

EPA Ruby Mines #1 and #3 Site Update

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Background

Ruby Mines #1-4 were operated between 1975 and 1985 by mining company Western Nuclear, Inc. (Western Nuclear). The four uranium mines were connected to each other by underground tunnels, which are several hundred feet below the ground surface. The only surface entrances to Ruby Mines #1-4 were from Ruby #1 and Ruby #3. Total ore production from the four mines is estimated at about 1 million tons, and ore was sent to a mill outside of the mining area to remove uranium from the rest of the rock material. Waste rock from mining operations was placed outside the entrances to Ruby Mines #1 and #3.

Western Nuclear, Inc. completed work in 1985 at the Ruby Mines to restore the mine to its natural state—a process also known as mine “reclamation”—by covering the waste rock with clean soil under the direction of the Bureau of Land Management (BLM) and the Bureau of Indian Affairs (BIA).



Closing of an Open Adit at Ruby #1

What Has Been Done?

Western Nuclear, under U.S. Environmental Protection Agency (USEPA) and Navajo Nation Environmental Protection Agency (NNEPA) oversight, investigated the land around the mines with radiation detectors and by sending soil samples to a laboratory. Ruby #1 and #3 mines, combined, have approximately 200,000 cubic yards of mine waste containing radium and uranium at levels that could pose a health risk to people going on the mine site. The mine waste is mostly buried in piles at the sites, with very little waste scattered outside of the piles.

Western Nuclear closed the two mine entrances (called “adits”) and vent holes, where surface air could enter the mines, in 2014 and 2015.

What is Happening Now?

Western Nuclear is conducting a study, known as an “Engineering Evaluation/Cost Analysis” (EE/CA), to evaluate options for cleaning up the soil contamination.

Engineering Evaluation/ Cost Analysis

The EE/CA considers potential risks to human health and the environment from the contamination, and studies how the cleanup options fit into anticipated future land use of the site. USEPA and NNEPA will speak with the community about the results of the EE/CA and get feedback on proposed next steps for a final clean up.



Sampling Various Depths of Soil at Ruby Mine Site

Who is Involved?

USEPA and NNEPA work with Smith Lake Chapter officials as well as community members for all outreach activities and information sessions. To keep the community informed, USEPA:

- is developing a Community Involvement Plan;
- meets with chapter officials and the community to discuss the investigations and cleanup options;
- distributes fact sheets describing work at the mine site; and
- coordinates with other federal and Navajo agencies such as Indian Health Service, Bureau of Indian Affairs, Navajo Abandoned Mine Lands, Navajo Department of Economic Development and Navajo Department of Natural Resources.

How Can You Learn More?

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USEPA site page for cleaning up abandoned uranium mines in the Eastern Region of the Navajo Nation: <https://www.epa.gov/navajo-nation-uranium-cleanup/eastern-region-abandoned-uranium-mines>

General information on USEPA's strategy for investigation and cleaning up uranium mines on the Navajo Nation can be found in the Five Year Plan to Address Impacts of Uranium Contamination 2014-2018:

<http://www.epa.gov/navajo-nation-uranium-cleanup>