Fact Sheet

U.S. DEPARTMENT OF ENERGY | Legacy Management

Burrell, Pennsylvania, Disposal Site

An UMTRCA Title I site

This fact sheet provides information about the **Burrell, Pennsylvania, Disposal Site.** This site is managed by the **U.S. Department of Energy Office of Legacy Management** under **Title I** of the **Uranium Mill Tailings Radiation Control Act of 1978**.

Site Information and History

The Burrell disposal site is a former railroad landfill located about 1 mile east of the borough of Blairsville, Indiana County, in southwestern Pennsylvania. The site is bordered on the south by the Conemaugh River and on the north by Norfolk Southern railroad tracks. The surrounding land is sparsely populated.

The site was operated as a railroad landfill from the late 1940s through the late 1960s. In the late 1940s, the Pennsylvania Railroad constructed a berm along the bank of the Conemaugh River and began landfill operations. The landfill is believed to have been used for typical railroad wastes, such as railroad ties, cinders, and excess coal. In 1956 and 1957, 11,600 tons of radioactive mill tailings, a predominantly sandy material, were removed from the former uranium ore processing site at Canonsburg, Pennsylvania, and transported approximately 50 miles to the Burrell site for use as fill.

The federal government acquired the Burrell site through condemnation proceedings in 1986. The site was identified as a "vicinity property" to the Canonsburg processing site. Because of the large volume of tailings and the distance to the Canonsburg site, the U.S. Department of Energy (DOE) consolidated and encapsulated the contaminated material at the Burrell site. DOE completed surface remediation of the uranium mill tailings and other radioactively contaminated surface material in 1987. The disposal cell occupies about 4 acres of the 72-acre site.

Regulatory Setting

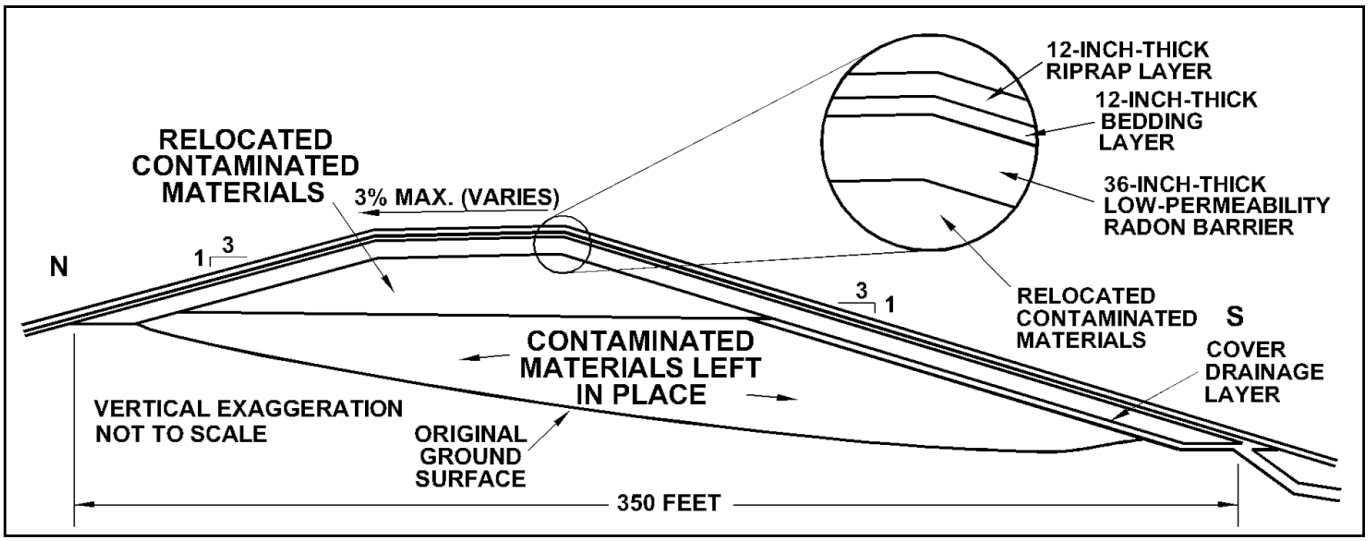
Congress passed the Uranium Mill Tailings Radiation Control Act (UMTRCA) in 1978 (Public Law 95-604), and DOE remediated 22 inactive uranium ore processing sites under the Uranium Mill Tailings Remedial Action Project in accordance with standards promulgated by the U.S. Environmental Protection Agency in Title 40 *Code of Federal Regulations* (CFR), Part 192.

The radioactive materials were encapsulated in U.S. Nuclear Regulatory Commission-approved disposal cells. The U.S. Nuclear Regulatory Commission general license for UMTRCA Title I sites is established in 10 CFR 40.27. The Burrell disposal site was included under the general license in 1994.

Disposal Site

The disposal cell was closed in 1987 after consolidation of the tailings and completion of the cell cover. The cell contains about 86,000 dry tons (73,000 cubic yards) of contaminated material, with a total activity of about 4 curies of radium-226.

The site is situated on unconsolidated alluvium that is as much as 50-foot thick. Groundwater in the alluvium is unconfined; depth to the water table is more than 30 feet below land surface. Confined groundwater lies beneath 30 to 40 feet of impermeable claystone and shale of the Casselman Formation. Groundwater has been monitored at the Burrell site since 1987. The original monitoring program consisted of 20 analytes and the objective was to demonstrate the initial performance of the disposal cell. The monitoring has shown that the disposal cell is operating as an effective containment system. Results of groundwater monitoring indicate that containment levels are below the standards in 40 CFR 192. DOE continues to monitor groundwater at the Burrell site every five years as a best management practice, but uses a



North-South Cross Section of the Burrell Disposal Cell.

reduced analyte list. The program samples for four analytes (lead, molybdenum, selenium, and uranium). 40 CFR 192 water quality maximum concentration limit standards for these four analytes are used as indicators for the continued evaluation of cell performance. Alternate concentration limits are not defined for this site, because the groundwater has not been contaminated by legacy activities.

Disposal Cell Design

The cover of the polygonal disposal cell is a multi-component system designed to encapsulate and isolate the contaminated materials. The disposal cell cover is composed of (1) a low-permeability radon barrier of compacted clay (first layer placed over compacted tailings), (2) a free-draining bedding layer, and (3) a rock (riprap) erosion-protection layer. Precipitation flows down the sloped cell top through the bedding layer and into surrounding rock drains. The cell was designed to promote the rapid runoff of precipitation to minimize infiltration. The immediate area surrounding the cell was graded to promote drainage and was vegetated with native species to minimize erosion. A posted security fence surrounds most of the site.

Legacy Management Activities

The DOE Office of Legacy Management (LM) manages the disposal site according to a site-specific Long-Term Surveillance Plan to ensure that the disposal cell systems continue to prevent release of contaminants to the environment. Under provisions of this plan, LM conducts annual inspections of the site to evaluate the condition of surface features, mows the grass and controls other vegetation, performs other site maintenance as necessary, maintains a native tallgrass prairie as a pollinator reuse initiative, and monitors groundwater quality to verify the continued integrity of the disposal and protection of public health and the environment.

In accordance with 40 CFR 192.02(a), the disposal cell is designed to be effective for 1,000 years, to the extent reasonably achievable and, in any case, for at least 200 years. However, the general license has no expiration date, and LM's responsibility for the integrity of the Burrell disposal site will last indefinitely.

CONTACT INFORMATION

IN CASE OF AN EMERGENCY AT THE SITE, CONTACT 911

LM TOLL-FREE EMERGENCY HOTLINE: (877) 695-5322

Site-specific documents related to the **Burrell, Pennsylvania, Disposal Site** are available on the LM website at **www.energy.gov/lm/burrell-pennsylvania-disposal-site**

For more information about LM activities at the **Burrell, Pennsylvania, Disposal Site**, contact:

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