



Darrow/Freezeout/Triangle Uranium Mine

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Introduction

The EPA has completed a Preliminary Assessment (PA) of the Darrow/Freezeout/Triangle abandoned uranium mines located approximately 13 miles north-northwest of Edgemont, South Dakota. The PA recommends that a Site Investigation be conducted to determine if hazardous substance releases from the abandoned mines are impacting sensitive environments. The EPA is planning to conduct this Site Investigation in 2015.

Background

Uranium was discovered in the Edgemont area in 1952. Early uranium mining was limited to surface deposits; however, later exploration revealed deeper deposits that were also mined. In the mid-1980s, the mining operations were halted due to the decline in uranium prices. These abandoned uranium mines consist of waste rock piles, seven open pits, underground workings and two open adits (tunnels). Currently, Powertech (USA) Inc. has leased property in the area and is pursuing licensing and permits needed to conduct the in-situ recovery of uranium. This proposed project is called the Dewey Burdock In-situ Recovery Project. Currently, the area is primarily used for cattle grazing.

Why did EPA conduct this Preliminary Assessment?

In December 2012, the non-profit Institute of Range and the American Mustang (IRAM), owner of the Black Hills Wild Horse Sanctuary, requested that EPA conduct a PA of the Darrow/Freezeout/Triangle (DFT) abandoned uranium mines. The IRAM concerns are that releases from the DFT mines are impacting the land and water in the area and will jeopardize public health and the environment.

The request from IRAM constituted a citizen's petition to conduct a PA under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly referred to as the Superfund law. Upon review of the citizen's petition, EPA determined that a PA was needed at this site.

What is a Preliminary Assessment?

A PA is an assessment of readily available information about a site and its surrounding area. The PA is designed to distinguish, based on limited data, between sites that pose little or no threat to human health and the environment and sites that may pose a threat and require further investigation. If the PA results in a recommendation for further investigation, a Site Investigation is performed.

What are the results of this Preliminary Assessment?

The PA considered existing environmental data collected by Powertech for the proposed Dewey-Burdock In-Situ Uranium Recovery Project. Based on the PA, EPA has determined that additional sampling is needed to better characterize the abandoned uranium mines and the impact to sensitive environments. Thus, the EPA is planning to begin a Site Investigation in 2015. A summary of the findings of the PA are:

1. Surface soils near the on-site waste piles contain levels of radionuclides above health based standards and are three times higher than background levels. Also, water samples from the impoundments contained radionuclides. Radionuclides identified include uranium, Ra-226 (radium-226), Th-230 (thorium-230), and Pb-210 (lead-210).

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2. Surface soil and air samples collected at the uranium mines have found elevated levels of radionuclides and these pathways may pose a risk to nearby residents and workers. These pathways will be evaluated further during the Site Investigation.
3. Two domestic wells near the site contain levels of radium-226 that exceed the drinking water standard. One of these wells also has uranium levels that exceed the drinking water standard.
4. Analytical results of surface water in Pass Creek, Beaver Creek, and the Cheyenne River have found radionuclides.

Additional sampling is needed to determine (1) if the radionuclides found in ground water and surface water are attributed to a release from the abandoned

uranium mines and (2) if releases to surface water pose a threat to sensitive environments or fisheries.

How is this PA related to the Dewey-Burdock In-Situ Uranium Recovery Project?

These DFT mines are within and adjacent to the proposed Dewey-Burdock ISR Project, however, the PA is separate from decisions about the ISR Project or its underground injection control permits.

Who will be responsible for paying for work at this site?

In general EPA adheres to the polluter-pays principal meaning EPA looks for potentially responsible parties (PRPs) to assist or pay for investigations and cleanup of environmental problems they have caused. EPA also has the ability to perform work itself.



Aerial View of Triangle Mine



Aerial View of Darrow/Freezeout Mines

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