

# Glen Ridge Radium Site

## New Jersey

EPA ID#: NJD980785646

### EPA REGION 2

Congressional District(s): 08

Essex  
Glen Ridge

#### NPL LISTING HISTORY

Proposed Date: 10/1/1984

Final Date: 2/1/1985

## Site Description

The 130-acre Glen Ridge Radium site included 430 residential properties and 14 municipal properties in the towns of Glen Ridge, Bloomfield and East Orange. The soil at the site was contaminated with radioactive waste materials suspected to have originated from nearby radium-processing facilities that operated in the early 1900s. Subsequently, houses were constructed on or near radium waste disposal areas. Some of the radium-contaminated soil was used as fill in low-lying areas, and some was mixed with cement for sidewalks and foundations. This site is similar to the Montclair/West Orange Radium site, which also had radium-contaminated soils from the same sources. Because of their proximity and the similarity of the contamination, the Montclair/West Orange and Glen Ridge Radium sites have been addressed jointly. More than 200,000 cubic yards of contaminated soil were scattered on public and private properties in the communities of both sites. The projects were initiated in 1983, when the State of New Jersey identified a number of homes with high levels of radon gas and radon decay products, as well as excessive levels of indoor and outdoor gamma radiation.

Site Responsibility: This site is being addressed through Federal and State actions.

## Threat and Contaminants

The soil on the site was contaminated, to varying degrees, with radium and other radiological substances. When radium is located in and around a home, it may result in high levels of radon gas and gamma radiation in the home. Radon is a decay product of radium and gamma radiation is the energy released during the decay process. People exposed to the radium, radon, radon decay products and elevated levels of gamma radiation may be at risk. In addition, accidental ingestion of radium-contaminated soil may cause adverse health effects.

## Cleanup Approach

This site has been addressed in stages: emergency actions and long-term remedial phases focusing on cleanup of the soil, structures, and groundwater.

### Response Action Status

**Emergency Actions:** In 1983, EPA installed temporary ventilation systems to reduce the radon concentrations in 38 homes within this site and the nearby Montclair/West Orange Radium site. In addition, shielding from gamma radiation was installed in 12 homes. The radon systems were upgraded to higher efficiency units in 1990 and 1991, at which time, two additional units were installed.

**Soil and Structures:** In 1989, EPA selected a remedy to address the most severely contaminated properties, and deferred the selection of a remedy for the remaining less contaminated properties and contaminated public areas and streets until the 1990 Record of Decision. The selected remedy for all affected properties, regardless of the degree of contamination or property type, involved the excavation and off-site disposal of all radium-contaminated soil, followed by restoration of the properties.

Remediation activities began with an investigation of the properties to determine the location, magnitude and extent of contamination. Where contamination was found, a design was developed which detailed the excavation areas and restoration plans for the property. Property cleanups ranged from the removal of a few cubic yards to excavation of contaminated fill material from the entire parcel -- in some instances, this included material beneath the basement slab. At the most extensively contaminated properties, the occupants were temporarily relocated while the cleanup was in

progress.

Groundwater: A groundwater investigation for the project areas determined that no further action was necessary. The Record of Decision for the groundwater was completed in September 2005.

## **Cleanup Progress**

The contaminated properties were categorized into fifteen construction phases, to address the most severe contamination first, and not cause undue stress and community disruption from construction activities in any one specific residential area. Cleanup work began in 1990; all cleanup and restoration activities were completed in December 2004. EPA sent final letters and data packages (containing all results) to property owners within the cleanup area.

## **Site Repositories**

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