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STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

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March 24, 1986

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

FILE COPY

*Dan*  
Dear Mr. ~~Guy~~:

RE: Mid-Term Review, Gordon Creek #2 Mine Permit, ACT/007/016,  
#2, Carbon County, Utah

Pursuant to UMC 788.11, the Division is initiating the mid-term review of the Gordon Creek #2 permit. Enclosed are the initial concerns and questions which have been identified to date.

As a point of clarification, the reference to the #2 Mine permit includes the Gordon Creek #2 Mine as well as the Southwest Lease (or #7 Mine).

Further review and an onsite visit will be incorporated in this review sometime during the summer of 1986.

Your response to the enclosed questions and concerns is requested by May 9, 1986 in order to allow the mid-term review to proceed.

Thank you for your cooperation in this matter. Please contact me or John Whitehead if you should have any questions on this.

Sincerely,

Lowell P. Braxton  
Administrator  
Mineral Resource Development  
and Reclamation Program

JJW/btb  
Enclosures

cc: Technical Review Team  
9294R-52

MID-TERM REVIEW

Beaver Creek Coal Company  
Gordon Creek #2 Mine  
ACT/007/016, Carbon County, Utah

March 24, 1986

UMC 771.23 Permit Applications: General Requirements for Format  
and Contents - PGL and JJW

(b) and (e) Maps and Plans

The information included on all of the maps must be current and presented clearly and concisely in a consolidated format. All maps must include:

1. consolidated format (title block);
2. scale and north arrow;
3. date drawn, date of flight for drawing;
4. date revised (clearly shown on drawing);
5. certification by a professional engineer (if necessary);
  - A. stamp of the professional engineer
  - B. signature of the professional engineer
  - C. date map was certified
6. permit area must be clearly shown on maps @ a scale of 1" = 500'. No maps may be at a scale smaller than 1" = 2,000';
7. incidental boundary changes must be shown on all updated maps;
8. the property boundary, lease boundary and permit boundary must be shown on all of the maps. The uniformity of map scales, where feasible, will be helpful;
9. mine operations (or mine sequence) maps must be updated for each seam of the mine;
10. surface facilities maps must be updated to reflect current status (i.e., Sweets Canyon water fill-up area).

In reviewing the recent #8 Mine revision, it was apparent that with the existing Gordon Creek #2 Mining and Reclamation Plan (MRP) split into three separate documents (#2 Mine plan, #7 Mine plan, #8 Mine revision) that contradictions and clarity have become a problem. All three documents should be consolidated into one current, clear and concise plan to alleviate the above-noted problems.

UMC 782.15 Right of Entry - JW

In reviewing the legal description and right of entry for the permit area, the legal right of entry for portions of the SW1/4 of Section 17, Township 13 South, Range 8 East must be demonstrated.

Additionally, coal ownership information references Federal Coal Lease U-47975. This is an incorrect lease reference. Appropriate maps and text must be corrected.

UMC 783.12 General Environmental Resources Information - PGL

(a) The size, sequence and timing of the subareas must be updated in Plates 3-3, 3-4 and 3-5.

UMC 783.15 Ground-Water Information - RVS

The permittee indicates mining and boreholes have encountered ground water (Gordon Creek #2 MRP, Section 7.1.2.2, pages 7-6 and 7-7 and Section 6.4.1.1, page 6-14; Gordon Creek #2 MRP, Southwest Lease, Section 7.1.2.2, page 7-6).

(a) Accordingly, the permittee must provide a site specific description of the ground-water hydrology of the mine plan and adjacent area that incorporates data collected since permit approval (e.g., seep and spring inventory described on page 7-13, Gordon Creek #2 MRP, Southwest Lease; borehole monitoring described on page 6-14, Gordon Creek #2 MRP; mine inflows as described under Stipulation 817.52-(1)-JW in the Gordon Creek #2 MRP) and includes:

1. depth below the surface and horizontal extent of the water table and aquifers;
2. lithology and thickness of aquifers; and
3. quality of subsurface water.

(b) Moreover, the MRP shall contain additional site specific information which describes the recharge, storage and discharge characteristics of aquifers and the quality and quantity of ground water, according to the parameters and in the detail required by the Division (i.e., see examples listed given above, and Division Water Monitoring Guidelines, January 1986).

UMC 784.20 Subsidence Control Plan - RVS

The permittee must provide a map that indicates the location of renewable resource lands. In particular, areas of ground-water recharge.

(a)(2) The permittee must provide previously collected subsidence monitoring data and an attendant description of the extent to which planned subsidence is intended.

UMC 783.24 Maps: General Requirements - PGL

(c) The boundaries of all areas proposed to be affected over the estimated total life of the underground coal mining activities, with a description of the size, sequence and timing of the subareas for which it is anticipated as additional permits will be sought must be provided. This should entail the affected areas for #2, #7 and #8.

The water truck fill up area must be shown on a surface facilities maps.

UMC 784.13 Reclamation Plan: General Requirements - PGL

(b)(2) The updated reclamation cost estimate for the #2 complex must be included in the MRP.

(b)(3) A "quantified" plan for backfilling and grading must be submitted. How much material will be needed to achieve the postmining contours? Where will the material come from? The Huntington #4 reclamation backfilling plan did not work as stated. Therefore, quantities must be given. Vague statements must be deleted.

UMC 784.23 Operation Plan: Maps and Plans - PGL

(b)(2) The area of land to be affected within the proposed mine plan area (combining #2, #7 and #8) according to the sequence of mining must be updated in the mine plan.

UMC 784.24 Transportation Facilities - PGL

The addition of the haul road from Consumers Canyon to the mine site must be included in the permit area (maps). There have been incidental boundary changes (with drainage plans) submitted since the permit was issued. This information must be included.

General Comments:

1. Maps must be updated. See mid-term maps update.
2. All information since permit issuance must be included in the updated MRP (i.e., revisions, boundary changes, mining over Beaver Creek, etc.).
3. Combine Gordon Creek #2, #7 and #8.
4. Updating language in the permit (e.g., if future dates were alluded to and the work has been performed, change).
5. The operating tonnages for the #2 Mine complex (#2, #7, #8) will they remain the same as stated in the original MRP, annual production? Change if needed.
6. Mine operations update (sequence) Plates 3-3, 3-4 and 3-5.

Specific Comments by Page:

Page 3-33 - coal must be covered with at least four feet of incombustible material, not three feet as stated on page 3-33.

Page 3-58 - the backfilling and grading plan must be quantified. How much material will be moved? The Huntington #4 reclamation had to be revised due to finding rock ledges that were through to be backfill sources. Therefore, the backfilling and grading plan at the #2 Mine must be revised and quantified. The postmining topography shown on 3-7a should demonstrate quantities in cross sections.

Page 3-5 - the road section in Gordon Creek #2 and #7 should be revised to show where road areas are included in the permit.

Page 3-3 and 3-13 - Gordon Creek #2, it is stated that additional disturbances are not planned, but happened. Please clarify.

Page 3-78 - the updated performance bond calculations must be included in the revised MRP.

Page 3-11 - the MRP states that additional culverts will be installed by July 30 (no year indicated). Language such as this should be updated and/or deleted.

Page 3-6 - typical road reclamation; Figure 3-9 needs cross sections.

The monitoring of the side canyon slides (slumps) at Gordon Creek #7 must be submitted (visual inspections).

UMC 817.13-.15 Casing and Sealing of Exposed Underground Openings - RVS

The permittee indicates mining has encountered ground water (Gordon Creek #2 MRP, Section 7.1.2.2, page 7-6; Gordon Creek #2 MRP, Southwest Lease, Section 7.1.2.2, pages 7-6 and 7-11). Inasmuch as mining has encountered ground water, the permittee must incorporate a drain pipe into the permanent portal closure design to prevent portal seal "blow out." The Division recommends permanent sealing of the lowest portal include installation of a two inch diameter drainage pipe through the concrete block seal to the portal entrance.

The permittee states on page 3-55 of the Gordon Creek #2 MRP that a "block seal" will be placed "20 to 50 feet inby the portal." Alternatively, the permittee states on page 3-37 of the Gordon Creek #2 MRP, Southwest Lease, that a "block seal" will be placed "20 to 450 feet inby the portal." The Division requires concrete block seals to be installed a minimum of 25 feet inby portal entrances.

The permittee does not describe, in either the Gordon Creek #2 MRP or Gordon Creek #2 MRP, Southwest Lease, procedures for temporarily sealing portals or boreholes. This must be provided.

UMC 817.41 Hydrologic Balance - JW

Reclamation of the water truck fill up area at Sweets Canyon has not been addressed. Specifics on permanent reclamation of this area must be given.

UMC 817.44 Hydrologic Balance: Stream Channel Diversions - TM

Included within the #2, #7 and #8 Mine permits, the applicant has committed to restore all mine sites to rock-lined natural drainages upon completion of mining. Erosion controls will be used below backfill areas to minimize washing of fill materials. Diversions will be removed during backfilling and grading (pages 3-58 through 3-60, Gordon Creek #2 MRP). All channels will be riprapped to eliminate erosion and cutting of the side slopes. The sediment ponds will be the last to be removed. Upon removal of the ponds, water will flow into Bryner Canyon. All material will be mulched to prevent erosion. The drainage diversions will be filled with bermed material. Restored drainages will be riprapped using the +18 inch rock removed from backfilling operations (pages 3-65 and 3-65, Gordon Creek #2 MRP).

The following plates were given as references to describe postmining drainage at the Gordon Creek #2, #7 and #8 Mines.

Gordon Creek #2

Plate 3-7, Gordon Creek #2 Postmining Topography  
Plate 3-8, Cross Sections A-A, B-B, C-C  
Plate 3-8a, Cross Sections of Bryner Canyon and Bryner Canyon Diversion

Gordon Creek #7

Plate 3-7a, Southwest Lease Postmining Topography  
Plate 3-8a, Gordon Creek #2 Mine Southwest Lease Proposed and Reclaimed Cross Sections

Gordon Creek #8

Plate 3-2b, #8 Mine Postmining Topography

The applicant needs to submit additional cross sections, plans and calculations for restoration of the postmining drainage. Since the applicant plans to reclaim drainage on the #2 Mine pad and the #7 Mine pad, as well as reclaim drainage associated with the #8 Mine access road disturbance, the following informational needs apply to all of the above sites.

The applicant must submit the following cross sections, plans and calculations for the restoration of the postmining drainage. this must include:

- A. The longitudinal profile and cross section (channel and floodplain cross section, scale one inch = two feet) of all reclaimed postmining drainages. The longitudinal profile must show specific areas to be riprapped based on supporting calculations for riprap sizing.
- B. The predicted flows and velocities for all reaches of the reclaimed drainages based on the channel size designed to carry the 100-year, 24-hour storm event or a channel with the same geomorphic characteristics and a capacity equivalent (based on a site verification) to that of the unmodified stream channel immediately upstream and downstream from the proposed channel.

- C. The protective measures for restored channels (i.e., riprap, vegetation, energy dissipators, etc.). Riprap, filter blankets and energy dissipators must be sized using standard engineering practices. Supporting calculations must be included in all submittals. The exact location of these protective measures must be placed on the appropriate plate.
- D. Measures to restore a pattern of riffles, pools and drops rather than uniform depth that approximates natural stream channel characteristics.
- E. The applicant must also address critical areas of slope change, transition zones from undisturbed drainages to reclaimed mine pads and the specific measures incorporated into the reclamation plan to handle these problem areas (i.e., energy dissipators, designed riprap installation drop structures, etc.). All structures must be designed using standard engineering practices. This discussion should include measures to be implemented to handle springs and seeps from the highwalls at the #7 and #8 mines site.

UMC 817.50 Hydrologic Balance: Underground Mine Entry and Access Discharges - RVS

The permittee indicates mining has encountered ground water (Gordon Creek #2 MRP, Section 7.1.2.2, page 7-6; Gordon Creek #2 MRP, Southwest Lease, Section 7.1.2.2, pages 7-6 and 7-11). Hence, the potential exists for gravity discharge of water following mine closure. The permittee must commit to monitor postmining gravity discharges and provide treatment, if necessary, to satisfy applicable state and federal effluent limitations for the period of discharge.

UMC 817.111-.113 Revegetation

UMC 817.97 Protection of Fish, Wildlife and Related Environmental Values - KMM

Proposed channel restorations in Bryner Canyon are limited to grading and riprap. Drainage from seeps are, and will be, channeled in riprapped diversion ditches. The operator should consider using vegetation to blend these channels into the surrounding area. Vegetation diversity could be increased along these reclaimed drainage channels and in seep areas by substituting willows, hawthorn, chokecherry or other tree or shrub species for some of the plantings planned for the Oak Shrubland revegetation.

How will the water truck filling pond be reclaimed? Can reclamation of this pond be beneficial to wildlife?

UMC 817.115 Revegetation: Grazing - KMM

The operator must clarify whether grazing may be permitted two years after reclamation or if it will be excluded until vegetation is well established.

UMC 817.116 Revegetation: Standards For Success - KMM

The operator should consider consolidating the revegetation plans for the three areas of the #2 Mine permit. While revegetation techniques and materials are similar for the three areas, success monitoring could be simplified by developing a coherent plan.

Proposed vegetation success standards should be reviewed. Planting rate cannot be used for woody plant density measurement and confidence limits and significance levels are more stringent than required in Utah's regulations.

The operator must include a detailed monitoring plan and schedule. Early monitoring will not only identify problem areas which may need supplemental revegetation treatment but will also identify as early as possible the beginning of the "period of extended responsibility" which starts when ground cover equals the approved standard (UMC 817.116[b][1]).

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