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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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OK

August 29, 2002

TO: Internal File
FROM: Michael Suflita, Hydrologic Reclamation Specialist *MS*
RE: BTCA Area, Co-op Mining Co., Bear Canyon Mine, C/015/025-AM02F

SUMMARY:

On May 14, 2002 the Division received an amendment to remove artificial silt control measures and only use vegetation in three BTCA areas. This is a review of the amendment and there is one deficiency.

TECHNICAL ANALYSIS:

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

Sediment Control Measures

The amendment proposes to revise BTCA areas C, D, and F to use plant cover as the sediment control method and eliminate all artificial erosion control measures. Justification for this is contained in Attachment A, Vegetation Monitoring for Erosion Control, a report by Mt. Nebo Scientific, Inc. This report details the types of plant species in the BTCA areas and compares them to a reference area. Included are Trees & Shrubs, Forbs, and Grasses for each area. Also included are statistical analyses comparing the areas to the reference area. Basically,



TECHNICAL MEMO

While the report does a very credible job of justification, a field visit on August 29, 2002 showed there are still problems remaining in Area C. Specifically, the center portion of the area still has deep rills and bare ground between the rills. This condition extends about 60% of the length of Area C, from the bottom up. This is readily apparent when viewed from across the canyon, as compared to from the top of the area as shown in Figure 2 of the report. When considered on overall basis, Area C looks good as presented in the report. However, the bare areas and deep rills are conditions that will only worsen, and they are certainly not as good as the reference area or BTCA areas D, and F. This being the case, BTCA areas D and F can be revised as proposed in the amendment. Area C, however, will need to have considerable handwork and reseeding before that area can be allowed to rely only on plant cover/vegetation for sediment control. The best method of handwork would include importing topsoil to fill the deep rills and rock stops to minimize loss of the topsoil. This is preferred since raking in adjacent soils often leads to future rills and topsoil is a better growth medium than local soils. Increased seed density would also help in this dry environment for plant growth. The Operator is, of course, free to pursue the methods they deem best in correcting the rills and bare areas.

The page, 70-45 explaining culvert C-36 was not used is acceptable and desirable.

Findings:

The amendment does not meet minimum regulatory requirements. Accordingly, the Permittee must address those deficiencies as found within this Technical Analysis and provide the following, prior to approval, in accordance with the requirements of:

R645-301-752, Area C will need to have considerable handwork and reseeding before that area can be allowed to rely only on plant cover/vegetation for sediment control.

RECOMMENDATIONS:

The amendment should not be approved in its present form.