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Consolidated Mine Preliminary Assessment Report Addendum

Bear Lake County
State of Idaho



Department of Environmental Quality

September 2008

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1. Introduction

Preliminary Assessments (PA) of the Consolidated Mine were conducted in 2002 (DEQ, 2004a) and September 2007 (DEQ, 2007) to ensure all historic mining sites within the Idaho Phosphate Mining Resource Area have been inspected and evaluated in accordance with the goals and objectives outlined in the *Area Wide Risk Management Plan* (DEQ, 2004b). This addendum to the September 2007 report has been prepared to present the findings of the June 3, 2008 site visit and to refine reclamation recommendations made by the Idaho Department of Environmental Quality (DEQ) in 2007.

3.4. Inspection Findings

The DEQ inspection team visited the Consolidated Mine site (Figure 1) on June 3, 2008 as a follow-up to the October 2007 PA Report (DEQ, 2007). No samples were collected during the 2008 site visit. Visual inspection of the site confirmed the 2002 interagency team findings. The mine access road was gated, locked, and signed as a winter wildlife feeding area. By appearance, the road has had little vehicle traffic in the past few years (See Photo 1 in the attachment). What appears to be a water storage/treatment facility is located at the head of the mine access road and down stream from the mine.

The streambed down stream from the Consolidated Mine, at least to the sedimentation dam approximately 300 yards to the south, contains fine grained, dark (black) sediments in most of the sediment accumulation areas, eroded from the mine's waste rock dumps. Photo 2 in the attachment shows sediment accumulation just above the sedimentation dam.

Consolidated's waste rock dumps are located on both the east and west banks of the intermittent stream that flows through the site, approximately 200 feet down slope of the mine's production adit. The waste rock dumps on the west bank are well vegetated except where black shells are present on the surface and where the stream has undercut the dumps (see Photos 8 through 10 in the attachment). The large black shale waste rock dump on the east bank is almost completely baron of vegetation. Waste rock dumps are eroding into the stream by sheet flow from meteoric precipitation and stream cutting. Erosion is evident by the sharp cuts at the toe of several of the dumps and black fine grained sediments seen along the streambed below the mine.

The production adit remains open and while not an environmental concern, closing the adit should be considered as a safety precaution during any reclamation work performed at the site.

5.5. Recommendations

The 2002 interagency inspection team and the 2007 PA Report recommended:

- Observation of the creek to determine if it is perennial and collection of additional samples to determine potential impacts to Bloomington Creek.
- Re-contouring and re-vegetating those waste piles where natural vegetation has not established itself, and, if necessary, placement of clean soils and re-vegetation of these locations.
- Sampling of Bloomington Creek upgradient and downgradient of Little Canyon to determine potential impacts.

After a review of the prior recommendations and the 2008 site visit, DEQ has refined the above recommendations to include:

- Relocate and consolidate waste rock dumps on the west side and out of the streambed. There should be selective placement a dump materials where possible, with black shales place at or near the base of the dump to prevent mobilization of then materials into the stream and provided a good growth media to re-establish vegetation.
- Shape and vegetate the consolidated waste rock of reduce erosion.



Figure 1. Consolidated Mine Site.

References:

Idaho Department of Environmental Quality, 2004a. Orphan Mine Site Preliminary Assessment Screening Report. Prepared jointly by DEQ, Idaho Department of Lands, U.S. Bureau of Land Management, and the U.S. Forest Service. Available URL: http://giscenter-ims.isu.edu/SISP/Area_Wide_Reports.html

Idaho Department of Environmental Quality, 2004b. Area Wide Risk Management Plan: Removal Action Goals And Objectives, And Action Levels For Addressing Releases And Impacts From Historic Phosphate Mining Operations In Southeast Idaho. Available URL: http://giscenter-ims.isu.edu/SISP/Area_Wide_Reports.html

Idaho Department of Environmental Quality, 2007. Paris Canyon Mine Preliminary Assessment Report, Bear Lake County, State of Idaho. Submitted to: U.S. Environmental Protection Agency, Region 10.

Lee, W.H., 2000. A History of Phosphate Mining in Southeast Idaho. Open File Report 00-425, United States Geological Survey. Available URL: http://pubs.usgs.gov/of/2000/of00-425/

Attachment

Consolidate Mine
Conditions and Pictures
June 3, 2008



Photo 1. Approaching Consolidated Mine to the north along the access road. The road was gated and area signed as a winter wildlife feeding area. The disturbance on the hillside in the center of the photo is the mine production portal and adit. The pile of rock seen protruding from the vegetation at the upper right in the photo is one of several exploratory adits associated with this mine.



Photo 2. Stream channel above a small rock dam. This dam is several hundred yards below the site and associated waste rock piles. The dark colored fine grained sediments have been washed down the stream from the Consolidated Mine's waste rock piles located in the streambed.



Photo 3. Looking north at the remaining building (center), the scarp with the adit (upper right) and a large waste rock pile truncated by the stream (fare left, center).



Photo 4. Looking west at the waste rock pile shown in the previous picture. Rough dimensions of 48 feet long by 20 feet high and 10 feet thick equals approximately 355 yds. There are no signs of waste rock above this dump on the hillside.



Photo 5. Looking north from the site, there is one scarp on the hillside, but no obvious signs of mining further up the drainage.



Photo 6. Looking south down the drainage from the west side of the large waste pile.



Photo 7. Looking south down the creek. Notice the stream cuts both the waste pile, on the left side of the picture and the waste pile on the right side of the creek.



Photo 8. Looking east at stratification in the large waste rock pile. The stream has under cut the waste rock several feet in this area.



Photo 9. Looking south at the stream cutting into another part of the large waste rock pile.



Photo 10. Looking north for the shed at the two large waste rock piles. These waste rock exposures are at least 20 feet where they are eroding into the stream in this picture.



Photo 11. Large waste rock pile from shed area.



Photo 12. The shed, large waste rock pile and swale east of the consolidated mine area. There is a small spring in the green area in the distance, which likely dries up quickly. The swale just east was discussed as a possible area where waste rock could be placed from the two waste dumps and covered. Removing the waste features from the creek is the primary remedial action identified at this site



Photo 13. Looking north up the creek at the large waste rock pile, the swale and the dark (waste) sediments in the creek.