

# Gems Landfill

## New Jersey

EPA ID#: NJD980529192

### EPA REGION 2

Congressional District(s): 01

Camden

Gloucester Township

#### NPL LISTING HISTORY

Proposed Date: 7/1/1982

Final Date: 9/1/1983

## Site Description

The approximately 60-acre GEMS Landfill site has been owned by Gloucester Township from at least the late 1950s to the present. During that time, the landfill has been operated by various parties as a disposal site for solid, liquid, and hazardous wastes and substances. Records indicate that a variety of industrial wastes including asbestos, solvents, and other materials were disposed of at the GEMS site between 1970 and 1979. In 1980, sludge from the City of Philadelphia's northeast wastewater treatment facility was disposed of at the site. Analyses of the sludge revealed the presence of pesticides. The State closed the landfill in 1980. Scattered industrial and recreational areas are adjacent to the site. The closest residences are approximately 300 feet from the base of the landfill. Approximately 6,000 people live within a mile of the site, and 38,000 people live within a 3-mile radius. Holly Run borders the eastern edge of the site and flows into Briar Lake off the northeast corner of the site.

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

## Threat and Contaminants

The site is contaminated with VOCs, heavy metals and trace amounts of pesticides including DDE, DDD and DDT. The ground water beneath and near the site is also contaminated with organics and inorganics from the site.

## Cleanup Approach

This site is being addressed in three stages: immediate actions and a long-term remedial stage comprised of two phases focusing on cleanup of the entire site.

### Response Action Status

Immediate Actions: In 1983, EPA removed debris from the site and constructed a partial fence and two culverts and a berm to prevent residents from coming in contact with wastes in the area and control drainage from the site.

Entire Site: In 1985, EPA selected the following remedy to clean up the site: (1) constructing a landfill cap and regrading existing landfill side slopes; (2) installing an active gas collection and treatment system, a groundwater/leachate treatment system, and surface water controls; (3) implementing a monitoring program; and (4) relocating and isolating Holly Run and installing limited runoff controls. In addition, potentially affected homes have been connected to the existing public water supply system.

Site Facts: In 1980, the State of New Jersey initiated litigation in State Court which was subsequently moved to Federal District Court in 1984. This action sought recovery of the State's past response costs and performance of work at the site. In September 1992, the United States Department of Justice, on behalf of EPA, filed a civil action against nine defendants pursuant to the Superfund law. By this action, EPA sought to recover certain costs incurred by the United States in response to the release and/or threat of release of hazardous substances at the site. Including third party defendants, the State action involved some 300 parties including the nine sued by the United States. In November 1992, the two actions were consolidated, and extensive settlement discussions were commenced resulting in a global consent decree settlement which was completed in fall 1996. The Consent Decree document was entered in Federal Court on June 27, 1997.

## Cleanup Progress

Phase I activities were completed in August 1994. The final engineering design for Phase II, consisting of construction of an on-site groundwater/leachate pre-treatment facility with discharge to the Camden County Municipal Treatment Works (CCMUA), and extensive groundwater and vegetative monitoring programs, was completed by the potentially responsible parties (the GEMS Trust) in February 1998. CCMUA issued an Industrial Discharge Permit on May 14, 1999 and, following a 30-day public comment period, it became effective on June 14, 1999. Concurrently, a national study of publicly owned treatment works and radioactive discharges was being conducted by the Sewage Sludge Subcommittee of the Interagency Steering Committee on Radiation Standards. That study indicated that both man-made and naturally occurring radiation may enter sewer systems. As a result, prior to start-up of the ground water system, CCMUA requested that the GEMS Trust sample the ground water at the GEMS site for the presence of radionuclides.

The sampling indicated that low levels of radionuclides were present in ground water monitoring wells at the site. However, radioactive substances in ground water, such as radium, uranium, and thorium, occur naturally. Sampling, performed by other agencies, of public and private wells that draw water from southern New Jersey's Kirkwood-Cohansey aquifer has shown elevated levels of naturally occurring radioactivity. The aquifer is present in all or parts of most southern New Jersey counties, including Camden County. Since there is no indication that radionuclides were disposed of in the GEMS Landfill, it is likely that the radionuclides detected in the GEMS monitoring wells result from naturally occurring sources.

Regardless of the source of the radionuclides, there was a concern that their presence in the GEMS discharge could have an impact on the CCMUA system. As a result, initiation of the ground water remediation was suspended pending the resolution of radionuclide treatment issues. To help resolve those issues, the GEMS Trust modified its on-site pre-treatment facility to remove the radionuclides. The treatment plant began operation on a pilot basis, with discharge to Holly Run, from April, 2002 until January, 2003. Sampling results from this pilot indicated that the treated effluent would meet all the sewer discharge parameters for the conventional pollutants as well as the drinking water standards for radionuclides.

CCMUA issued a permit to the GEMS Trust for the discharge of treated groundwater on June 8, 2005, with an effective date of July 11, 2005. At that time, the on-site treatment system was activated and treatment commenced with discharge to the sewer.

## **Site Repositories**

Site-related documents are available for review at the following information repository location: Gloucester Township Municipal Building 1261 Chews Landing Road Chews Landing, Gloucester Township, New Jersey (609) 228-4000, ext. 236 Building Hours: Mon.-Fri., 8 a.m. - 5:45 p.m.

United States Environmental Protection Agency Records Center 290 Broadway, 18th Floor New York, NY 10007 (212) 637-4308 Building Hours: Mon.-Fri. 9 a.m. - 5 p.m.