

Kin-Buc Landfill

New Jersey

EPA ID#: NJD049860836

EPA REGION 2

Congressional District(s): 06

Middlesex
Edison Township

NPL LISTING HISTORY

Proposed Date: 10/1/1981

Final Date: 9/8/1983

Site Description

The 220-acre Kin-Buc Landfill site is an inactive landfill that operated from the late 1940s to 1976. From 1971 to 1976, the site was a State-approved landfill for industrial and municipal wastes, both solid and liquid. The site accepted hazardous waste during this period, until the State revoked its permit in 1976 because of violations of several environmental statutes. An estimated 70 million gallons of liquid wastes, including 3 million gallons of oily waste, and over 1 million tons of solid waste, were disposed of between 1973 and 1976. The Kin-Buc site includes two major mounds (Kin-Buc I and Kin-Buc II) and one minor mound (Mound B). Site activities included burying and compacting contained wastes in Kin-Buc II and discharging hazardous liquid wastes into bulldozed pits at the top of Kin-Buc I. Three pits of black, oily leachate, designated Pits A, B, and C were previously located at an edge of Kin-Buc I. Adjacent to the pits was an impoundment referred to as Pool C. Oil, heavily laden with polychlorinated biphenyls (PCBs), accumulated in Pool C and then discharged into Edmonds Creek, a tributary of the Raritan River. The pond also held leachate that contained chlorinated volatile organic compounds (VOCs) which are believed to have come from the landfill. The Edison Township Municipal Landfill lies 600 feet to the south of the site. There is a refuse-filled low-lying area between Kin-Buc I and the Edison Landfill. The Site is located in a wetlands area adjacent to the Raritan River. Historically, aqueous and oily leachate seeped from the landfill into adjoining wetlands, contaminating the wetlands with PCBs. The Site was listed on EPA's National Priorities List in 1983, and is a PRP-lead site. There are 3,000 people living within 3 miles of the site.

Site Responsibility: This site has been addressed through Federal and potentially responsible party actions.

Threat and Contaminants

Prior to remedial activities, aqueous and PCB-contaminated leachate from the landfill seeped into an area known as Pool C. Elevated levels of PCBs were found in sediment samples taken from Edmonds Creek, Rum Creek, and the Raritan River. PCBs and a number of other pollutants were detected in the surface water of Edmonds Creek. Concentrations of PCBs were found in shallow wells in the refuse layer of the site. The sand and gravel aquifer beneath the site was also contaminated with leachate from VOCs and heavy metals. While in operation, frequent fires and a number of serious occupational injuries occurred at the landfill.

Cleanup Approach

This site has been addressed in three stages: initial emergency response actions to control run off from the site, and two long-term remedial actions focusing on cleanup of the two major mounds and Pool C, and cleanup of sediments in Edmonds Creek.

Response Action Status

Initial Actions: In 1980, the EPA began cleanup activities consisting of collection, treatment, and disposal of oily and aqueous phase leachate from Pool C. In 1982, as part of the settlement negotiations, the owners and operators assumed responsibility for cleanup activities.

Kin Buc I, Kin-Buc II, Pool C and Mound B: The PRP cleanup of these areas proceeded in two phases (or operable units). EPA signed a Record of Decision (ROD) for the first operable unit in 1988, which addressed the landfill itself, and consisted of the installation of a 7,000 foot long slurry wall around the two major landfill mounds (Kin-Buc I and Kin-Buc II). Additionally, a RCRA cap was installed on these mounds and an on-site treatment facility was built to treat the contaminated groundwater and leachate from within the contained mounds. Cleanup activities for this phase began in August 1993, and were completed in January 1997.

The original action at Mound B involved the placement and maintenance of a clay cap. In 1997, EPA performed a supplemental investigation in order to verify whether hazardous substances were present within this area. Investigatory activities included soil sampling, groundwater sampling and excavation of trenches. This supplemental investigation indicated that additional work was needed to remove drums from Mound B. In February 1999, EPA requested that the PRPs perform the additional work. The PRPs' work plan for this action was approved in January 2001. The drum removal activities were conducted in May 2001. The cap enhancement and shoreline restoration portion of the work took place between the months of April and July of 2002.

Adjacent Waterways and Wetlands: The potentially responsible parties, under EPA oversight, completed the investigation into the nature and extent of contamination in the wetlands, surface waters and ground waters at and adjacent to the site. The investigation identified volatile organic contamination in the ground water, as well as elevated levels of PCBs and metals in sediments and local wildlife, and concluded that the contaminated wetlands sediments are a source of contamination to local aquatic wildlife. A Record of Decision for these areas, signed in September 1992, selected the excavation of wetlands sediments contaminated by PCBs in excess of 5 parts per million, and the disposal of these sediments within the landfill, as well as the restoration of excavated areas. Cleanup activities for this phase began in September 1994 and were completed in July 1995.

Cleanup Progress

As part of the initial actions in 1984, 4,000 drums containing oily and aqueous phases of leachate and contaminated solids were shipped off site for incineration. From 1984 to 1994, approximately 5,000,000 gallons of aqueous phase leachate were shipped off site for treatment and disposal. Likewise, since the completion of the landfill containment in 1995, approximately 20,000 gallons of oily leachate have been shipped off site for treatment and disposal. To date, approximately 25 million gallons of contaminated groundwater and leachate have been extracted from the landfill, treated and discharged to the Raritan River as part of the first phase remedial action at the site. In addition, approximately 9,400 cubic yards of PCB-contaminated sediments were excavated from the wetlands adjacent to the Site as part of the second phase remedial action at the Site.

The numerous immediate cleanup actions to remove leachate and contaminated solids have greatly reduced the potential for exposure to hazardous substances at the Kin-Buc Landfill site. Remedial construction activities associated with Kin-Buc I, Kin-Buc II, Pool C and the adjacent wetlands are complete. The first Five-Year Review of OU1 and OU2 remedial actions was performed in March, 1999. A second one was performed in September, 2004. Operation and Maintenance (O&M) activities along with the review of the O&M Manual are underway. In addition, the supplemental investigation in Mound B was completed and indicated that additional work was needed in the area. The drum removal activities were conducted in May 2001. The cap enhancement and shoreline restoration portion of the work took place between April and July of 2002.

As part of the OU2 remedy, the PRPs performed a 5-year biota and sediment monitoring program in the remediated Edmonds Creek area. The results of this monitoring effort, submitted in 2000, were generally encouraging; however several elevated detections of PCBs were found during the 5-year sampling period. EPA directed the PRPs to continue monitoring and to evaluate the need for further investigation, and is at present evaluating the results of the on-going extended monitoring.

Site Repositories

Edison Township Public Library, 340 Plainfield Avenue, Edison, N.J. 08817