



## Middlesex North, New Jersey, Site

### FACT SHEET

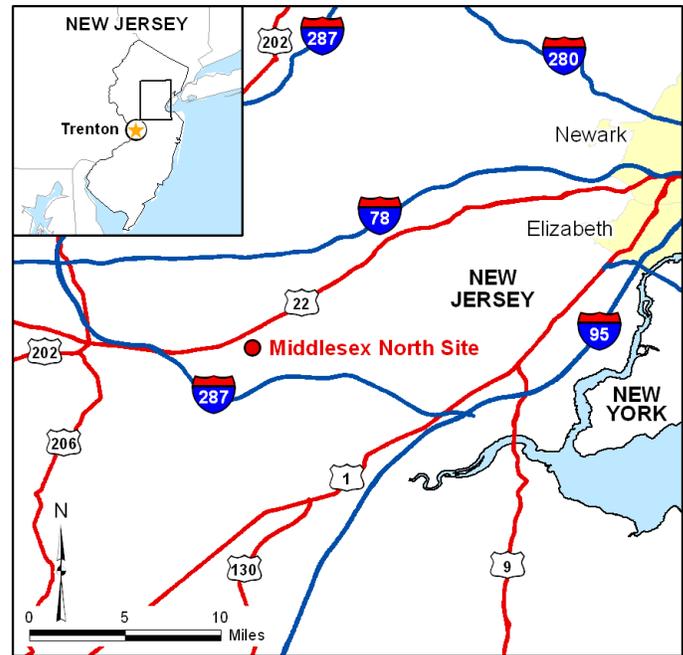
*This fact sheet provides information about the Middlesex North, New Jersey, Site.  
This site is managed by the U.S. Department of Energy Office of Legacy Management.*

### Site Description and History

The Middlesex North, New Jersey, Site (formerly the Middlesex Municipal Landfill site) is located in Middlesex, New Jersey, approximately 22 miles west of downtown Manhattan (New York City); 16 miles southwest of Newark, New Jersey; and 30 miles northeast of Trenton, New Jersey. The site encompasses the Middlesex Landfill, which received slightly contaminated soil from the Middlesex Sampling Plant (located one-half mile south-southeast of the landfill).

From 1943 to 1955, the Middlesex Sampling Plant, under the direction of the Manhattan Engineer District and then the U.S. Atomic Energy Commission (AEC), was used to crush, dry, screen, weigh, assay, store, package, and ship various types of uranium, thorium, and beryllium ores for the development of nuclear weapons. The sampling plant was used primarily for storage and for some sampling of thorium residues from 1955 to 1967, when the site was decontaminated, certified as meeting then-current radiological cleanup standards, and released for unrestricted use. The site was transferred to the U.S. Marine Corps in 1969 and was used as a reserve training center until 1979, when the U.S. Department of Energy (DOE) acquired the property. DOE used the site for interim storage of radioactively contaminated materials from nearby vicinity properties and areas adjacent to the site.

Much of the ore generated from the early sampling activities was stored in drums and containers on a poorly drained field on the Middlesex Sampling Plant grounds. Handling and transfer operations occasionally resulted in spillage of small amounts of ore, causing this area to become contaminated with small pieces of pitchblende (high-grade uranium ore) interspersed with muddy soil. In 1948 the AEC, a predecessor agency of DOE, decided this storage area should be paved, and approximately 6,000 cubic yards of uranium-contaminated soil from grading activities was transported to and disposed of at the landfill, where it was dispersed over approximately 5 acres. After elevated radiation levels were detected at the landfill in 1960, AEC removed approximately 650 cubic yards of contaminated material nearest the surface and replaced it with about 2 feet of clean soil. This



*Location of the Middlesex North, New Jersey, Site*

contaminated material was subsequently redeposited at an AEC-owned site in New Brunswick, New Jersey. In 1963, the Borough of Middlesex sold a 5-acre parcel of the landfill to the Middlesex Presbyterian Church, which built a church there. A 1974 AEC radiological survey and a follow-up 1978 DOE survey (conducted by Oak Ridge National Laboratory) determined that contamination of the property was localized to a 3-acre area approximately 400 feet northeast of the church building. Radioactive contamination consisted primarily of radium-226, with lesser amounts of uranium-238. The 1978 survey and subsequent remedial action were performed under the Formerly Utilized Sites Remedial Action Program (FUSRAP).

Remedial action was performed at two parcels of the landfill: Parcel 1, located on 1190 Mountain Avenue (comprising approximately one-third of the site and owned by Middlesex Presbyterian Church), and Parcel 2, also located on Mountain Avenue (comprising approximately two-thirds of the site and owned by the Borough of Middlesex). The remedial action of the

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landfill was conducted in two phases, in 1984 and 1986, during which 15,000 and 16,000 cubic yards were excavated, respectively. The contaminated soil was transported to and temporarily stored at the sampling plant until a permanent disposal site became available. After both phases of excavation, backfilling was performed, turf was established, and demobilization and site cleanup were completed.

## Regulatory Setting

AEC established FUSRAP in March 1974 to evaluate radioactive contamination at sites where work was performed to develop the nation's nuclear weapons and early atomic energy program. After reviewing records and radiological surveys for more than 600 sites connected with the nuclear weapons program, DOE identified 46 sites that required cleanup, including the Middlesex North site. Congress transferred responsibility for FUSRAP site characterization and remediation to the U.S. Army Corps of Engineers in 1997. DOE retains responsibility for long-term surveillance and maintenance of remediated FUSRAP sites.

The Middlesex North site was remediated to criteria in *Guidelines for Residual Radioactive Material at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites*. A notice of cleanup certification for the site was published in the *Federal Register* on May 8, 1989.

In fiscal year 2004, DOE transferred responsibility for the Middlesex North site from the DOE Office of Environmental Management to the DOE Office of Legacy Management (LM).

## Current Site Conditions

In fiscal year 2008, the New Jersey Department of Environmental Protection provided DOE with results of a radiological survey that the Borough of Middlesex had performed in 2001. The survey results indicated gamma exposure rates in the south end of the property that exceeded background levels. DOE commissioned a radiological survey of the entire property that encompassed the former Middlesex municipal landfill. Results of the DOE survey identified above-background concentrations of radium-226 and uranium-238 inside the property boundary along Pershing Avenue. DOE referred the property to the U.S. Army Corps of Engineers, which will complete a preliminary assessment of the property in 2011.

## Legacy Management Activities

No monitoring, maintenance, or site inspections are required for the Middlesex North site. LM's responsibilities consist of managing site records and responding to stakeholder inquiries.

## Additional Information

Documents related to the Middlesex North site are available on the LM website at [http://www.lm.doe.gov/middlesex\\_north/Sites.aspx](http://www.lm.doe.gov/middlesex_north/Sites.aspx).

For more information about LM's activities at the Middlesex North site, contact

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(877) 695-5322 (toll-free)