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

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Michael O. Leavitt
Governor
Lowell P. Braxton
Division Director

September 8, 1998

TO: File

THRU: Daron Haddock, Permit Supervisor

FROM: Paul Baker, Reclamation Biologist

RE: Proposal to Remove a Culvert on the Haul Road, White Oak Mining and Construction Company, White Oak Mine, ACT/007/001-98C, Folder #2, Carbon County, Utah

A handwritten signature in black ink, appearing to be 'Daron Haddock', written over the 'THRU' line of the memo.

SUMMARY:

White Oak is proposing to divert runoff away from one of the culverts along the mine haul road, plug the inlet, and remove the half-round culvert that extends down the hill. Water coming down the slope near the culvert has caused some fairly serious erosion problems with sediment being deposited near and possibly in Eccles Creek. This amendment is a first step toward trying to solve this problem.

TECHNICAL ANALYSIS:

OPERATION PLAN

INTERIM REVEGETATION

Regulatory Reference: R645-301-331

Analysis:

The applicant has proposed to plug a culvert along the haul road and remove the half round culvert leading from the road to the bottom of the slope. There has been erosion on the slope, and there is sediment deposited at the bottom of the slope. Previous attempts to control erosion have apparently included installation of log check dams and erosion control matting.

After water has been diverted away from the culvert, the culvert, the half round culvert, and previously-placed erosion control blankets will be removed. The slope will be repaired using heavy equipment when possible, and the remainder will be done by hand. After being

backfilled and compacted, the area will be seeded and covered with erosion control matting material. The seed mix will include the grasses and forbs in the mix for northeast-facing slopes as described in the reclamation plan.

The application needs to better describe how the slope will be backfilled. It needs to show what kind of soil material is on the slope and what would be used to fill the gully.

In the area where log check dams were installed, additional backfilling may not be necessary; however, for the seed to germinate and become established, some scarification is needed. The applicant should avoid destabilizing the slope, but, without at least raking the surface, seedlings would have difficulty becoming established.

The applicant needs to propose additional measures to stabilize the parts of the slope where the most severe erosion has occurred. As discussed above, it appears the log check dams have been reasonably successful, and a method like this needs to be incorporated in the plan. Better technologies have probably been developed in recent years, and the applicant should determine what method would work best in this situation.

While the seed mix would provide some erosion protection, it was designed both for erosion control and to provide forage for wildlife and livestock. The application needs to include a seed mix designed more specifically for erosion control. The Division recommends the applicant use western wheatgrass, Kentucky bluegrass, slender wheatgrass, yarrow, Rocky Mountain penstemon, and Wood's rose from the mix in the plan. Other species presently growing on the adjacent hillside include orchardgrass, thickspike wheatgrass, smooth brome, and an aster, probably Pacific aster.

At the bottom of the hill is an area that has been covered by sediment. This area has alternate sediment control measures to keep the sediment from going off site, and the sediment needs to be cleaned out. There is little or no vegetation in this area, but it was almost certainly a wetland. Wetland vegetation from adjacent areas is likely to invade the area, but the process would proceed much more quickly with some seeding or planting. The applicant should propose methods for restoring the wetland.

Findings:

Information provided in the proposed amendment is not considered adequate to meet the requirements of this section of the regulations. Prior to approval, the applicant must provide the following in accordance with:

R645-301-331, The applicant needs to provide more detail about the hillside stabilization plan. The application needs to show how the area will be backfilled and what material will be used. It is likely additional mechanical erosion control methods will be needed similar to the log check dams next to the heavily eroded areas.

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Also, the seed mix proposed should be revised to include species that are most likely to stabilize the slope.

R645-301-331, There is a small wetland that has been covered with sediment from the slope. The applicant should show how vegetation will be reestablished in the area.

RECOMMENDATIONS:

The application should not be approved in its current form. The applicant needs to provide more details about how the slope would be reclaimed.