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Fact Sheet

Bearup Mine Site

February 2006

Above: View of the Bearup Mine leach pond.

Site History

The Bearup Site (the Site) is in Maricopa County, Township 7 North, Range 4 East, Section 1 and on the New River Mesa United States Geological Survey (USGS) 7.5' Quadrangles. Latitude and longitude are 33º 58' 40" north and 111º 53' 47" west. The Site is located in the Cave Creek Mining District at an elevation of approximately 3,500 feet above mean sea level and occupies approximately 10 acres in a rural area of the Tonto National Forest.

The Site was operated as a gold mine from 1982 through 1999. The milling operation at the mine involved crushing facilities, a cyanide heap leach operation, pilot processing operations, and laboratory facilities.

On May 24, 1999, an impoundment of trespass property was initiated by the USDA Forest Service (Forest Service). An inventory of potential hazardous materials was conducted that identified many unmarked drums and containers, various acids, cyanide, flammable materials, and an old roll of detonation cord. The Arizona Department of Public Safety (DPS) Bomb Squad was called in to destroy the detonation cord.

The Forest Service initiated a removal action in September 1999, which included removal of hazardous materials found during the impoundment. All structures and equipment were removed in 2000.

Current Conditions

Today, the heap leach pile and associated pond are the most obvious signs of previous milling activity. The heap leach pile overlies a black, heavy gauge, liner that extends down slope into a shallow depression creating a pond at the base of the pile. The pond is present only during and after it has rained or snowed. When present, the pond is approximately 44 feet by 36 feet.

Drainage from the Site flows into an unnamed tributary of Big Maggie May Creek, which drains into Cave Creek, ultimately flowing into the Arizona Canal. Cave Creek flows through the Tonto National Forest and adjacent private land. The site is near two popular recreation areas: Seven Springs Wash Recreation Area, which includes several recreation sites, and the Cave Creek Trail System.

Bearup Mine Site Engineering Evaluation/Cost Analysis (EE/CA)

The Forest Service performed an EE/CA at the Site. The purpose of the EE/CA is to evaluate the extent of contamination associated with past milling activities at the Site, and to evaluate potential cleanup/removal alternatives.

The Site EE/CA characterized the health risks of elevated levels of arsenic, copper, lead and zinc at the heap leach pad, pond, processing area, dam, and cyanide mixing area.

Due to the potential health risks associated with the contaminated material at the Site, the EE/CA addressed the objectives of a removal action, as well as the effectiveness (will it be protective of human health and the environment), implementability (how easy is it to do), and cost of six cleanup alternatives.

Alternative 1: No Action Alternative 1 would not reduce the human health or ecological risk from exposure to hazardous substances at the Site.

Above: View of the Bearup Mine leach pond.

Right: Toward the base of the leach pad and pond.

Alternative 2: Institutional Controls – No Treatment. Alternative 2 would include limiting access (such as with fencing) to areas of concern and would not guarantee a reduction in the human health or ecological risk from exposure to hazardous substances at the Site.

Alternative 3: Excavation and Disposal Off-Site – No Treatment. By removing contaminated soil from the Site, Alternative 3 is protective of human health and the environment, for both the short and long-term. Though relatively easy to implement, this alternative is more costly than either Alternative 4 or Alternative 6. This alternative assumes that the contaminated soil would not require treatment in order to be accepted by the landfill for disposal.

Alternative 4: Excavation, On-Site Containment – No Treatment. Alternative 4 includes excavation of contaminated material, consolidation in one location, containment through surface capping (applying a layer of soil or other material), and potential institutional controls. This alternative would be protective of human health and the environment in the short and long-term. Long term monitoring and maintenance would be necessary to ensure the integrity of the cap.

Alternative 5: **Partial On-Site Containment and Off-Site Disposal.** Alternative 5 removes the most highly contaminated soils from the Site, and consolidates and caps the less-contaminated soils on-site. This alternative would be protective of human health and the environment in the short and long-term. However, in addition to several limiting factors, this alternative is more expensive than any of the alternatives. It is more difficult to implement and does not provide a corresponding increase in protection of human health or the environment.

Alternative 6: On-Site Containment Using Stabilizer. Alternative 6 would involve all aspects of Alternative 4 but would also involve treating the soils after consolidation. Soils would be treated by mixing with a chemical amendment (such as cement or composted biosolids). This alternative would be protective of human health and the environment but the primary disadvantage is the uncertainty in the long term effectiveness of the treatment process.

Recommended Removal Action

The recommended removal action for the Site is Alternative 4. This alternative is relatively easy to implement and is a proven method for treatment of contaminated soils at mine sites.

For More Information

The Bearup Mine Site EE/CA and supporting documents are available to the public in the administrative record file for review and comment at the following location:

USDA Forest Service
Tonto National Forest Supervisor's Office
2324 E. McDowell Road
Phoenix, Arizona 85006
Contact: Ms. Anne Fischer
(602) 225-5389
Monday-Friday, 8:00 a.m. – 4:30 p.m.