

Project Summary

Saints John Mine and Mill Complex Saints John Tailings Reclamation Project

Summit County, Colorado

Background

The Saints John Mine is located approximately one mile southwest of the Town of Montezuma in Summit County. The mine workings were developed into the northwest flank of Glacier Mountain above Saints John Creek, which is tributary to the Snake River. The mine and associated mills and smelters operated intermittently from the 1860s to the 1930s. Forest Development Road 275 (Saints John Road) follows the creek past the mine location. This road is a heavily used recreational route.

Prior to reclamation, prominent site features included a draining adit and associated waste rock dumps, upper and middle mill tailings deposits on the flank of Glacier Mountain, and a lower tailings impoundment and mill ruins on the right bank of Saints John Creek.

Funding for the reclamation project was obtained from Freeport McMoRan Copper and Gold Inc., Colorado Water Resources and Power Development Authority and the Colorado Department of Public Health and Environment to reclaim the site. Other project partners included the United States Forest Service the Environmental Protection Agency and the United States Geological Survey.

Project Site Characterization

In September 2011 and June of 2012, the Division of Reclamation Mining and Safety (DRMS) measured surface water flows and collected water and tailings samples from the Saints John site. Tailings samples were collected from the upper, middle, and lower deposits and submitted for laboratory analysis by toxicity characteristic leaching procedure and acid-base accounting. The results of the water sample analyses showed a three pound per day dissolved zinc load entering the stream thread from the lower tailings. The laboratory analysis of the tailings confirmed the presence of heavy metals.



Tailings Prior to Removal

Land Owners

U.S. Forest Service
The Tolen Family

General Contractor

Berry Trucking and Excavating
8561 South Ammons Street
Littleton CO 80128

Project Cost: \$247,560.26

DRMS Project Managers

Allen Sorenson 303-866-3567 ext. 8143, Julie Annear ext. 8104

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Work Description

Contractor mobilization and site preparation began in early September of 2012. A French drain was installed to capture water that was flowing from the stream through the tailings. Actual tailings removal began in mid September. Removal work continued until November when the project was placed on winter hold. Work recommenced in June of 2013 and all tailings removal and earthwork was completed by August of 2013.

The work included excavating over 23,000 cubic yards of tailings from the removal area and placing them in the consolidation area. More than two thirds of the tailings were located USFS lands. Care was taken to preserve the historic mill ruins while excavating the tailings. After the removal was completed the consolidation area was capped with on-site cover material and revegetated. Other disturbed areas outside the wetland boundary were also revegetated.

A 15 foot by 8 foot open adit with a depth of over 100 feet was also safeguarded as part of the project. The adit was cleared of debris and a 30 foot length of 48 inch diameter corrugated steel pipe, with a drainpipe, was placed in the adit. The adit included a bat grate. Also, the ditch alongside Forest Road 275 was restored.

The wetland restoration work began immediately after construction concluded. The wetland areas were restored by planting over 14,000 container grown native species, 4,800 willow cuttings and 750 trees. A native wetland seed mix was placed on approximately 3 acres in the tailings removal area.



Aerial photo showing French drain, removal and consolidation areas



Removing Tailings Around Historic Structure



Placement of tailings in consolidation area

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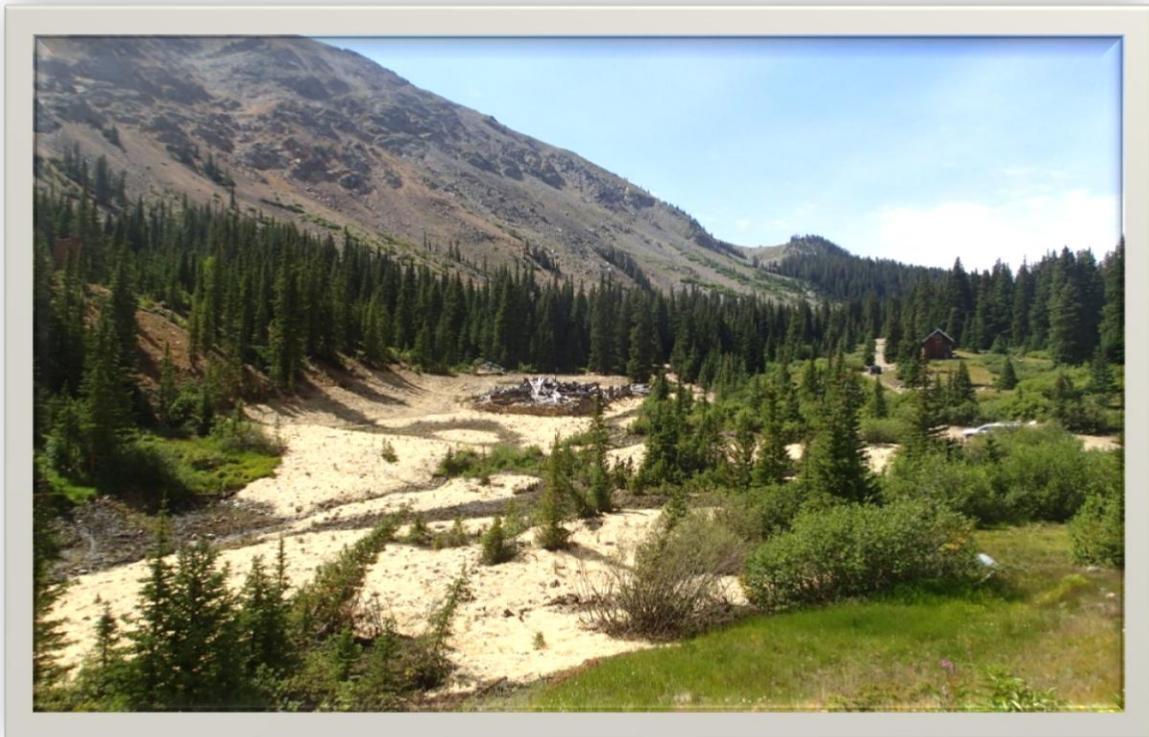
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*Reclaimed Tailings
Consolidation Area*



Safeguarded Adit Opening



Tailings Removal Area After Revegetation