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

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March 16, 1995

TO: Daron Haddock, Permit Supervisor

FROM: Steven M. Johnson, Reclamation Hydrologist

SMJ

Folder # 2

RE: Draft Review, Reclamation plan to cover exposed coal at Hardscrabble Canyon, Castle Gate Mine, Amax Coal Company, ACT/007/004-94G, ~~Working File~~, Carbon County, Utah

SYNOPSIS

Amax Coal Company submitted a plan to the Division on November 18, 1994 to revise the reclamation plan of Hardscrabble Canyon. The hydrology of that plan was recommended for approval with two stipulations. A revised plan was submitted on March 10, 1995 and included information on the stipulations from the first review.

ANALYSIS

RECLAMATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: R645-301-742, R645-301-760

Analysis:

This plan includes changed information on construction of the main channel, riprap and sediment control in Hardscrabble Canyon. Design information for the channel is in section 3.3-4(2), Reclamation Hydrology. Information on sediment control measures is located in Section 3.3-4(3), Alternative Sediment Control Measures.

Changes on channel design say that the filter blanket designs will be based on the native soil and potential filter material available. Both granular and fabric materials will be considered in construction designs, although page 3.3-31 says that a granular filter blanket will be used where possible in the construction of reclamation drainages. Detailed riprap designs will be made after the rough grading has been completed and surveys are made of the channel grade. These surveys will be used the better design the size of riprap needed. final riprap and filter



blanket designs will be submitted to the Division in as-built certifications.

The alternate sediment control plan was changed by adding contour furrowing as a possible method, and adding information that says measures that protect the surface from erosion or sediment production will be used over methods that filter sediment from runoff. There is no sediment pond treating this reclaimed area so all treatment will come from alternate sediment control measures. Several options will be considered as sediment control on the reclaimed site, including straw bales, surface roughening, and sediment traps. A typical sediment trap design is included in Appendix 3.3E and on Figure 3.3-16. Prior to reclamation, Amax will seek the Division's approval for sediment control measure application. Amax Coal Company commits to minimize contribution of suspended solids to the stream channel below the disturbed area by using the alternate sediment control measures. Upon successful revegetation temporary sediment control measures will be removed.

Findings:

Amax Coal should reconsider using fabric filter blankets in final reclamation channel designs. Granular filters are more natural and if channel failure were to occur, they do not pose as many problems. The Division has in the past approved filter fabric for final reclamation channels based on stability designs, but prefers the use of granular filters when stability can be achieved without synthetic products. Amax has agreed to first consider the granular filter.

Alternate sediment control measures are appropriate for this reclaimed site. Amax Coal has left the specific measure that they will use open at this point which should not cause any problems as long as they are diligent about implementing sediment control. They have committed to soliciting approval from the Division prior to implementation.

RECOMMENDATION

This amendment should be approved as part of the reclamation plan for Hardscrabble Canyon.