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November 5, 1998

TO: File

THRU: Joe Helfrich, Permit Supervisor *JH*

THRU: Daron Haddock, Permit Supervisor *DH*

FROM: Robert Davidson, Soils Reclamation Specialist *RAD*

RE: N98-45-4-1 Diversion Repairs Submittal Received October 26, 1998, Western States Minerals, J.B. King Mine, ACT/015/002, File #2, Emery County, Utah

SUMMARY:

The information reviewed was presented to resolve issues related to NOV#N98-45-4-1. Included in the document are proposed steps to reconstruct the ditch, husbandry practices to repair and stabilize the north-facing hillside, and precipitation data to show the 10-year, 6-hour precipitation event was exceeded. This Technical Analysis covers the soils review.

TECHNICAL ANALYSIS:

RECLAMATION PLAN

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

Analysis:

In order to abate NOV#N98-45-4-1, Western States Minerals has submitted information to repair the breached ditch and provide additional maintenance on the remainder of the ditch. In addition to repairing the ditch, Western States Mineral also proposes to repair the adjacent hillside area south of the ditch. Under the husbandry regulations, these repairs are allowed without restarting the bond clock. This adjacent north facing hillside is a highly erodible area that is about 1 acre in size and affects less than 3% of the total disturbed area.

Diversion Repair/ N98-45-4-1

ACT/015/002

November 5, 1998

Page 2

There is a swale that is located directly south and above the north facing hillside and the north diversion ditch. This swale collects and ponds storm water runoff which ultimately flows to the north and down the hillside and into the ditch. As a result of this runoff, considerable rill and gully formation has occurred directly above the failed diversion breach and is likely the cause of the breached diversion ditch. The submittal proposes to divert this runoff to the south and southwest and away from the north-facing hillside.

The submittal proposes to roughen the area using the deep gouging method. This surface roughening procedure will help reduce runoff from the adjacent hillside into the diversion ditch. Ultimately, the roughened surface should help with revegetation of the steep slope, thus adding additional stability and erosion control by lessening runoff and sediment load into the diversion ditch.

Soil stabilization of the repaired slope could be enhanced by applying a gravel/rock mulch similar to that performed on the refuse pile. By using the same source of gravel borrow material used to reclaim the refuse pile, no prior sampling and testing will be required to characterize the borrow. The physical and chemical parameters were previously approved for the gravel borrow material (Utah Sand and Gravel lease #37912) used to reclaim the refuse pile. The same method and application rate of the rock mulch should be used to repair the hillside.

Findings:

The requirements of this section meets the regulatory requirements.