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August 7, 1998

TO: File 2

THRU: Daron Haddock, Permit Supervisor *DORH*

FROM: Michael Suflita, Reclamation Specialist *MS*

RE: Phase II Application, Canyon Fuel Company, LLC, Dugout Canyon Mine, ACT/007/039-98-1, File #2, Carbon County, Utah

SUMMARY

The Permit Application Package (PAP) for the Dugout Canyon Mine was approved by UDOGM and the permit was issued March 16, 1998. Construction at the mine site began in May 1998. The initial permit area did not include a parcel of BLM land that is located at the downstream end of the disturbed area. A special use permit has been obtained from the BLM for this parcel, and Canyon Fuel Company desires to expand the permit area onto this parcel, mainly to better accommodate a sedimentation pond for the mine pad. Other changes are also being made to the mine plan, such as water storage tanks up the canyon from the main pad area, expanded coal storage, and relocation of the electric-power sub-station, to better facilitate mining operations.

This Technical Analysis is limited to comments related to the incremental difference between the approved permit and this significant revision. It is also limited to the surface facilities aspects of the application as directed.

TECHNICAL ANALYSIS

HYDROLOGIC RESOURCE INFORMATION

Hydrologic Resource Protection

Regulatory Reference R645-301-731.100

Analysis:

Several places in the MRP reference a mine water discharge to Dugout Creek. These include pages 7-49, 7-52, 7-69, and the UPDES Permit Appendix. Commitment is made to provide erosion protection if the discharge is outside of a culvert. In order to meet the coal regulatory program monitoring requirements, the Operator will need to define for themselves where and how the samples will be taken. The Operator is cautioned that this needs to take into account the MSHA and related safety issues attendant to the sampling, for example, inside culverts if that's where it occurs.

There are a minimum of four silt fences to be placed across Dugout Creek before installation of the culvert is begun. These need to remain in place until AFTER ALL construction is complete since these are the last line of defense to prevent sediment from leaving the site. Presently the plan calls for them to be removed as construction proceeds. This was called out in the last TA and has not been corrected.

Several places in the MRP reference the use of straw bales as shown in Figure 5-4 for sediment control. The methods of bale orientation and securing the bales are NOT the Best Technology Currently Available. The Operator can reference numerous design manuals, available from DOGM and elsewhere, for more current and effective designs.

Plate 7-5 shows no riprap protection for the outlets of Culverts DC-8 and DC-9. This would result in erosion at the culvert outlets. The Operator needs to provide riprap at the culvert outlets.

Appendix 7-9, page 20 shows most of the ditches in the disturbed area are concrete lined which is optimal for erosion protection. Some less-steep sections do not need concrete and are riprap lined.

Finding:

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

R645-301-731.121, and 742.120, removal of silt fences at the lower end of the disturbed area across Dugout Creek will be done only after completion of all construction. Straw bales will be installed according to the Best Technology Currently Available as provided in current design methods. Provide riprap erosion protection at the outlets of DC-8 and DC-9.

Regulatory Reference R645-301-121.200

Analysis:

There are several typographic errors in the plan that need correcting. These include:

- Plate 7-5 has a note at the bottom right that appears to be left over from the original application and does not apply to the new configuration of the disturbed area.
- Page 7-65 describes DD-8 discharging into the drop inlet connecting DC-1 and DC-2. Plate 7-5 shows DD-10 draining into the drop inlet.
- Plate 7-4, Section B-B' the primary spillway and emergency spillways as having the same elevation, 6964.5. In addition, the Primary Spillway Riser Detail shows the top of the spillway riser at elevation 6964.0. These inconsistencies need to be resolved.
- Plates 7-4, 7-5, 7-8, and possibly others, show the primary road at the lower end of the disturbed area ending near the sediment pond emergency spillway and dotted lines continuing where the road will be built. All affected drawings need to show the full road surface continuing for the full coverage of the respective drawing.

Finding:

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

R645-301-121.200, correction of typographic errors on Plate 7-5, page 7-65, Plate 7-4,

and all plates with an incomplete road.

Regulatory Reference R645-301-742.220

Analysis:

Although the disturbed area has been made larger, the surface hydrology aspects of the area remain basically the same. That is, the sediment pond is at the lowest end of the site and the ditches and culverts are in the same locations. The disturbed drainage areas and undisturbed drainage areas changed somewhat, generally becoming larger. The runoff curve numbers remained the same as previously approved.

The pond was designed using the appropriate 10-year, 24-hour design event. The primary spillway was designed using the appropriate 25-year, 6-hour event. Water exit velocity is below that of the natural stream flow. There is a separate emergency spillway which discharges into Dugout Creek with appropriate riprap protection. The emergency spillway was designed using the appropriate 25-year, 6-hour event. The pond has a decant with valve control and the pond has adequate sediment storage and storm event volume. The Operator has committed to pond construction before mining begins.

Findings:

Information provided in the application is considered adequate to meet the requirements of this section of the regulations.

Regulatory Reference R645-301-742.311

Analysis:

Plate 7-5, and some of the other plates, show a culvert at the extreme lower end of the disturbed area. This culvert is not designated and no design information could be found. Since it is inside the disturbed area, it is part of the MRP and must have design information provided. The design needs to include the inlet and outlet design to minimize erosion. It will probably be necessary to provide an energy dissipator or riprap at the culvert outlet to prevent erosion.

This situation is unique in that this culvert is directly and immediately downstream of the energy dissipator at the outlet of the main culvert under the disturbed area. In addition, there is a substantial side drainage entering Dugout Creek at the inlet to the undesignated culvert. Further, the stream bends and the flow exiting the energy dissipator does not run straight into the culvert.

There is potential for high flows to seriously damage the road at the upstream inlet to the undesignated culvert. Consideration should be given to reorienting the energy dissipator, or the undesignated culvert, or both, to better align them and provide a smooth flow between them and still allow for the side drainage.

The county road ending in this area is not relevant to this issue since it is all contained within the disturbed area.

Finding:

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

R645-301-742.311, provide culvert design information for the undesignated culvert at the downstream end of the disturbed area. The design must consider alignment with the energy dissipator and side drainage inflows.

R645-301-752.100, the undesignated culvert must have a description of how it will be dealt with at reclamation. Will it be removed or left? How does this fit into post-mining land use? Who is responsible for maintenance after reclamation if it is left?

Regulatory Reference R645-301-742.240

Analysis:

ASCA areas are discussed on page 7-71 and are shown on Plate 7-8. Considering the road drainage, ASCA-2 should continue along the road to the edge of the disturbed area. With that, it seems appropriate to combine ASCA-1 and ASCA-2 into one area. Similarly, page 7-72, para. one, indicates the maintenance of ASCA-1 will end when the area is no longer used for a staging area. The Operator needs to commit to contemporaneous reclamation of the area once maintenance ends.

The county road ending in this area is not relevant to this issue since it is all contained within the disturbed area.

Finding:

Information provided in the application is not considered adequate to meet the

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requirements of this section of the regulations. Prior to final approval, the Permittee must provide the following in accordance with:

R645-301-742.240, redesign ASCA-1 and ASCA-2 to fit the site conditions and contemporaneously reclaim the areas that are no longer maintained.

RECOMMENDATION:

The proposed revision should not be approved until the above discrepancies have been resolved by the Operator.