

BREWER GOLD MINE

Jefferson, South Carolina

Chesterfield County
5th Congressional District

Site Location/Size:

The Brewer Gold Mine is an abandoned mine located on the western border of Chesterfield County, about 1.5 miles due west of the town of Jefferson, South Carolina.

Site History:

Brewer Gold Company owns approximately 1,000 acres of land along a small north-south ridgeline that divides Little Fork Creek and the Lynches River. About one-quarter of the 1,000 acres has been disturbed by mining operations. Brewer Gold Mine was one of the oldest and most productive gold mines in the eastern United States. Activities at Brewer are rumored to date to the 1500s involving Indian trade with the Spaniards. Before the Revolutionary War, the area was mined for iron. The first documented discovery of gold took place by Burrell Brewer in 1828. Brewer Gold Company, a subsidiary owned by the British Costain Limited Group (Costain), secured ownership of the mine in 1986, with the first gold production occurring in August 1987. Ore was mined using conventional open pit methods until January 1995. Rock was first fractured using drilling and blasting, and then loaded into trucks. Waste rock was used as fill for facility construction or hauled to a disposal area to the south of the Brewer Pit. Ore was hauled to the crushing area where processing for the cyanide heap-leach method began. The crushed ore was then placed on pads and a dilute cyanide solution was sprayed over the heaps and allowed to percolate through the ore, thereby dissolving the gold into solution. After 1995, Costain/Brewer maintained a minimum presence at the mine to pump and treat acidic ground water seeps with a high metal loading to keep them from entering Little Fork Creek. In the process, seep water is pumped into a double-lined 18,000,000-gallon lagoon. Treated water and sludge are stored in an unlined 3-acre basin. The treated water is eventually discharged to Little Fork Creek under a State-issued National Pollutant Discharge Elimination System (NPDES) permit. On November 11, 1999, Costain abruptly shut down all activity at the mine despite, and in violation of, several Consent Orders with South Carolina Department of Health and Environmental Control (SCDHEC).

Site Contamination/Contaminants:

In 1990, a failure of an overflow pond at the mine resulted in a release of a sodium-cyanide solution containing cyanide, copper, and mercury. This release caused a fish kill along 49 miles of the Lynches River. Sampling investigations conducted subsequent to the overflow pond failure have shown that releases of chromium, cobalt, nickel, and selenium also have occurred. Metals, including copper and mercury, have been detected in ground water underlying the former mining activities.

Potential Impacts on Surrounding Community/Environment:

Little Fork Creek is used for recreational fishing. Fork Creek and the Lynches River, located downstream from the facility, also are used for fishing. In addition, a stretch of wetlands borders the Lynches River.

Response Activities (to date):

To keep the contaminated ground water seeps from running untreated to the creek, the U.S. EPA Emergency Response and Removal Branch took over the treatment of the water in December 1999.

[The description of the site (release) is based on information available at the time the site was evaluated with the HRS. The description may change as additional information is gathered on the sources and extent of contamination. See 56 FR 5600, February 11, 1991, or subsequent FR notices.]

For more information about the hazardous substances identified in this narrative summary, including general information regarding the effects of exposure to these substances on human health, please see the Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs. ATSDR ToxFAQs can be found on the Internet at [ATSDR - ToxFAQs](http://www.atsdr.cdc.gov/toxfaqs/index.asp) (<http://www.atsdr.cdc.gov/toxfaqs/index.asp>) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.