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September 21, 1987

ACT/007/002+2

TO: File

FROM: James S. Leatherwood *JL*

Re: Mid-Term Review, June 3, 1987 Submittal, Blackhawk Coal Company, ACT/007/002, Folder No. 2, Carbon County, Utah

The above mentioned mine reclamation plan has been reviewed and found not to be complete. The following concerns have been derived from the submitted Mine Plan and the September 15, 1987 field visit with AEP staff Jody Belviso and Chandler Nowicki along with Conrad Perish of ACZ Consulting. The following is an update of the June 12, 1987 concerns.

UMC 783.21 Soil Resources Information - JSL

This section is not complete. The Soil Conservation Service (SCS) soil survey, Exhibit 11, Vol. 5, does not clearly correspond to Blackhawk Coal Company's permit area. The soil association maps and Soil Interpretation Records are illegible. These maps must: 1) delineate the permit boundary; 2) clearly identify all soil series; 3) be at a minimum scale of 1:6000; and 4) identify all soil sample locations. Map 29 must also be updated to include sample site number 4.

The MRP should include a Soils Interpretation Record for each soil series. Data found in table 8-1, page 8-4 must be correlated with each soil series. Each and every soil phase within the disturbance boundary must have one sample representative.

UMC 784.11 Operation Plan: General Requirements - JSL

As outlined on page 3-4, Vol. 1, the North and South end of the Willow Creek facility composes primarily of coal waste. This material must be disposed of according to UMC 817.71-.74 and 817.103. This disposal plan must be incorporated within the MRP.

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The acid- or toxic- forming potential of the coal waste material must be analyzed. The following list the parameters for analysis: boron, selenium, percent pyritic sulfur, percent organic sulfur, percent calcium carbonate, pH, acid-base potential, electrical conductivity, calcium, sodium, magnesium, and sodium adsorption ratio. The number and depth of samples is dependent upon the extent of the coal waste material involved. Hence, the extent of coal waste and disposal location must be accessed. Cross-sections, mass balance, and contour and location maps must be submitted.

If the material is found to be an acid- or toxic- forming material the MRP must also address UMC 817.48 and UMC 817.103. Specific treatments for any acid- or toxic- forming materials shall be reviewed by the Division upon submittal of the sampling analysis and the specific treatment plan.

The statement referring to Area 1 and Area 2 on page 3-16 is confusing. Which map does this correspond to. Map 9 does not identify any such areas.

UMC 784.13 Reclamation Plan: General Requirements - JSL

Plans for backfilling and grading, soil stabilization, compacting and grading must be submitted. Include disturbed and final topography contour maps, mass balance table, and disturbed and final topography cross-sections in accordance with UMC 817.101-.106. Slope data should include minimum slopes, maximum slopes, mean and percentage of each slope. All final grading shall be constructed parallel to the contour. Methods such as scarification of overburden and compacted areas should be discussed in the interest of ensuring good overburden-soil contact, and proper water permeability and atmospheric exchange. The depth of scarification must be determined by the depth of available soil and the total length of effective root growth. At a minimum, scarification must be at a eight inch depth.

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There is some confusion between the MRP and what the operator described in the field visit. According to Mr. Perish there will be no topsoil borrow material. In-situ materials will be used as a potential substitute growth medium. Therefore, the operator must update the MRP to exclude all language addressing the use of a topsoil borrow area and include plans and discussion for the in-situ materials. The specific language to be changed is located in the MRP on Map 8 and pages 3-22, 8-8, and 8-10.

All proposed topsoil substitute materials must comply with UMC 817.22(e). As the MRP outlined on page 9-27, section 9.3, Vol. 1, the development of a successful revegetation plan entails a detailed scientific analysis. Hence, the requirement for demonstration plots is essential to verify that the substitute topsoil material will be a viable medium for reclamation success. Prior to any future surface disturbance the applicant must demonstrate that the proposed substitute soils will be suitable for reclamation success pursuant to UMC 817.22(g)(2) and UMC 817.22(e). Demonstration sites shall be implemented as part of the required contemporaneous reclamation. These demonstration sites would include such variables as: broadcast versus deep fertilizer placement and pitting versus deep ripping for water harvesting and soil stability analysis.

All potential growth medium must be analyzed for the following to adequately determine the proper fertilizer rates and other potential variables to be analyzed in the demonstration sites: color, texture, pH, organic matter, saturation percentage, electrical conductivity, calcium carbonate percentage, available phosphorus, sodium adsorption ratio, percent organic carbon, rock percentage, and potassium. All potential growth soil materials must be sampled at the 0-6 inch and 6-18 inch depth. There should be a minimum of three soil sample locations.

Soil spadework must be carried out when the soil is dry. Working on wet soil results in excessively compacted soil. Detail the specific equipment and operation plan that will be used for topsoil redistribution and seed bed preparation.

jsl

cc. D. Darby
S. Linner

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