquifers, streams, and lake.

A responsible party performed the off-site remedial action, initially under a Unilateral Administrative Order (UAO) issued by EPA, and subsequently according to a Consent Decree that was negotiated and which replaced the UAO. Ground water in the Chestnut Branch marsh was removed and treated during marsh excavation, and ground water from the aquifer beneath the marsh is being collected for treatment with a trench drain system installed as part of the remedy. A french drain to capture for treatment any seepage from the landfill was installed between the landfill and the marsh and is operating. To date, approximately 267 million gallons of ground water from the off-site areas have been captured and treated. A total of 128,000 tons of contaminated soils from the Chestnut Branch marsh was excavated and the area backfilled with clean soil. Treatment of contaminated marsh soil with the LTVS was completed in late summer 1995. In addition, more than 85,000 tons of sediments were removed from Alcyon Lake. The lake, which had been closed for recreational use for a number of years due to contamination from the Lipari Landfill, was reopened in October 1995. EPA has issued a Certification of Completion of the remedial action.

Site Facts: In 1982, EPA and Nicholas Lipari entered into a Consent Decree. In 1993, EPA and the State of New Jersey reached a partial settlement embodied in a Consent Decree with the three primary responsible parties. That settlement recovers costs incurred and expected to be incurred to remediate the on-site contamination. In 1994, EPA and the State of New Jersey reached a second partial settlement with one primary responsible party. Under this settlement, embodied in a Consent Decree, the responsible party implemented the off-site remedy. Costs associated with the off-site remediation were recovered in partial settlements with the remaining two primary responsible parties in 1996 and 1999, respectively.

Cleanup Progress

Securing of the site, construction of the landfill containment system, ongoing remediation within the landfill containment system, and remediation of the Chestnut Branch marsh and Alcyon Lake have greatly reduced the potential for exposure to hazardous materials at the Lipari Landfill site while further cleanup activities are taking place.

Site Repositories

McCowen Library 15 Pitman Avenue Pitman, New Jersey 08071

U.S. EPA Region 2 Records Center - 18th Floor 290 Broadway New York, NY 10007