0027

SCOTT M. MATHESON
Governor

TEMPLE A. REYNOLDS
Executive Director,
NATURAL RESOURCES

CLEON B. FEIGHT
Director

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING
1588 West North Temple
Salt Lake City, Utah 84116
(801) 533-5771

OIL, GAS, AND MINING BOARD

CHARLES R. HENDERSON
Chairman

JOHN L. BELL
EDWARD T. BECK
E. STEELE McINTYRE
BOB NORMAN
MARGARET BIRD
HERM OLSEN

July 21, 1981

Mr. Gordon Cook
Vice President/
General Manager
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

RE: Apparent Completeness Review
Price River Coal Company
Crandall Canyon Modification
ACT/007/004

Dear Mr. Cook:

The Division has completed a review of the Crandall Canyon Modification (MRP). The plan was reviewed under the permanent program regulations in force at this time. The attached comments reflect review by both the Office of Surface Mining and this Division. The plan has been found to be incomplete at this time for approval of this modification. Division representatives have met and discussed the specifics of this review with Messrs. Rob Wiley, Ken Hutchinson and Lane Adair of your staff. We understand that response to this review is forthcoming. Upon receipt of this response, the Division will prepare a technical review/approval document for this modification to the interim approval.

Should you have questions concerning this review or the approval, please contact Tom Tetting of my staff.

Sincerely,

for JAMES W. SMITH, JR.
COORDINATOR OF MINED LAND DEVELOPMENT

JWS/MAW:te

cc: O.S.M.

SCOTT M. MATHESON
Governor

TEMPLE A. REYNOLDS
Executive Director,
NATURAL RESOURCES

CLEON B. FEIGHT
Director

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING
1588 West North Temple
Salt Lake City, Utah 84116
(801) 533-5771

OIL, GAS, AND MINING BOARD

CHARLES R. HENDERSON
Chairman

JOHN L. BELL
EDWARD T. BECK
E. STEELE McINTYRE
BOB NORMAN
MARGARET BIRD
HERM OLSEN

July 20, 1981

Mr. Don Crane
Regional Director
Office of Surface Mining
Brooks Towers
1020 15th Street
Denver, Colorado 80202

RE: Apparent Completeness Review
Price River Coal Company
Crandall Canyon Modification
ACT/007/004

Dear Don:

The Division has completed its review of the applicants' mining and reclamation plan as divided from the larger complex submittal. Many of your staff's comments have been incorporated. We have found it to be incomplete and a copy is attached for your review. Our responges were discussed with Rob Wiley from Price River Coal Company on Friday, July 17, 1981, and will be mailed to them formally July 23, 1981. Thank you for working on this project with us.

Sincerely,

Thomas N. Tetting

THOMAS N. TETTING
ENGINEERING GEOLOGIST

TNT/te

Enc: ACR (copy)

APPARENT COMPLETENESS REVIEW

Price River Coal Company
Crandall Canyon Modification

UMC 782.13 Identification of Interests

(e) The name and address of the surface and coal owners contiguous to the proposed permit area should be listed and a map provided with their interests indicated.

UMC 782.17 Permit Term Information

(a)(2) When the permit application is judged completed for the requested time period (30 years), it will be necessary for the operator to provide a letter concerning the source of financing written by the proposed source explaining why a 30-year term is needed. If internal funding is involved, confirmation by a financing officer or person approving finances is needed.

UMC 783.14

The north slope of the new channel diversion between stations 5+00 and 11+00 is very steep, what is it composed of (i.e., sandstone, shale, allvuial, etc., strata analysis for lower 15' of exposed rock in new channel)?

UMC 783.15 Ground Water Information

A discussion of the impacts on the hydrologic balance is discussed on page 20; however, this discussion centers on only surface water and does not discuss ground water. Chapter VII of the Mining and Reclamation Plan does discuss the general geo-hydrologic information; however, this is in insufficient detail and lacks data to support the claims. The applicant should present the data from their ground water monitoring program. Sufficient information as to flow rates and permeability should be provided not only to support the general claim that underground mining will not impact the ground water system but also to provide sufficient information to predict the impacts of the shaft construction.

Page 4, Chapter 7 states that the Blackhawk formation is of uniform low permeability and, therefore, unfeasible for a source of ground water. This is inconsistent with what was stated earlier that the Blackhawk is a mixture of sandstone, shale, mudstone and clay of which would show differing permeabilities. More substantial evidence is needed in order to claim this formation unfeasible as a source of ground water. Chapter 7 also gives hydraulic conductivity measurements, where and how were these obtained?

Why was ground water monitoring contained to the Blackhawk formation when others will or could be affected?

The baseline measurements presented are irregular which make it difficult to correlate between years.

Baseline sampling of springs should be quarterly instead of biannually so that trends and seasonal variations can be established.

In the baseline quality studies, a full sweep of parameters should be included in the analysis before the list is reduced.

Apparently no springs are being monitoried directly above the mine workings in the Crandall Canyon area. If any springs do exist in this area they (or same) should be monitored.

783.19 Vegetation Information

The statement of work for Vegetation Studies by Mariah Associates, Laramie, Wyoming, that was submitted to the Division on June 16, 1981, should meet the requirments of UMC 783.19.

783.23(9)

Are there any exposive storage areas? Where are they located?

783.25

The applicant shows cross-sections of material to be built up in the Crandall Canyon facility site. Those cross-sections are 4-A, 4-B and 4-C for the preliminary plot plan and 5-A and 5-B for the final plot plan. Where are the cross-sections? The applicant should delineate the extent of waste fill from the shafts on Exhibit 5 in plan view.

784.13 Reclamation Plan: General Requirements

The applicant should be more specific concerning the methods which will be used to revegetate the disturbed areas:

A. What type of mulch and rate of application will be used and how will it be secured?

B. What is the exact schedule of seeding and mulching after the topsoil is applied? The reclamation plan currently states seeding and mulching will be done "as soon as possible" after resoiling.

C. Justification should be provided for the introduced species proposed in the seed mix. Show how these species are necessary to achieve the postmining land-use (reference can be made to pertinent research, see UMC 817.112).

D. Is the seed mixture shown as Pure Live Seed (PLS)? If not, the PLS seeding rate should be submitted.

E. The vegetation plan should reflect the goal of postmining land-use and the subsequent success criteria on which a partial bond release will be based. Thus, both postmining land-use and success criteria must be well defined in order to develop a revegetation plan.

F. Data should be submitted supporting the feasibility of successful revegetation using the proposed reclamation procedures. Examples of successful revegetation at the minesite to date, or at nearby mines can be used. If this information is not available, submit data taken from nearby which supports the above.

G. Provide an interim revegetation plan as well as the seed mix for stabilization of cut and fill banks, outslopes of dams, etc.

784.14 Reclamation Plan: Protection of Hydrologic Balance

(c) Currently, the seasonal evaluation of ground and surface water quality from the spring in Crandall Canyon is insufficient. It is not possible to decipher annual variation or trends in either ground or surface water data submitted. The data of 1980 and 1981, submitted by Vaughn Hansen Associates needs to be summarized along with the samples obtained in 1978 to evaluate seasonal variation.

A surface water monitoring point was to be located above the mine facilities according to the plan (Section 3.74-B). It was to be portrayed on Exhibit 6, but there is no indication of a sample point above the facilities on this exhibit.

Well B-43 is slated as a ground water monitoring well in Crandall Canyon. The modification plan states that a summary on the well water quantity and quality is in Exhibit 6-12 yet there is no such exhibit in either this or the Price River Complex Plan. Submit available data on quantity and quality of ground water flow, gradient of flow and direction of flow. From what formation(s) do the spring B-22 and ground water B-43 issue? B-43 is not portrayed on the map of Crandall Canyon. Provide its location.

UMC 784.20 Subsidence Control Plan

Exhibit 3-4 indicates the presence of the C_W seam in the Crandall Canyon vicinity. No dates or plans for mining were located in the mine plan. Exhibit 3-7 also indicates a seam, Sub I that has no mining sequence given either. This is located directly west of the proposed shaft locations. No dates are provided for extraction of coal from the A seam in Exhibit 3-6. A timed sequence of mining should be provided indicating these areas of overlap and include the Sub 3 and D seams to enable the Division to assess possible subsidence factors. A cross-section profile with approximate dates would be adequate.

784.23(7)

The applicant must show that the fill materials will meet a 1.5 static safety factor for steepest slopes shown.

The applicant should state the procedures for disposal of trash, what land fill will be used, etc. Where will oil be stored until disposal and how will it be disposed? Will solvents be disposed in the same manner? Will all oil spills in the shop be captured? Where will the oil storage be located?

784.23(10)/784.19(4)

The applicant has not shown drainage off of the fills after the final configuration as completed. Will all areas be paved? The applicant should show the extent of paving on the plot plans. The fill must be shown to be non-impounding. Are any underground springs or seeps present. Is any of this area subject to subsidence?

784.23(11)(13)/817.166

The applicant must address reclamation of the access road. Will the road be removed?

784.23(13)(11)/817.101

The applicant states that the area will be returned to AOC. The applicant should show a plot plan and cross-sections similar to Exhibit 5, 5-A and 5-B showing the postmining configuration.

784.24 Transportation

(a) The applicant has specified road width, gradient, road surface and culvert, however, the applicant must furnish the Division with specifications pursuant to 817.162 for road cuts and if these slopes as specified in 817.162 are exceeded, the applicant must show that the cuts or embankments are stable by analyzing the stability and show these structures will meet a 1.5 static safety factor.

784.24(a)

Pursuant to 817.163, the applicant must show ditches are lined to handle velocities and quantity. The applicant must show that inlets and outlets to culverts are designed for 10 fps and will not discharge on fills.

817.44 Hydrologic Balance: Stream Channel Diversions

(b)(1) Give retaining wall characteristics for stream diversion including but not limited to length, height, width and determine stability. Relate this to soil factors such as permeability and texture. Although this section of the stream is considered ephemeral, the 10-year storm should be described to determine the diversion capability for handling runoff from such an event. Why is it designed for the 100-year event if it is ephemeral? Note: regulations on ephemeral vs. perennial and intermittent streams (UMC 817.43[b]) (817.44[a]).

817.45 Hydrologic Balance: Sediment Control Measures

Provide design and capacity of sediment trap along with maintenance procedures. How large is the distrubed area to be drained by it?

In utilizing a filter berm for treatment of suspended solid materials, describe the following design parameters:

1. Material to be used;

2. dimensions;

3. characteristics of flow to be treated; and

4. Berm maintenance.

817.46 Hydrologic Balance: Sedimentation Ponds

(a)(1) Plot the area of disturbance which will be drained into each sedimentation pond. Without such information DOGM cannot concur with the design factors utilized for each sedimentation pond.

Exhibit 5 portrays drainage entering the diverted stream channel from a work pad area located on the northwest section of the truck access road. Apparently, this drainage is from a disturbed area but will not be routed through a sedimentation structure. Review and evaluate.

From Exhibit 5 all drainage entering the road ditch from the storage, warehouse and shop area appears to enter the stream channel at the point where the concrete retaining wall continues on the south bank. This drainage must receive sediment treatement before being released to the stream channel.

(i) From where were the maximum intensities derived for the design of spillways? Were hydrographs utilized or simulated? Provide references.

(f) Does the applicant hold an NPDES permit for the two sedimentation ponds? The Department of Health must approve the pond designs and evaluate a request for the discharge permit.

817.57 Hydrologic Balance: Stream Buffer Zones

The Department of Health reviewed the Crandall Canyon modification and made response November 18, 1980. The response discussed areas of concern in terms of a leach field location and the 100-foot stream buffer zone. Data on percolation test results and the ground water level was requested. To date, the Department of Health has received no response and, therefore, cannot recommend approval of both the sediemnt ponds and sanitary waste water systems. (Note: correspondence from Mr. Steven R. McNeal, DOH, November 18, 1980.) The Division also needs more detail on the location of the leach field in relation to the stream bed. If the Department of Health concurs with the leach field design and location, the Division will not request a variance to the stream buffer zone requirement.

817.21 Topsoil: General Requirements

(a) There is no chemical and physical soil analysis included in the Price River Plan nor the Crandall Canyon modification. Such characterization will aid the applicant in determining the potential of top- and subsoils for use as reclamation materials. The current proposal is to remove soil to a six-inch depth but there may, in fact, be suitable materials below.

817.22 Topsoil: Removal

(b) The applicant should evaluate the volume of materials required on site for contemporaneous and interim reclamation as well as that required for final reclamation.

Based on the data obtained (817.21(a), the applicant should describe which soils will be removed, depth of removal and the volume of materials to be stored. These calculations will allow the applicant to determine the volume of substitute materials that will be required for reclamation. That volume of substrate materials which is not required until final reclamation begins may be hauled in at such time. The appropriate chemical and physical analysis must be carried out on substitute materials at that time to justify their use in the reclamation plan.

817.23 Topsoil: Storage

(b) Since soil storage will occur for a minimum of 30 years, the applicant should consider using one location for topsoil stockpiling rather than the three areas slated on Exhibit 6. By utilizing one area, minimal disturbance of soil stockpile is better accomplished, and a comprehensive reclamation effort of the soil stockpile can be made.

The mapped location of the soil stockpile on Exhibit 5 is not accurate in terms of its present location.

Discuss soil storage by detailing methods for erosion control, maximum slope of reclaimed stockpile and area covered by storage.

(b)(1)(i) The following seed mixture would be recommended over that listed in the mine plan for topsoil stabilization for the following reasons:

1. The species are easily established.

2. They have a high rating for soil stabilization.

3. There is usually poor success when trying to establish shrubs and grasses from seed at the same time.

Recommended Seed Mixture

Species	lbs/ac of PLS
Agropyron intermedium	6
Elymus cinereus	6
Hordeum vulgare	10
Medicago sativa	2-3

817.97, 817.57 Protection of Fish, Wildlife and Related Environmental Values

(d)(1) Are there important fish or wildlife species that are protected by State or Federal law with relation to haul and access roads? What will be done to minimize the impact on them?

(4) Are there unusually high value wildlife habitats within the mine plan area, i.e., dens, strutting grounds, drumming logs, etc.?

(5) What will be done to protect or restore the valuable riparian zone? What species will be impacted?

(6) How does Crandall Creek function as a fishery or food supply? What will be the impact downstream (see UMC 817.57)?

To meet these performance standards, the applicant needs to indicate commitments to mitigation measures not merely submit suggestions of what could be done.

A map of these areas (important habitat for fish and wildlife) needs to be supplied to meet the requirements of UMC 783.19(b).

817.153 Roads

Map the various drainages contributing to the various culverts. What are flow rate contributions to culverted areas? Show sizing calculations used to derive the 10 fps discharge rate and subsequent culvert sizing.