

## Salmon Site

...an Offsites Project

### History and Site Overview

From 1964 to 1970, the United States government performed a series of nuclear and non-nuclear tests in an underground salt formation in Mississippi. Salt domes were ideal locations for testing because salt is self-sealing, thus radioactivity from tests would remain inside the salt dome. Originally, this privately-owned land was referred to as the Tatum Salt Dome site. The location is currently owned by the U.S. Department of Energy (DOE) and is now known as the Salmon Site.

Four tests were conducted at the Salmon Site as part of a government effort to improve the nation's ability to detect underground nuclear explosions. The first two tests utilized nuclear detonations and the final two involved conventional explosives. The Salmon Site, located in Lamar County, about 21 miles southwest of Hattiesburg, Mississippi, was officially deactivated and decommissioned in 1972.

### Site Cleanup

The DOE Nevada Site Office conducted surface cleanup activities at the Salmon Site from 1971 to 1972, by disposing of contaminated soil and water in the original test cavity, and then sealing it. All contaminated equipment was shipped to the Nevada Test Site for disposal. A long-term monitoring program was established in 1972 with the U.S. Environmental Protection Agency (EPA) that continues today. The Mississippi State Department of Health joined this program in 1977. Annual sampling activities include testing shallow wells, municipal water supplies, area vegetation, and milk from local dairy cows. A 1988 report, prepared by the EPA,



*Monitoring at the Salmon Site*

states that some contamination of surface soil and groundwater was found near Ground Zero (defined as the surface location above which the underground devices were positioned).

In 1992, DOE began remedial investigations to identify the extent of contamination in near-surface soil and groundwater. After purchasing the Salmon Site from a private landowner in 1995, DOE was able to drill deeper wells and investigate soil and groundwater contamination closer to the test cavity.

The investigations and study activities included: locating existing wells, wetlands and floodplains; identifying cultural resources; researching site history through personal interviews and records searches; characterizing previously disturbed

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areas that may have environmental impacts; sampling soil, water, sediment, and vegetation; and conducting risk analyses.

In addition to monitoring on-site and off-site water sources, scientists sampled a series of mud pits that were created as a result of drilling activities. The DOE completed the remedial investigation in the spring of 1999 and determined that the site does not pose a significant current or future risk to human health or the environment under planned land use scenarios.

To date, scientists have not found any groundwater contamination in samples taken off of the Salmon Site. However, to mitigate public concern regarding potential future risks, DOE approved a \$2 million grant to install a drinking water system for residents in the area adjacent to the site. With the cooperation of the state of Mississippi and Lamar County Commissioners, the system was successfully installed and has been operational since November 2001.



*Mississippi general site map*

## Current Activities

The DOE continues to work closely with the state of Mississippi representatives and officials to determine the appropriate path forward for the Salmon Site. A rigorous monitoring program, which tests for chemicals in the subsurface area at Salmon, will be controlled and maintained by DOE. The EPA will continue to monitor water sources for the presence of radionuclides. The surface area at the Salmon Site may eventually be maintained as a demonstration forest or wildlife refuge.

An administrative Record/ Information Repository, containing key site documents, has been established at the public library in Purvis, Mississippi.

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