

# NPL Site Narrative for Captain Jack Mill

## CAPTAIN JACK MILL Ward, Colorado

**Conditions at Proposal (April 30, 2003):** The Captain Jack Mill (CJM) site is located in a narrow valley, roughly 1.5 miles south of Ward, and 14 miles west of Boulder, Colorado. Mining began in the area in the early 1890s. The mines and mills in the Ward area primarily produced gold and silver from low-grade ores. Camp Francis was started in the early 1890s as a mining town operated by the Big 5 Mines Company, which employed approximately 100 men. The Big 5 managed such mines as the Adit, Ni-Wot, Columbia, and the Big Dew Drop, and all of the combined ores from these mines came down to Camp Francis by way of the Adit Tunnel. Milling of the ore took place either in the Dew Drop Mill or the Big 5 Mill just south of town. Several hundred feet downstream of the mills were three other mines, the nearest of which is known as the Captain Jack, later called the Black Jack. These mills were still standing as late as 1927, and never processed large quantities of ore.

The Big 5 was reopened in the 1940s but it is unclear if they intended to produce ore from the mines or rework the tailings piles by the mills on the creek. Captain Jack, Ltd., acquired possession of the mill works area in March 1974, and received a Colorado Mined Land Reclamation Division (CMLRD) permit allowing for a captive mill (i.e., no imported ore) operation using a flotation process in May 1981. Since that time, the CJM site has been investigated for several state and federal health and environmental violations under several different owners.

At the time of the most recent investigation, the CJM site could be divided into three parts; the upper mine tunnel (the Big 5), the Captain Jack mill works area, and the lower portal (the Black Jack Mine). The Big 5 consists of the mine tunnel, a large tailings pile and a settling pond, all of which are approximately 500 feet upstream from the Captain Jack mill area. An acid mine water discharge of several gallons per minute (gpm) runs across the tailings pile, down the access road and into the settling pond. At times in the past, this discharge water has flowed across the access road and directly into Left Hand Creek. The more recent Captain Jack mill works area includes two ponds (the unlined lagoon for settling tailings from the mill and the lagoon that is lined with a plastic membrane), a small abandoned residence, an ore hopper and associated conveyor belts, mill buildings, storage and processing tanks, mixing tanks, and miscellaneous debris and equipment. The lower portal consists of the Black Jack adit and adit shed contents.

Left Hand Creek is a documented fishery. In 1997, surface water and sediment samples collected in Left Hand Creek indicated the presence of lead, zinc, arsenic, barium, cadmium, and mercury. All are associated with the ores both mined and milled at the site. Elevated levels of hazardous substances have also been found in sediment samples collected from palustrine emergent shrub wetlands located along Left Hand Creek. Left Hand Creek is a recreational fishery and is used for sport fishing, canoeing, picnicking, and rafting. In addition, significant concentrations of arsenic was detected in residential soil samples.

**Status (September 2003):** This site is being investigated by the State of Colorado under a state lead.

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.