



U.S. DEPARTMENT OF
ENERGY

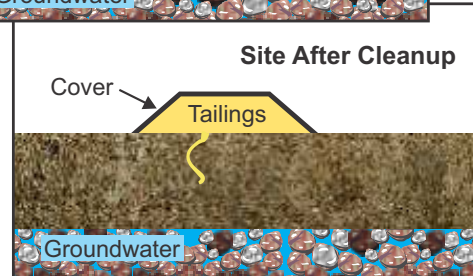
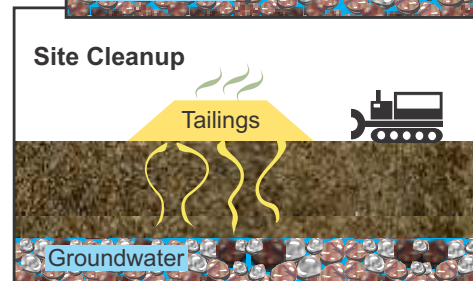
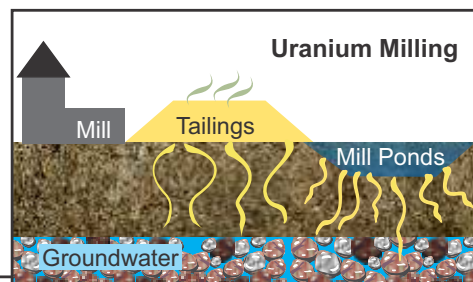
Legacy
Management

Shiprock, New Mexico, Disposal Site

COMMUNITY INFORMATION

Shiprock Site Background

1951	Uranium found on Navajo Nation lands near Shiprock.
1952	Uranium-ore buying station is established in Shiprock.
1954	Mill is built in Shiprock.
1954–1968	Various companies operate the mill, processing uranium and vanadium ore. During milling operations, chemicals from mill tailings piles and ponds drain into the soil and groundwater.
1968–1973	Mill buildings and equipment are torn down.
1975–1980	Initial cleanup of materials from former milling operations.
1986	Mill tailings are put in a disposal cell and a cover is constructed over the materials. The disposal cell cover is a barrier that prevents radon gas from escaping and reduces the amount of water drainage through the cell.
1991–Now	U.S. Department of Energy (DOE) performs long-term care at the Shiprock site.



Drawings not to scale.

DOE Activities at the Shiprock Site

Site Inspections

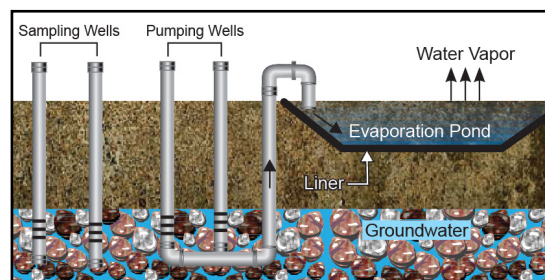
DOE inspects the disposal cell and the surrounding area to make sure it is protective of human health. During the inspection, items that need maintenance are identified and repaired. DOE also works with the Navajo Nation to inspect the groundwater cleanup system and to monitor the site between annual inspections.

Groundwater Cleanup

Groundwater is pumped into a lined pond from multiple wells that surround the disposal cell. A well is a pipe inserted through the ground and into the groundwater. A section at the bottom of the pipe, called the “screen”, has small holes. The groundwater enters the well through the screen. Samples are taken twice a year to measure chemical levels in the groundwater. Chemicals include ammonium, manganese, nitrate, selenium, strontium, sulfate, and uranium. Over time, water sampling results have shown that removing the groundwater by pumping it into the pond and allowing it to evaporate causes the chemical levels in the groundwater to decrease.



Shiprock, New Mexico, Disposal Site Pond



Drawing not to scale.

Phytoremediation

Phytoremediation is the use of plants to slow the movement of contaminants. Black greasewood and fourwing saltbush were planted near the Shiprock disposal cell to test if they can help control the movement of contaminated groundwater; they were planted and irrigated with the help of Diné College students. The plants can sustain themselves without irrigation if their roots are able to tap the groundwater. The tests have shown that plants can intercept contaminated groundwater between the cell and the floodplain near the San Juan River.



Diné College Students Sampling Fourwing Saltbush Plants at the Phytoremediation Test Plots Next to the Shiprock Disposal Site

Contacts

DOE is responsible for caring for the disposal cell and cleaning up groundwater at the Shiprock site to protect human health and the environment. The Navajo Nation provides oversight for DOE activities.

If you have questions about the site, please visit DOE's website at <https://www.lm.doe.gov/shiprock/Sites.aspx> or contact:

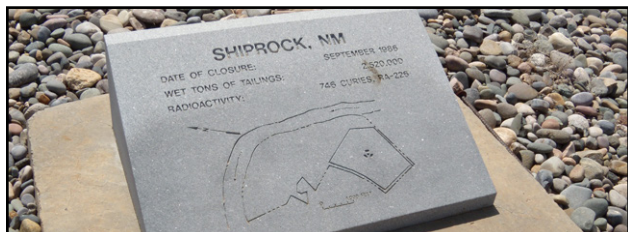
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Other Navajo Nation, Uranium-Related Programs

This table includes programs and people you may contact to learn more about the services available to you if you have questions about uranium exposure and your health.

Agency and Contact Information		Program
Navajo Area Indian Health Service Contact: Dolores Gruber Phone: (505) 368-7402 or 1-800-549-5644, ext. 7402 Email: dolores.gruber@ihs.gov		Community Uranium Exposure Journey to Healing Program: This program provides health monitoring, health promotion, and health education to people across the Navajo Nation. It focuses on people exposed to uranium by living in the community rather than by working at uranium mines or mills.
Navajo Area Indian Health Service Contact: Johnna Rogers Phone: (505) 368-7397 or 1-800-549-5644, ext. 7397 Email: johnna.rogers@ihs.gov		Navajo Birth Cohort Study: The primary goal of this study is to determine whether exposure to uranium affects birth outcomes and childhood development on the Navajo Nation.
Navajo Area Indian Health Service		Radiation Exposure Screening and Education Program (RESEP): This program offers assistance to miners and millers, including applying for compensation and healthcare services.
Contact: Rena Gould Phone: (505) 368-7054 Email: rena.gould@ihs.gov	Contact: Denise Bartley NP-C Phone: (505) 368-7392 Email: Denise.Bartley@ihs.gov	



Shiprock, New Mexico, Disposal Site Marker



Shiprock, New Mexico, Disposal Site Cell