

NATIONAL PRIORITIES LIST (NPL)

Final Site

September 2009

ORE KNOB MINE | Ashe County, North Carolina** Site Location:**

The Ore Knob Mine site (Ore Knob) is located approximately 4.5 miles east of Laurel Springs, North Carolina.

 Site History:

Ore Knob consists of three distinct areas of former mining activity: the 19th century operations area, 1950s mine and mill, and the main tailings pile or tailings impoundment. The mine intermittently produced copper ore from the 1850s to 1962, with most mining occurring in 1873 to 1883 and 1957 to 1962. Ore Knob primarily produced copper; however, iron, silver, and gold were also mined. Residences are currently located on some portions of the property, and other areas are used for limited recreational activities.

 Site Contamination/Contaminants:

Five sources of contamination have been identified on the property including: a 20-acre tailings pile, a two-acre tailings pile; two areas of contaminated soil, and multiple piles that were aggregated into one waste pile source. About four mine adits (that discharge low pH water) are also located at Ore Knob. Hazardous substances detected in the sources on the property and nearby surface water bodies include arsenic, cadmium, copper, mercury, and zinc. Polychlorinated biphenyls and polynuclear aromatic hydrocarbons have also been detected in site soil samples.

 Potential Impacts on Surrounding Community/Environment:

Acid mine drainage from the three principal source areas has degraded downstream waters, including the entire 1.5-mile length of Ore Knob Branch, the entire 2.25-mile length of Little Peak Creek, about 2.9 miles of Peak Creek from its confluence with Ore Knob Branch to its confluence with South Fork New River, and South Fork New River for an unknown distance downstream of Peak Creek. The increased load caused by mining disturbances in the Ore Knob Branch and Little Peak Creek watersheds results in an annual discharge of 28.6 tons of dissolved metals and 518 tons of sulfate to South Fork New River. A study of biological taxa concluded that life could not be sustained in Ore Knob Branch due to high metals concentrations and low pH. Copper and aluminum concentrations in reaches of Peak Creek and Little Peak Creek affected by acid mine drainage have resulted in acute toxicity.

 Response Activities (to date):

In the early 1990s, the State of North Carolina, under a grant from EPA, installed anoxic limestone drains at the mouth of the adits in an attempt to improve the water quality of discharges from Ore Knob. The anoxic limestone drains improved the water quality; however, low pH water continues to discharge from Ore Knob Mine. EPA is conducting actions at the tailings impoundment to stabilize the dam and prevent a release of tailings materials.

 Need for NPL Listing:

The State of North Carolina referred the site to EPA because of the complexity and costs involved with environmental restoration at the Ore Knob Mine and downstream surface water bodies. Other federal and state cleanup programs were evaluated but are not viable at this time. EPA received a letter of support for placing this site on the NPL from the State.

[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.]

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 <http://www.atsdr.cdc.gov/toxfaq.html> or by telephone at 1-888-42-ATSDR or 1-888-422-8737.