

Robinson Mine and Mill Site Assessment

Name, Location, and Type of Mine:

Robinson Mine and Mill Site is an underground gold mine and mill located in Plumas County on the Plumas National Forest, south-west of Quincy, CA.

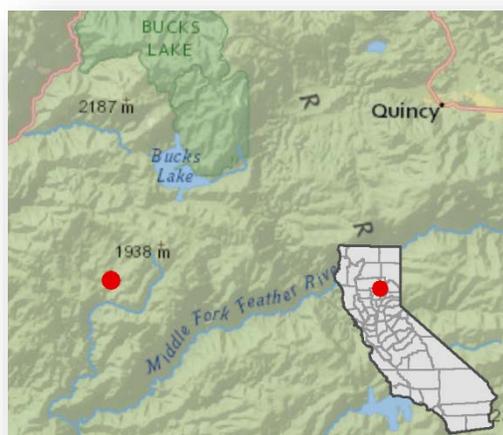
Project Cost: \$40,000

Remediation/Cleanup Funding

Source: Sierra Nevada Conservancy.

Project Partners: Sierra Nevada

Conservancy, United States Forest Service, California Department of Conservation, Chico State Research Foundation.



Mine History/Project Background



Historic view of the Robinson Mill building, now collapsed. Photo: *California Journal of Mines and Geology* (1937).

The Robinson Mine and Mill site is a gold drift mine in Plumas County. The mine started operation around 1894, with several adits and a deep shaft driven to mine the hard rock gold veins. A large stamp mill operated in the 1930s, and activity continued until about 1939.

Preliminary sampling by the U.S. Forest Service (USFS) in 2009 detected mercury in soil samples at the mill site at levels which could pose a potential threat to human health. Cadmium, lead, and zinc levels of concern were also found onsite.

Based on this sampling work, USFS pursued a review under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process. This includes a Preliminary Assessment / Site Investigation (PA/SI) to better determine the presence and extent of contamination at the site, and possible contamination pathways affecting human health. The Department of Conservation (DOC) received a grant from the Sierra Nevada Conservancy (SNC) to perform this work on behalf of the USFS.

Challenges

The Robinson mine and mill site is located in a steep canyon, immediately adjacent to Frazier Creek, which flows to the Middle Fork of the Feather River. The stamp mill building has collapsed completely, though the stamp batteries themselves remain standing. Tailings were apparently freely discharged below the mill and into the creek, and a large amount of waste rock from the main shaft runs along the creek. Additionally, a diesel fuel spill occurred at the old powerhouse for the mill in the 1980s. The topography, collapsed mill building, and indistinct remnant mill tailings make proper assessment of the site a challenge.

Remediation/Cleanup Approach

To best assess the site for potential contamination, a number of steps were followed. DOC reviewed historical literature and previous work onsite, as well as performed a full site inventory of the mine features present (in collaboration with USFS cultural resources staff). A field sampling plan was developed with assistance from the Chico State Research Foundation. Field sampling occurred in October 2015, including X-ray fluorescence, or XRF, screening, diesel soil sampling, and soil, sediment, and water sampling. Laboratory analysis of samples followed, and a report of findings is being prepared for USFS. If the findings demonstrate significant contamination issues, USFS may determine that an Engineering Assessment / Cost Analysis is required, and DOC will continue the partnership with SNC and USFS to develop this analysis.



Sampling for contamination with XRF equipment at the collapsed stamp mill and still-standing stamp battery at Robinson Mill. Photo: David Tibor, DOC (2015).