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State of Utah
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March 10, 1994

TO: File

FROM: Susan M. White, Senior Reclamation Biologist *SMW*

RE: J.B. King Reclamation Plan Revision, 1994 Appendix to Permit, Western States Minerals Corporation, J.B. King Mine, ACT/015/002, Folder #2, Emery County, Utah

SYNOPSIS

The submittal titled J.B. King Mine Reclamation Plan Revision, 1994 Appendix to Permit ACT/015/002 dated February 1994 was reviewed for technical adequacy. The on ground work is close to acceptance while permit amendment pages need revision.

ANALYSIS

The permit amendment pages require the following corrections prior to approval.

1. Page 3, (UMC 817.45 and 817.106) the statement is made that the current rills and gullies on the refuse pile "appear to be stabilizing with natural rock armoring". This statement is subjective and does not belong in the permit. No evidence of stability has been demonstrated.

2. Page 4, (UMC 783.19, 817.111, and 817.116) the statement is made again concerning erosional stability as follow: "Erosion has not been excessive during the past two years of greater precipitation. Soil surfaces have stabilized through natural processes of armor plating with residual rock and compaction". This statement is subjective and has not been demonstrated to be true. No excessive erosion occurred in 1993 because moisture came as winter snow and in gentle rains, no intense summer thunder storms occurred as is normal for the region. Therefore, this statement must be removed.

3. Page 16, 7.1.3 Access Road and Transport Corridors, states that "roads susceptible to erosional rills will be protected by water bars". The use of water bars on reclaimed



sites has been very unsuccessful because of lack of available sites to discharge the water, often more erosion is created than reduced by water bars. Surface roughness has been most effective in reducing erosion.

4. Page 17, 7.1.5 Staging Area and South Shaley Area, during reclamation a commitment should be made to rip these areas.

5. Page 21, 7.5.1, Seed Mix, the recommended seed mix includes Gardner saltbush. The variety of saltbush should be specified since six occur in Utah. Variety cuneata and tridentata should be adapted to the site. I recommend using both varieties.

6. Page 22 and 23, 8.0 Proposed Additional Methods for Determining Reclamation Standards, proposes methods for reclamation standards. Sam Bamberg was contacted March 10, 1994 and this section was discussed. The methodology to determine vegetation and soils patterns is unclear. He was asked to clarify this section and describe how the data will be summarized and used in comparison with the reclaimed site.

A technical standard is proposed for revegetation success on the refuse pile. Currently, the Division's Vegetation Information Guideline does not accept technical standards for revegetation success. Therefore, this section must be deleted.

RECOMMENDATIONS

The above-stated comments must be corrected prior to approval. Additional comments may be made after the required soil sampling is done and the exact location of rock mulch determined. The point of having a qualified person on site overseeing the actual work cannot be stressed enough to the operator.

cc: Pam Grubaugh-Littig
Henry Sauer
Tom Munson