

McLaren Tailings Reclamation Project

Project Description

From 1933 to 1953, the McLaren Gold Mines Company operated a flotation mill near Cooke City, processing ore from the McLaren deposit on Henderson Mountain in the New World Mining District. The McLaren Mill produced a gold and copper concentrate that was shipped to Anaconda for smelting. During the operation of the mill, Soda Butte Creek's channel was filled with tailings and the stream was pushed into a ditch and culvert that ran along the south side of the impoundment. Soda Butte Creek was re-routed again in 1969, when a new channel was excavated along the north side of the tailings impoundment.



Project Location

The McLaren Tailings Site is located in Section 25, Township 9 South, Range 14 East, five miles upstream from Yellowstone National Park in Park County. The site is approximately ¼ mile east from Cooke City.



**For More
Information:**

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Contaminants of Concern

The McLaren Tailings Site is a significant source of acid mine drainage, sulfate, iron, copper, manganese, and zinc in Soda Butte Creek. The tailings contain copper and lead, with lesser concentrations of arsenic and zinc. Dissolved iron is the primary water quality problem affecting aquatic organisms in Soda Butte Creek. The iron concentration is high enough to cause iron precipitate to form on the stream substrate. This appears to have prevented the full utilization of the stream by aquatic organisms, thereby reducing a major food source for the fish species inhabiting the reach of Soda Butte Creek below the tailings area. Several investigations have documented impaired aquatic organism in Soda Butte Creek in the vicinity of the McLaren Tailings Site.



Current Reclamation

The reclamation consists of removing approximately 237,000 cubic yards of tailings, waste rock, and contaminated sediments, and disposing of the materials in an on-site repository constructed on an elevated bench located southwest of the tailings impoundment. Quicklime is mixed with the tailings to improve the structural stability of the repository. A construction dewatering system incorporating 17 groundwater pumping wells has been operated during the 2012 construction season, which has generated approximately 30 feet of drawdown in the tailings impoundment. A water treatment plant has been constructed and is treating contaminated water generated during construction dewatering. As of August 2012, approximately 75 percent of the mine tailings have been excavated, stabilized, and compacted in the repository. Following the removal of the mine wastes, approximately 2,000 feet of Soda Butte Creek and adjoining Miller Creek will be reconstructed to a naturalistic condition.



Benefits of Reclamation

The tailings impoundment will be completely removed from its current, potentially unstable, location in the valley bottom of the Soda Butte Creek drainage, eliminating the risk of catastrophic failure of the tailings dam. Additionally, with the tailings completely removed and Soda Butte Creek returned to its original location, seepage of water through the tailings will be mitigated. Over the long term, the water quality and sediment environment in Soda Butte Creek and Miller Creek are expected to improve. Correction of the stream's pollution problems is needed for any significant improvement in the fishery.

