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DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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June 6, 1989

Mr. Dan Guy, Manager
Permitting and Compliance
Beaver Creek Coal Company
P. O. Box 1378
Price, Utah 84501

Dear Mr. Guy:

Re: Technical Deficiencies, Five-Year Permit Application
Renewal, Beaver Creek Coal Company, C. V. Spur Preparation
Plant, ACT/007/022, Folder #2, Carbon County, Utah

Enclosed is the Technical Deficiency review attendant to the Five-Year Permit Application Renewal for the C. V. Spur Preparation Plant. Please respond to these deficiencies by Friday, June 30, 1989.

Sincerely,

A handwritten signature in cursive script that reads "Richard V. Smith".

Richard V. Smith
Permit Supervisor

djh
Enclosure
AT8/74

**TECHNICAL DEFICIENCIES
FIVE YEAR PERMIT RENEWAL
C V SPUR PREPARATION PLANT
ACT/007/022**

**Beaver Creek Coal Company
Carbon County, Utah
June 6, 1989**

UMC 817.22 Topsoil: Removal-(HS)

(a) The applicant indicates the potential for "future topsoil removal", (PAP, page 3-18). The applicant must describe the size, sequence, and timing of any new disturbance.

Provide a topsoil mass balance table which shall include the following: volume of topsoil within the storage stockpiles; disturbed acreage; and the volume of topsoil material required to redistribute topsoil material over the entire disturbed area.

The applicant proposes utilizing disturbed land fill as a substitute topsoil. Preliminary data (PAP, page 8-27) indicates poor material below twelve inches. Exclude this material from consideration as substitute topsoil. Determination of reclaimability for the proposed substitute topsoil material will be based on success or failure of disturbed land fill revegetation test plot(s). The test plot(s) must be identified on Plate 8-1. Additionally, the applicant shall submit for inclusion in the PAP, seedbed preparation and planting methods, seed mixture, as well as vegetation monitoring methods (i.e., frequency of monitoring, parameters analyzed, etc.), and success standards.

(e)(1) Identify the standard units of constituents listed in Table 8-5 (Soil Chemical and Physical Analyses). Provide a list of the laboratory methods employed to obtain the results in Table 8-5.

(e)(1)(i) The location of the vegetation test plot should be depicted on a map. Incorporation into the PAP of Plate 9-1A from the 1988 Annual Report would satisfy this requirement.

UMC 817.23 Topsoil: Storage-(HS)

The applicant shall submit an as-built survey of the soil stockpiles. This survey shall include the volume of material, maximum and minimum height, slopes, and all pertinent dimensions.

Additionally, the applicant must commit to reseeding the topsoil stockpiles in the fall of 1989. Please submit seed mixture, seedbed preparation and planting methods employed to revegetate topsoil stockpiles. Please contact Division staff members for possible seedbed preparation and planting methods.

UMC 817.24 Topsoil: Redistribution-(HS)

The applicant states that ... "Preparation of material will consist of removing contaminated material such as rocks and coal fines from the immediate surface of disturbance area" (PAP, page 3-56). Please explain how this will be accomplished and the machinery employed.

The applicant commits to deep ripping of regraded spoils (PAP, page 3-56). Please specify the depth of ripping.

UMC 817.25 Topsoil: Nutrients and Soil Amendments

The applicant commits to soil analysis of redistributed topsoil for determining fertilizer types and rates. Please specify laboratory and field sampling methodologies and constituents to be analyzed.

UMC 817.81 Coal Processing Waste Banks: General Requirements-(HS)

The applicant must submit chemical analyses of each individual coal seam processed at the site as described on pages 3-3 and 3-3a of the PAP.

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

(b) The applicant shall submit a map or aerial photograph delineating vegetation types adjacent to the permit area. The vegetation map must account for areas surrounding the permit area which contain vegetation communities important to species of fish and wildlife identified under UMC 783.20.

(c) On page 10-27 it is stated that powerlines under the applicant's control were approved as being raptor safe. Please include additional details and a USFWS clearance letter in the PAP attesting to this fact.

(d)(6) Please provide in the PAP a description of the seep which flows across the permit area. Describe its present and future status and value for wildlife and vegetation.

UMC 817.100 Contemporaneous Reclamation-(BAS)

The applicant will please describe interim revegetation efforts of the previous permit term. Discussion must include revegetation locations, methods, and results. Describe what interim revegetation is anticipated for the up-coming permit term.

UMC 817.111 Revegetation: General Requirements-(BAS)

(b) Please include a column on Table 3-3 (page 3-60) showing the number of pure live seed (PLS)/ft². The Division recommends that no more than 20 PLS/ft² be used. Please adjust seeding rates where necessary. Seed prices should be updated.

The applicant describes the time required to complete major steps in reclamation (PAP, page 3-63). The applicant must identify the time of year each major step in reclamation will be accomplished.

Please include a reclamation timetable in the PAP similar to that in the Division's "Revegetation Guidelines", Appendix A.

It is stated on page 3-58 that seeding may be done in the spring or fall. Please specify that seeding will be done only in the fall, preferably after October 15.

The applicant may wish to make several substitutions in both temporary and permanent revegetation seed mixes. In general, it is a sound practice to use the permanent mix or interim reclamation in order to test the effectiveness of the permanent mix. I recommend that this change be made. In particular, Agropyron intermedium is probably not sufficiently drought-tolerant to do well at the C. V. Spur Preparation Plant. Both Hilaria jamesii and Sporobolus airoides are difficult to establish, as attested by test plot results to date. Distichlis spicata is probably not commercially available. Substitutions are recommended for these species.

Page 3-47 states that mulch will be applied as necessary. Use of mulch is not optional unless a suitable alternative procedure is demonstrated to be more effective. Please revise the statement stating where mulch will be applied and the rate of application.

On page 3-62, rate of tackifier is not specified for "shallower" slopes. If all slopes, 3h:1v or steeper, will be tackified at the same rate, please so state.

The applicant must commit to having an inspector from the State Department of Agriculture inspect all hay which will be used as mulch, prior to use. This will safeguard the operator from costly weed control during the bond liability period.

The PAP must include a plan for control of bindweed, Convolvulus spp., a designated noxious weed, which occurs in the permit area.

(c)(2) The PAP must include and commit to a revegetation monitoring schedule like that in the Division's "Revegetation Guidelines", Table 1. Qualitative observations should be made yearly. Quantitative sampling must be conducted during years 2, 3, 5, 9 and 10.

UMC 817.116 Revegetation: Standards for Success-(BAS)

(a) Reference area sampling was not done in accordance with the Division's Guidelines, as stated on page 3-48. In fact, the reference area itself was never sampled (see Plate 9-1). Please delete all transect locations from Plate 9-1 to avoid future comment on this issue, which could result in resampling.

The applicant must provide an up-to-date assessment of reference area range condition, which will replace that found in the PAP on page 9-4a.

Please include a column on Table 3-3 (page 3-60) showing the number of pure live seed (PLS)/ft². Seed prices should be updated.

(b) The reference area and revegetated areas need not be sampled simultaneously during each monitoring period, as stated on page 3-63. Sampling of the reference area need not be conducted until years 9 and 10 of the bond liability period.

(b)(1) Pages 3-58 and 3-58a identify soon-to-be outdated revegetation success standards. The soon-to-be adopted new rules specify that ground cover, production, and stocking level may not be less than 90 percent of the approved standard (reference area). The sampling techniques for measuring success must use a 90 percent statistical confidence interval (i.e., one-sided test with a .10 alpha error). Please revise your success standards at this time.

(b)(3)(iv) The applicant must commit to a shrub density standard which will replace the narrative on page 3-61. The standard is 90 percent of reference area shrub stocking level (see Table 9-8, page 9-20) at 90 percent statistical confidence, using a one-sided t-test with a .10 alpha error.

(b)(5)(i) Please include a reclamation timetable in the PAP similar to that in the Division's "Revegetation Guidelines", Appendix A.

It is stated on page 3-58 that seeding may be done in the spring or fall. Please specify that seeding will be done only in the fall, preferably after October 15.

(b)(5)(ii) The applicant may wish to make several substitutions in both temporary and permanent revegetation seed mixes. In general, it is a sound practice to use the permanent mix on interim reclamation in order to test the effectiveness of the permanent mix. I recommend that this change be made. In particular, Agropyron intermedium is probably not sufficiently drought-tolerant to do well at the C. V. Spur Preparation Plant. Both Hilaria jamesii and Sporobolus airoides are difficult to establish, as attested by test plot results to date. Substitutions are recommended for these species.

The applicant will commit to having a State Department of Agriculture inspector sample seeds used in reclamation. Seed testing assures seed mix integrity and helps explain revegetation problems, should they arise.

(b)(5)(iv) Page 3-47 states that mulch will be applied as necessary. Use of mulch is not optional unless a suitable alternative procedure is demonstrated to be more effective. Please revise the statement.

On page 3-62, rate of tackifier is not specified for "shallower" slopes. If all slopes, 3h:1v or steeper, will be tackified at the same rate, please so state.

The applicant must commit to having an inspector from the State Department of Agriculture inspect all hay which will be used as mulch, prior to use. This will safeguard the operator from costly weed control during the bond liability period.

The PAP must include a plan for control of bindweed, Convolvulus spp., a designated noxious weed, which occurs in the permit area.

The PAP must include and commit to a revegetation monitoring schedule like that in the Division's "Revegetation Guidelines", Table 1. Qualitative observations should be made yearly. Quantitative sampling must be conducted during years 2, 3, 5, 9 and 10.

UMC 817.133 Postmining Land Use-(BAS)

(a) The PAP must provide a description of post mining land use in Chapter 4, which satisfies the requirements of this section.

(b) The PAP must provide a description of postmining land use in Chapter 4, which satisfies the requirements of Section 784.15.

AT86/5-10
6/6/89