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June 2, 1989

TO: Richard V. Smith, Permit Supervisor

FROM: Brent A. Stettler, Reclamation Biologist *Brent*

RE: Permit Renewal Review, Beaver Creek Coal Company, Gordon Creek No. 2 and 7 Mine, ACT/007/016, Folder #2, Carbon County, Utah

**UMC 783.19 Vegetation Information-(BAS)**

(b) The vegetation map (Plate 9-1) must map vegetation types which occur within 1 km of the permit area.

**UMC 783.20 Fish and Wildlife Resources Information-(BAS)**

(a) The legends of Figures 10-9a, 10-9b, 10-10, 10-11, 10-66, 10-67 and 10-68 are color-coded. The reproductions, however, are black and white. Please revise the legends and provide distinctive markings on the figures, where appropriate.

**UMC 817.97 Protection of Fish, Wildlife, and Related Environmental Values-(BAS)**

(a) Please provide a commitment in the PAP (Section 3.5.5) to have all seed and straw inspected by the state's Department of Agriculture inspector.

(b) Please provide a commitment in the PAP (page 10-58 or 10-80) to report the presence of threatened or endangered species or any bald or golden eagle in the permit area, not previously reported to the Division.

(c) Please update the PAP's treatment of raptor powerline safety (pages 10-62, 10-64, 10-65, and 10-73) to discuss recent powerline modifications (ground wire clipping), and provide justification for not modifying the lines on the No. 2 mine. Include or reference pertinent correspondence.

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(d)(1) Please provide updated information in the PAP (pages 10-62, 10-63) on the status of deer mortalities along the access road.

(d)(4) Please include in the PAP any available data on the use of artificial raptor nests in Bryner Canyon.

(d)(5) If mitigation for lost riparian habitat was different from that planned (pages 10-78, 10-79), please provide an update.

(d)(8) Please provide a commitment in the PAP (Section 3.4 or on page 3-29) to prevent, control, and suppress range, forest, and coal fires not approved by the Division.

#### **UMC 817.100 Contemporaneous Reclamation-(BAS)**

It is a good practice to use the permanent revegetation seed mix on all interim reclamation for testing purposes. The applicant may wish to revise page 3-86, and omit page 3-90.

#### **UMC 817.111 Revegetation: General Requirements-(BAS)**

(b) Please make the following changes to the permanent revegetation seed/plant mix (Table 3-3, pages 3-90 and 3-91):

1. Update seed and plant prices.
2. Include a column on page 3-90, showing PLS/ft<sup>2</sup>.
3. Species which are not commercially available (e.g., Helianthella uniflora) should be replaced.
4. Salina wildrye is expensive and unpalatable to livestock and wildlife. Please provide a substitution, such as basin wildrye.
5. The number of shrubs must be increased. This, in addition to containerized plantings, will help assure the applicant's meeting woody plant density standards.

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6. Please replace mountain mahogany, antelope bitterbrush, Oregon grape and mountain lover with water-tolerant species (e.g., rose, dogwood, willows, hawthorne, chokecherry, etc.) along seep and channel restoration areas. Please specify the species to be used and average number of stems of each per linear foot of restored channel. Be sure the alternate species are commercially available.
7. Move the statement concerning "seeding rates for hand broadcasting" from page 3-91 to 3-90.

Please revise page 3-88 to state that plantings will be done in the spring, immediately after ground thaw. Seeding should be done no earlier than October 1.

Page 3-88, under Seeding Method, should define slope steepness (e.g., 4h:1v) as the break-off point for drill-seeding vs. hydroseeding. In like manner, please define slope steepness on page 3-92, under Mulching.

Please clarify the language of your grazing plan (page 3-93).

Please elaborate on items 4 and 5 under Establishment of Wildlife Habitat (page 3-94) if serious consideration has been given to incorporating these into the operation/reclamation plan. Otherwise, remove these from the PAP.

#### **UMC 817.112 Revegetation: Use of Introduced Species-(BAS)**

(a) Pilot studies on temporarily reclaimed areas (see page 3-93) were to provide an evaluation of the performance of seeded species. Results must be provided in the PAP on page 3-86 as justification for use of introduced species. Results may also warrant changes in the temporary and permanent seed mixes.

#### **UMC 817.116 Revegetation: Standards for Success-(BAS)**

(a) The applicant has two reference areas (page 9-2 et seq.) and a baseline study (page 9-43, et seq.) -- serving as revegetation success standards for 41.6 acres (see pages 9-6 and 9-45). Division biologists will visit the mine site in June to determine whether a single standard would simplify final reclamation sampling and evaluation of success. Changes in the PAP may be required, pending that evaluation and agreement with the applicant.

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The 1983 range condition assessment (page 9-5) must be updated. The Soil Conservation Service (SCS) will perform this service free of charge.

The PAP does not indicate whether reference areas have been permanently and visibly staked. If this has not been done, please do so.

(b)(3) Please revise page 3-94 to state that all final revegetation monitoring will meet sample adequacy requirements, per Division "Vegetation Information Guidelines". The formula for all vegetation parameters includes a one-tail "t" value at a 90 percent confidence interval with a 10 percent change in the mean.

Page 3-94 to 3-95 must also state that revegetation success will be achieved when ground cover, production, and stocking levels are not less than 90 percent of the approved success standard, when tested at a 90 percent confidence interval (i.e., one-tail test with a .10 alpha error).

Please describe the method used to measure shrub density on page 3-95.

(c)(2) The final revegetation monitoring schedule on page 3-95 is inadequate. The applicant must commit to a schedule of qualitative and quantitative monitoring like that in the Division's "Revegetation Guidelines", Table 1.

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