

# Fort Dix (Landfill Site)

## New Jersey

EPA ID#: NJ2210020275

### EPA REGION 2

Congressional District(s): 03,04

Burlington

Pemberton Township, NJ

#### NPL LISTING HISTORY

Proposed Date: 12/19/1984

Final Date: 6/30/1987

## Site Description

The NPL Landfill Site, the non-NPL Sites, and the BRAC Sites.

The U.S. Army facilities at Fort Dix encompass approximately 33,000 acres, all of which is located above a Class1-A aquifer that provides potable water for a large area of Central New Jersey. The NPL Site is confined to the 126-acre Fort Dix Landfill which operated as a sanitary landfill from 1950 until 1984. All other contaminations under investigation and in remediation are non-NPL. These are being conducted either under the Army's Installation Restoration Program (IRP) or under the Base Realignment and Closure Act (BRAC). The New Jersey Department of Environmental Protection (NJDEP) is primarily responsible for review and comment upon environmental activities at the IRP Sites. NJDEP comments upon the NPL Landfill are made thru EPA. EPA also provides review and commentary upon the non-NPL Sites under an existing Federal Facilities Agreement between the Army at Fort Dix and EPA. Additionally, EPA and NJDEP provide review and commentary upon environmental activities at the BRAC Sites being made available for sale or lease. Institutional controls have been defined and overseen by NJDEP in the form of existing broad agreements that cover the entire base as well as the 136- acre NPL Landfill Site.

The U.S. Army's Fort Dix Military Reservation, as it formerly was known, and McGuire Air Force Base used the Landfill to bury wastes in a series of trenches, which then were recovered with soil that had been excavated from those trenches. Types of waste disposed of in the Landfill include sludges, waste paints and thinners, and pesticides. Cannon Run and an unnamed stream are located nearby and flow into Rancocas Creek. A hardwood swamp is located near the Landfill. The site is surrounded by woods and dense vegetation which had been open to the public during the hunting season. Unauthorized recreational activities such as dirt biking have occurred near the site. As many as 5,000 people have lived in military housing about 4,000 feet upstream of the Landfill.

Approximately 500 people live in Pemberton Township, which also is 4,000 feet from the Landfill. As many as 7,300 residents once had been served by domestic wells within three miles of the Landfill.

In addition to the Landfill, the Army had identified 21 past disposal and spill areas which may have been contaminated; 14 of these non-NPL areas were found to merit further investigation which is being conducted under the Installation Restoration Plan.

In preparation for either lease or transfer of certain parcels of Fort Dix to other parties under BRAC, the Army Corps of Engineers had prepared an Enhanced Primary Assessment, and the Army had completed an Environmental Investigation and Alternatives Analysis (EI/AA) of an additional 19 sites which might require remediation. Although the Army seeks to lease or transfer some sites as early as possible, a core site will remain as Fort Dix, as an active training facility for the Army Reserves and National Guard, and as a power projection platform.

Site Responsibility: This Landfill Site is being addressed through Federal actions.

## Threat and Contaminants

The groundwater and surface waters have been contaminated with various volatile organic compounds (VOCs) as well as heavy metals including manganese, lead, and magnesium. (Iron and manganese also are in natural occurrence here).

Potential threats to health include drinking contaminated groundwater. However, no potable water supply wells are threatened by the groundwater contamination. There also is potential for environmental contamination of the swamp adjacent to the landfill.

Soils used in buttressing of the dam at the outfall from Hanover Lake are believed to be the source of lead and other

heavy metals found in the sediments of Gaunt's Brook, which extends off base and flows into Mirror Lake, a recreational site which lies downstream. Some soils used to shore up the dam are believed to have been relocated from a firing range and may include heavy metals. The Army has agreed to conduct removal and remedial actions which may be required at the dam and in the stream sediments. These non-NPL actions have been funded and are in progress.

## Cleanup Approach

This site is being addressed in two long-term remedial phases focusing on cleanup of the Landfill and the disposal and spill areas. In addition to the Landfill, the Army identified several past disposal and spill areas which were possibly contaminated; 14 of these areas were determined to merit further investigation. Contaminations of some of these areas were of petroleum origin and are not subject to CERCLA.

The Corps of Engineers has provided a subsequent report (an enhanced Preliminary Assessment) in preparation for the leasing of certain parcels of Fort Dix to other parties under the BRAC base closure program. Subsequently the Army has conducted an Environmental Investigation of an additional 19 sites for possible contamination. EPA and NJDEP are reviewing the Army's recommendations for cleanup of these non-NPL sites. Four of these sites have been determined to be suitable for transfer to existing tenants; three of these tenants are federal agencies. One is an agency of the state of New Jersey, which has agreed to cleanup specific contaminations that have been determined to have occurred during their tenancy.

### Response Action Status

**Landfill:** The Army and EPA signed a Record of Decision on September 24, 1991 to cap the southern most 50 acres of the landfill and to conduct 30 years of environmental monitoring. Remedial Action for the Phase I, cap (maintain two feet of cover and a perimeter chain link fence) had been completed early. Construction of the Phase II multi-layer, vented cap was completed prior to FY1998. By end of FY1999, EPA had approved the first Five-Year Report, a Pre-Closure Report, and the Final Remedial Action Report for the Landfill. EPA's review of the second Five Year Review Report found agreement with the statement that the remedy is protective of human health but note that recent monitoring has detected additional migrant contaminations which could be harmful to the environment. EPA has requested emplacement of additional monitoring wells and conduction of an ecological risk assessment.

**Disposal and Spill Areas:** In addition to the Landfill, the Army identified 21 past disposal and spill areas potentially contaminated with hazardous wastes. After evaluation, 14 of these areas were recommended for further study to determine the nature and extent of apparent contamination. For these areas the Army submitted Remedial Action and Feasibility Study (RI/FS) reports which recommend further actions required for remediation. The Army also completed additional fieldwork and has proposed plans for several of the specific sites. The Army is converting these into Decision Documents (DDs) which require subsequent approval solely by the State of New Jersey. Implementation of these DDs will be made by the Army's selected contractor(s) who bid to provide guaranteed performance contracts for fixed price completions.

Final RI/FS Report for the MAG-1 Area, and six more of the 14 sites, have been reviewed by EPA and NJDEP. Although not an NPL Site, the MAG-1 Site has been determined to contain significant and cumulative TCE contaminations which are located in a plume within a Class 1-A aquifer which lies wholly beneath the Army property. The aquifer is subject to regulations of the State of New Jersey and of the Pinelands Commission, a regulatory body within NJDEP. The Army's Proposed Plans for this Site and for other non-NPL Sites have been reviewed by EPA and NJDEP. The Army now seeks designation of Classificati Exception Area (CEA) for the MAG-1 Area because existing technology may not be sufficiently practicable for the desired remediation. Resolution of this is being sought by the Army and NJDEP.

The Corps of Engineers had submitted an Enhanced Preliminary Assessment in preparation for the leasing or sale of BRAC surplus properties to other parties. Subsequently the Army prepared and followed an approved Environmental Investigation Work Plan for 19 additional sites. Fieldwork for this was conducted during the summers of 1993 and 1996. The Final EI and Alternatives Analysis (EI/AA) Report has been reviewed by EPA. Several of these sites are contaminated only by petroleum products, which are excluded from CERCLA. Such sites have been remediated in accordance with requirements of the State of New Jersey. Essentially all such sites have been transferred at this time, mostly to other federal or state agencies. It is worth noting that some of these had been leased in the past to those who have received the very same sites by transfer. **Site Facts:** Fort Dix is participating in the Installation Restoration Program, a specially funded program established by the Department of Defense (DoD) in 1978 to identify, investigate, and control the migration of hazardous contaminants at military and other DoD facilities. In 1985 EPA, the State of New Jersey, and the Army signed an Administrative Consent Order for closure of the Landfill. In addition to the Landfill the DoD agreed to investigate all contaminations at Fort Dix, to define the contaminants, and to recommend alternatives for final cleanup. In 1991 the Army also signed an Interagency Agreement (IAG) with EPA under CERCLA. This incorporates the study and closure of the NPL Landfill Site plus the investigation and determination of remediation requirements of the non-NPL Sites. NJDEP did not sign onto the IAG, citing their earlier Administrative Order to the Army. Since, the Army also has negotiated and signed a Voluntary Cleanup Agreement with the State of New Jersey. Provision has been made for

emplacement of Institutional Controls (ICs) which provide additional safeguards in perpetuity.

## Cleanup Progress

Upon listing this site on the NPL, the EPA performed an initial assessment and determined that the Fort Dix Landfill and related IRP sites do not pose an immediate threat to nearby residents while studies leading into final cleanup progressed. Additional contamination, which have appeared recently, have been determined to be not harmful to human health. Expanded monitoring and studies are underway to determine if these might be harmful to the environment.

The Army has achieved Construction Completion at the NPL Landfill Site. A Long Term Monitoring Program (LTMP) continues to report satisfactory groundwater levels for a broad array of contaminants which were assumed to be among the unknowns buried in the Landfill. This would require EPA's determination that the remedy is working and that additional remediation of the Landfill Site is not required. The long term monitoring will be continued until it can be assured that decomposition of the contents of the Landfill are not hazardous either to human health or to the environment.

## Site Repositories

Fort Dix Environmental Division Building 5501 Fort Dix, New Jersey 08640 609-562-5325 (open 5 days)

Pemberton Community Library 16 Broadway Browns Mills, NJ 08015 609-893-8262 (open 7 days)

U.S. EPA Records Center, Region 2 290 Broadway, 18th Floor. New York, New York 10007-1866 Hours: Monday-Friday - 9 am to 5 pm