

**United States Environmental Protection Agency**  
**Region IV**  
**POLLUTION REPORT**

**Date:** Friday, January 25, 2008

**From:** Leo Francendese

**Subject:** Remobe/Setup for Acid Pit Neutralization-Treatment/Cont Grading

Barite Hill Nevada Goldfields

McCormick, SC

Latitude: 33.8711000

Longitude: -82.2972000

<b>POLREP No.:</b>	6	<b>Site #:</b>	A4NZ
<b>Reporting Period:</b>		<b>D.O. #:</b>	
<b>Start Date:</b>	10/15/2007	<b>Response Authority:</b>	CERCLA
<b>Mob Date:</b>	10/15/2007	<b>Response Type:</b>	Time-Critical
<b>Demob Date:</b>		<b>NPL Status:</b>	Non NPL
<b>Completion Date:</b>		<b>Incident Category:</b>	Removal Action
<b>CERCLIS ID #:</b>		<b>Contract #</b>	
<b>RCRIS ID #:</b>			

#### **Site Description**

The Barite Hill/Nevada Goldfields site is located approximately 3 miles south of McCormick, South Carolina between US 378 and US 221 on the northern side of Road 30 in McCormick County, South Carolina. The mine site is relatively remote; there are no buildings, homes, or commercial buildings within 0.5 miles of the boundary. The site actively mined gold from 1991 to 1995. From 1995 until Nevada Goldfields filed for Chapter 7 Bankruptcy in 1999, the reclamation of the site was being addressed by Nevada Goldfields. On July 7, 1999 Nevada Goldfields handed the facility's keys to SCDHEC and abandoned the site.

The site is located along a topographic high ridge area forming the headwaters of an unnamed tributary to Hawes Creek. The topography of the area consists of rolling hills with ridgelines at an elevation of about 500 feet. Within the site, the ridgeline comprising the site has a high point of about 510 feet and an average elevation of approximately 480 feet.

The permitted mine site totals 795.2 acres. Of this total, 659.7 acres are designated as buffer area (areas not disturbed beyond the pre-mine natural state); therefore the maximum disturbance area is 135.5 acres.

The facility used a cyanide solution in a heap leach process to extract gold from ore. There are 7 processing ponds and 1 sediment pond onsite. Three large, multi-acre waste rock piles exist in varying condition. Each waste rock pile has the potential for producing acid. Storm water run on and runoff are not controlled at the site. The Main Pit ("Acid Pit") from the mining operations remains. The 10 acre Acid Pit contains approximately 60,000,000 gallons of water with an average pH of 2 ~ 2.2 and a high dissolved metal content. Seeps from the Acid Pit containing acidic water with high dissolved metal content are being released to the northern unnamed tributaries of Hawes Creek which borders the pit at a rate of approximately 5 gpm.

As per a referral by the State of South Carolina, the EPA Region 4 Removal Program conducted a Removal Site Evaluation (RSE) according to the National Contingency Plan (NCP). During the RSE of March 2007, the OSC conducted an emergency response whose scope included the demolition of a furnace building and onsite neutralization of over 2000 lbs of varying strength acids and bases. As of 9/19/07, the Agency has approved an Action Memorandum to conduct a removal action. The removal action commenced on 10/15/07 and includes a Bureau of Reclamation designed cap for the 250,000 CYS of acid producing waste rock adjacent to the Acid Pit, Acid Pit neutralization and cyanide deactivation in one of the onsite process ponds.

The project is expected to take about 12 to 16 months to complete and is projected to cost approximately 4,000,000 dollars. Details concerning this action can be found in both the documents section and Pollution Reports (POLREPS) which are updated on a periodic basis.

## Current Activities

### CONSTRUCTION ACTIVITIES

- Approximately 1500 tons of carbide lime has been purchased and delivered for onsite Acid Pit neutralization. The system for application of the carbide lime is currently being setup expected to be up and running by next week.
- Patented carbon loading treatment methodology has been selected as part of the Acid Pit treatment strategy. The initial loading of aged wood chips (approx 500 tons) from the nearby McCormick sawmill has begun. The treatment will continue simultaneously with the neutralization. Ph results indicate that the Acid Pit waters have risen from 1.9 to 2.8. In addition, the receiving creek pH has risen from 2.0 to 3.5.
- Deforestation and grubbing of the eastern ridge and borrow pit edge is 100% complete. The area will be used as part of the clay borrow for capping.
- Initial grading of the north and south waste rock pile continues on an as built basis in coordination with the BOR working design efforts.
- EPA's "Old" Mobile Command Post (MCP) was deployed to the site to augment working space.
- Deforestation and grubbing for powerlines has been completed and poles will be installed to run power to the site. Estimated to be completed by the end of January.

### INVESTIGATION/EVALUATION ACTIVITIES IN SUPPORT OF BOR DESIGN

- BOR Reclamation Design in progress. BOR submitted final grading plans for the North Waste Rock Pile as of the 25th.
- Completed 2' land survey of contours within the Acid Pit watershed and the watershed hydrology evaluation has been completed by BOR.
- Completed sonar mapping of the Acid Pit using ROVER technology.
- Designed and deployed a centrally located Acid Pit monitoring station in coordination with SCDHEC and assisted by Clemson University to document the baseline, provide performance data during the removal activities, and compile data for future water quality.
- Samples were taken of the pregnant pond sump for scoping of to be executed cyanide deactivation. Results pending.
- Onsite weatherstation was deployed and is recorded via radio frequency collection.

[response.epa.gov/baritehillnevadagoldfieldsremoval](https://response.epa.gov/baritehillnevadagoldfieldsremoval)