

## **Northwestern Division**

### **Walla Walla District**

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#### **Stone Cabin Mine**

#### **Open-Pit Mine in Owyhee County, Idaho**

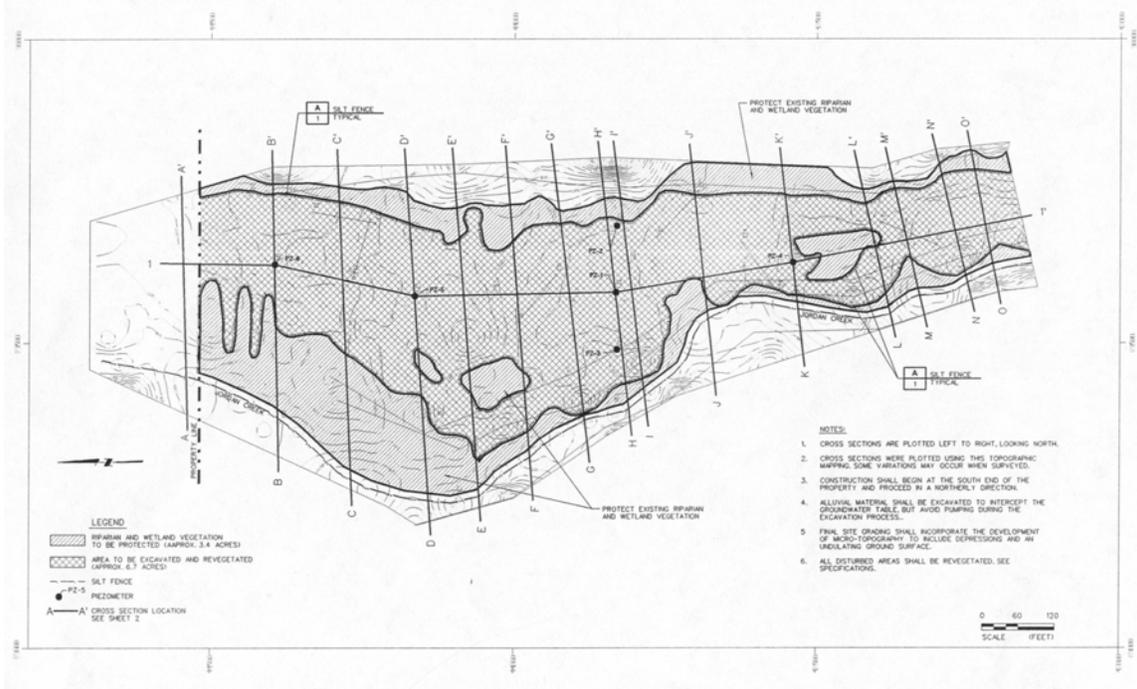
The Stone Cabin Mine is an open-pit gold and silver mine located partially on public lands in the Owyhee Mountains in southwestern Idaho, about 50 miles southwest of Boise, Idaho. The mine, owned by the Kinross DeLamar Mining Company, features a mine pit, a 5-mile long haul road, two waste rock disposal sites and expansion of the tailings dam at an existing DeLamar Silver Mine to accommodate the Stone Cabin Mine ore. Construction of the mine began in 1996.

The Corps of Engineers first became aware of the mine proposal in 1989 when we were invited to participate as a cooperating agency, along with the Environmental Protection Agency (EPA), in development of an Environmental Impact Statement being prepared by the Bureau of Land Management (BLM). BLM administered the public land on which the mine was to be built and they were preparing the EIS to evaluate project impacts and alternatives for the future mine. Kinross needed approval from all 3 federal agencies to conduct mining activities on federal lands. Kinross needed an individual Department of the Army permit from the Corps of Engineers for discharges of fill material into streams and wetland to construct the haul road and waste rock dump. The Final Environmental Impact Statement was published August 1994 and involved multi-agency collaboration efforts.

When the Corps first evaluated the Stone Cabin Mine project, the project involved discharging fill into approximately 6.9 acres of streams and adjacent wetlands to construct a heap leach pad, discharge waste rock, and construct a haul road. Through evaluation of project alternatives during processing of the permit, Kinross decided to eliminate the leachpad from their proposal. This reduced project impacts by almost half, changing the project operation from heap leach extractions to a milling operation. Project discharges were reduced to filling only 2.87 acres of wetlands and streams.

Kinross proposed to construct the haul road fill across numerous hillside-seep wetlands, ephemeral drainages, and a narrow eroded perennial wash. The waste rock dump was proposed in Jacob's Gulch, a riparian stream corridor with willow, sedges, rushes, grasses and forbs. Most of the riparian areas were heavily impacted by historic mining activities and cattle grazing, but they provided a valuable summer water source for wildlife. They also provided wildlife habitat and flood control functions, which would be lost during construction of the mine.

During processing of the permit, Kinross proposed to mitigate for impacts to wetland and riparian areas that would be lost due to construction of the mine. They proposed to create 5 acres of wetland along Jordan Creek, approximately 6 miles upstream of the Stone Cabin Mine on a 15.7-acre parcel.



Much of the mitigation site hydrology, vegetation, and soils had been altered by historic mining activities. The stream channel was confined to one side of the valley by a continuous gravel levee and the adjacent floodplain had been filled with mine tailing. Kinross proposed to mitigate project impacts by excavating the piles of placer gravels and restoring the floodplain wetland and riparian ecosystem.

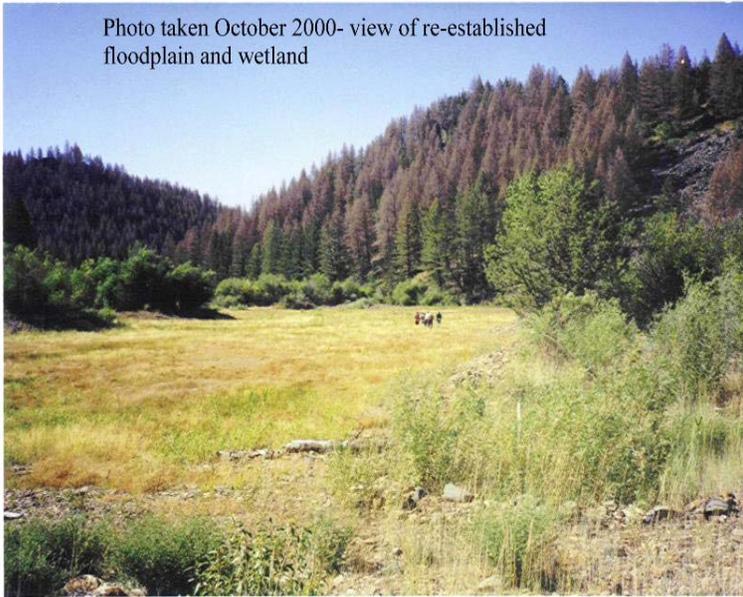




The mitigation plan was approved by the resource agencies and the Corps issued the Department of the Army permit on June 30, 1995, with conditions. The permit required 5 acres of wetland creation as described in the Stone Cabin Mine mitigation plan. The permit also required that the site be 80% vegetated within 4 years, that the site meet the criteria of the 1987 Manual for Identifying and Delineating Jurisdictional Wetlands, and that annual monitoring be prepared to document mitigation success. The Idaho Department of State Lands, who owned the mitigation property, agreed to provide long-term protection for the site.

Work on the mitigation site began in the Fall of 1996. Approximately 25,000 cubic yards of placer gravels were excavated from 6.7 acres leaving saturated alluvial material. Final grading created an undulating ground surface to establish diverse plant community and hydrological regimes. Approximately five acres of wetland and riparian habitat were developed or enhanced. Native willow and shrubs were transplanted, approximately 2,000 Baltic rush and 1000 Carex plants were hand planted and the site was seeded with native wetland seed mix. Livestock were excluded from the mitigation site.

Photo taken October 2000- view of re-established floodplain and wetland



A Corps inspection on September 5, 2001 found that the floodplain riparian ecosystem within the Jordan Creek mitigation site was successfully restored. The floodplain contains a mix of various sedges, rushes, and alder with willow occupying the higher landscapes. Several high flow channels in the floodplain support spike rush and cattail. Riffles and pools were created in Jordan Creek, the stream banks were stabilized, the stream now accesses the floodplain, and sedge dominated marshes were created.

Photos: Drawing of mitigation site.  
Photo of mitigation before.  
Photo of successful mitigation after.