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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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October 17, 1990

TO: Daron Haddock, Permit Supervisor

FROM: Rick P. Summers, Senior Hydrologist *RP*

RE: Review Modified Ventilation Portal Designs (received October 15, 1990), Southern Utah Fuel Co., Convulsion Canyon Mine, ACT/041/002-90D, Folder #2, Sevier County, Utah

Summary:

The above referenced submittal is a revision of a portal breakout approved by the Division in 1988. The hydrology review was performed at that time by Division employee Kent Wheeler. That approval included the use of alternative sediment control measures for sedimentation control.

Conversations with Wes Sorensen of Sufco (9/25/90) indicated the proposed modifications to the original approved design include the enlargement of the pad from 0.25 acres to 0.5 acres and the attendant installation of two culverts. The increase in size will not affect the previous alternative sediment control area approval.

The culvert and peak flow designs were reviewed and found to be technically adequate. The proposal includes the use of a 72 inch and 24 inch CMP to pass the design flow. The operator conservatively elected to design the system for a 100 year event rather than the required 10 year event due to the expected life of the project. Division calculations demonstrated that the peak flow values and culvert sizes presented in the proposal were conservative. The narrative submitted commits to the installation of trash racks for both culverts. A properly designed energy dissipator is proposed to protect the outlet of the system.

Fundamental Reclamation plans for the removal of the culverts and restoration of the channels were submitted. The final channel will be a trapezoidal channel with a bottom width of 10 feet. Predicted velocities for the design event in each channel are 14.3 and 7.2 fps respectively.

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The application needs to present the assumptions and method used to size the riprap (median diameter of 1 ft.) and submit a design for a filter blanket. Approval for the project can be given at this time without these reclamation designs with submission at a later date. It is recommended that the operator evaluate the final channel using a 100 yr. - 6 hr. precipitation event rather than the 24 hr. event. This event is allowed in the new rules and typically results in a lower design flow and reduced riprap and construction costs.

The proposal designs and maps are not certified by a registered professional engineer. These items should be written as a condition to the amendment approval. Also, with the submittal of only two copies, other agency review and approval may not be obtained on this modification to the original approval.

RPS/jbe
cc: Dave Darby
BTSUFCOBRE