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DIVISION OF OIL, GAS AND MINING

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April 24, 1995

TO: Daron Haddock, Permit Supervisor

FROM: Steven M. Johnson, Reclamation Hydrologist *SMJ*

RE: Draft Review, Renewal response (Roads), Hiawatha Mine, U.S. Fuel Company, ACT/007/011-DO92A, Working File, Carbon County, Utah

### SYNOPSIS

As part of a Division Order issued in 1992 U.S. Fuel has submitted an amendment to the Hiawatha Mine reclamation plan which shows the reclamation of the canyon road back to a gravel surface. The Hydrology of this reclamation change has been reviewed and the review is included in this memorandum.

### ANALYSIS

#### RECLAMATION PLAN

#### HYDROLOGIC INFORMATION

Regulatory Reference: R645-301-760

#### Analysis:

##### Road Drainage

Appendix VII-15 is the reclamation hydrology plan for the roads in Middle Fork and South Fork canyons. The plan is to reclaim the road back to gravel roads. U.S. Fuel will commit to removing the asphalt surface and leave the gravel. Most road drainage culverts will be removed; however, a few culverts will be left because they are necessary to maintain usefulness of the roads. The retained culverts are designed to safely pass the 100-year, 6-hour storm event runoff. To maintain a useful road drainage system after the culverts have been removed, U.S. Fuel will construct a series of water bars across the road. These water bars are shown in their approximate location in Exhibits V-19 and V-20. The bars will be placed no more than 1000 feet apart and are designed to convey the runoff from the 100-year, 6-hour event. Designs for the water bars and retained culverts are include in the back of Appendix VII-15.



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**Findings:**

The reclamation road drainage for South Fork and Middle Fork canyons is adequately designed. The few culverts that will be maintained are necessary for the road to be accessible. Maintenance on the remaining culverts will be the responsibility of the permittee until the time of final bond release. At that time the land owner will take over the responsibility. The water bars will provide proper drainage after the other culverts are removed. Water bars are currently designed to be a maximum of 1000 feet apart. This should be adequate to control runoff but if it prove to be inadequate, U.S. Fuel would be required to modify or add additional drainage structures.

**RECOMMENDATION**

This road reclamation plan can be approved as submitted. U.S. Fuel should be aware that they are responsible for maintaining all road drainage structures during the reclamation phases. This include maintaining the retained culverts and the water bars.

ROADREC.SJ