



0048

STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & MiningNorman H. Bangerter, Governor  
Dee C. Hansen, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

February 19, 1986

CERTIFIED RETURN RECEIPT REQUESTED  
(P592 431 331)Mr. Kenneth B. Hutchinson  
Chief Engineer  
Price River Coal Company  
P. O. Box 629  
Helper, Utah 84526**FILE COPY**

Dear Mr. Hutchinson:

RE: MRP Amendment, Upgrade of Surface Facilities in  
Hardscrabble Canyon, Price River Complex, ACT/007/004, #3,  
Carbon County, Utah

The Division has completed its review of Price River Coal Company's December 19, 1985 submittal concerning proposed changes to surface facilities in Hardscrabble Canyon. The proposal is unacceptable in several areas. Please refer to the attached technical review memorandums which outline the specific deficiencies which must be addressed before the Division can continue its review process.

Please provide a response to these comments by March 3, 1986, if possible. An expeditious response will help speed the amendment review and approval process. Thank you for your patience and cooperation in this permitting matter. Should you have any questions, please contact us at your earliest convenience.

Sincerely,

D. Wayne Hedberg  
Permit Supervisor/  
Reclamation Hydrologist

DMW/btb

Enclosure

cc: Allen Klein  
Lowell Braxton  
Randy Hargen  
Rick SummersLynn Kunzler  
James Leatherwood  
Sue LinnerRick Summers  
0505R-19

January 27, 1986

TO: Technical File

FROM: Lynn Kunzler, Reclamation Biologist

RE: Price River Coal Company, Surface Facilities Minor  
Modifications, December 16, 1985, ACT 007/005, Folder  
No. 3, Carbon County, Utah

Summary: The applicant must provide specific revegetation plans for new disturbance associated with this revision, including seedmixes, methods, etc for both interim (stabilization of cuts, fills, diversions, etc.) and final reclamation. Reference to, and commitment to follow appropriate specific plans in the approved plan for the Price River Complex would be acceptable.

jvb  
0317R-74

January 8, 1986

TO: File

FROM: Randy Harden *JRH*

RE: Hardscrabble Surface Facilities Modifications, Price River Coal Company, ACT/007/004

General - JRH

The operator has not addressed any of the reclamation plan requirements for the facilities proposed in Hardscrabble Canyon. The facility changes should include or incorporate into the existing plan, such reclamation activities.

Construction of the sewage treatment facilities shall be subject to the approval and the requirements of State Health.

Bonding for the proposed changes will be required, including calculations and drawings as outline in the regulations. A copy of the bonding guidelines is attached for further information regarding bonding.

UMC 784.13 Reclamation Plan: General Requirements - JRH

(b)

- (1) The operator has not included a timetable for the installation, removal and reclamation of the facilities proposed in Hardscrabble Canyon.
- (2) The operator has not provided a detailed estimate of the cost of the reclamation of the proposed facilities, with supporting calculations for the estimates.
- (3) The operator has not submitted a plan for backfilling, soil stabilization, compacting and grading, with contour maps or cross sections that show the final anticipated surface configuration of the proposed facilities, in accordance with UMC 817.101-.106.
- (4) The operator has not included a plan for the removal, storage, and redistribution of topsoil in accordance with UMC 817.21-.25.
- (5) The operator has not submitted a plan for revegetation as required in UMC 817.111-.116.

cc: S. Linner

1010R-61

## BONDING REQUIREMENTS

### (COAL)

One of the major components in permitting coal mines is the calculation of the required bond. The Act (PL 95-87) includes the statutory law: 30 USC 509 "PERFORMANCE BONDS" governs all Bonding Requirements. Subsequently, the Secretary of the Interior promulgated regulations to implement the bonding requirements. The regulations reference the Bonding Requirements of SUBCHAPTER J "BONDING AND INSURANCE REQUIREMENTS FOR SURFACE COAL MINING AND RECLAMATION OPERATIONS." PART 800 further defines the bond amount requirements. 800.11, .13, .14, and .15 reflect the individual subject requirements for bonding.

800.14(a) The amount of bond for each bonded area shall:

1. Be determined by the Division;
2. Depend upon the requirements of the approved permit and reclamation plan;
3. Reflect the probable difficulty of reclamation, giving consideration to such factors as topography, geology, hydrology, and revegetation potential; and
4. Be based on, but not limited to, the estimated cost submitted by the applicant.

800.14(b) The amount of the bond shall be sufficient to assure the completion of the reclamation plan if the work has to be performed by the Division in the event of forfeiture, and in no case shall the total bond initially posted for the entire area be less than \$10,000.00.

The bond amount involves a series of site specific calculations that reflect the regulatory authorities' cost to complete the reclamation. The following guideline for reclamation cost estimates outlines the methodology for determining the bond amount.

## GUIDELINES FOR RECLAMATION COST ESTIMATION

Detailed cost estimates are required to determine third party reclamation costs for mining properties. (Per acre bonding costs without detailed support calculations are not acceptable.) Each cost estimate that determines the amount of the reclamation bond must be computed using the production capabilities of equipment per unit time in relation to the volume of materials needed to be moved (Productivity). This system will be used for most items estimated.

1. The condition assumed for forfeiture is that the operator ceases operations with site conditions in the maximum allowable disturbance as indicated in the Mining Plan (worst case scenario). The estimator determines the most probable worst case situation, and details that worst case.

Detailed maps, drawings and/or sketches showing location and quantity requirements for each area assists both the estimator and the reviewer in the calculations. The estimator may develop several cross sections of excavations and backfilling areas to compute the volume of material to be moved. Mass balance calculations also are needed to determine how much material will need to be wasted or borrowed when earthwork is performed. This is especially important in determining topsoil requirements for borrow, stockpiling and distribution.

An outline of the calculations or a check sheet is helpful in keeping track of all the parts of the cost estimate.

2. Reference materials used by the Division in bond cost estimating are the "RENTAL RATE BLUE BOOK," the "MEANS SITE WORK COST DATA" and "CATERPILLAR PERFORMANCE HANDBOOK." These documents will be the source of data for finalizing cost estimates.

The Cat Book gives the productivity rates for each size of equipment manufactured by Caterpillar. The Cat Book also gives a selection of operational factors that affect machine production. Each of these adjustment factors must be considered for use in the final calculations.

The Blue Book presents the cost of renting various pieces of equipment used in the mining industry, particularly those used for earthwork in reclamation activities. These costs range from hourly to monthly costs. In addition, the hourly operation costs must be included to account for fuel consumption and maintenance costs. The Blue Book costs do not include operator costs.

The Means Book is used to determine labor and operator costs. As with the Blue Book rental rates for equipment, labor costs must also be estimated at subcontractor rates with overhead and profit included. The Means Book provides labor rates with these factors included.

Inflation factors for bond estimates are derived from Means Historical Cost Data. Inflation rates for construction during the previous three years are averaged and applied to the cost estimate as an inflation factor. The Division revises the inflation rate in February of each year.

3. Activities included in the reclamation plan such as demolition of structures and buildings (removal of foundations), clearing and grubbing, and debris and rubbish removal, Means Cost Data may be used. Other costs such as seed mixtures, revegetation equipment costs and fertilization costs are obtained from regional suppliers and operators.

Salvage value of equipment or structures is not included in the cost estimate. For mine reclamation, all facilities are to be considered as a liability requiring a cost to the regulatory authority to remove them from the mine permit area and, therefore, no salvage value will be considered.

4. Replacement of topsoil should be calculated on a cubic yard basis. The exact depth of the topsoil to be replaced should be noted in the reclamation plan and on the maps where applicable (mass balance). In replacing the topsoil, the estimator should consider haul distances, replacement depths, compaction and loss of topsoil during handling. Seedbed preparation, fertilization and mulching costs can be calculated on a cost per acre basis and involve typical farming practices. Irrigation, if used, should be cost on a unit basis.

The application rates listed in the reclamation plan for seeding, fertilization and mulching should be used by the estimator. Costs for shrubs or tree plantings should also be included.

5. Maintenance costs for areas not successfully revegetated the first time should be included and are based on the probability of success determined by a qualified revegetation specialist knowledgeable of the environmental constraints at each mine. This is usually determined by considering at least a 20 percent revegetation rate.

6. Miscellaneous structures such as sedimentation ponds and diversion ditches need special calculations for bonding purposes. Removal of these special structures needs to be calculated on an individual unit cost basis.
7. Junk piles consisting of old or used or abandoned equipment, trash, rubble and debris may be estimated by computing the cost trips to the approved landfill (or disposal site).
8. A supervision cost must be added to the reclamation estimate. A 10 percent contingency will be added to the estimate.
9. The Act and regulations include a requirement to periodically review and adjust the bond amount to reflect the current reclamation costs. Therefore, it will be required to tie the cost estimate for bonding purposes into an index reflecting the changes in mining and reclamation costs. At present the Division has allowed for indexing by incorporating cost index into the estimate. This cost index is calculated as mentioned previously in Item 2.
10. Opportunities for adjustment occur several times throughout the permit term of a typical mine. At a minimum, bonds are to be reviewed during the mid-term (two and one-half year) review and the five year review. If needed, bonds can be refigured at any time and the Division may incorporate an annual review of all bonds for adjustment.

DEFINITIONS:

RECLAMATION COST ESTIMATES - refers to the process of calculating the cost of performing specific reclamation tasks.

ESTIMATOR - refers to the person computing the cost estimate.

PERFORMANCE BONDING - refers to a guarantee by the obligees under the bond to perform the specific tasks to complete mine reclamation in accordance with the approved permit. The performance bond represents a quantifiable amount of work from a disturbed area to the finished post-mining reclamation condition. Bonding requirements consist of a certification that the funds will be available to contract for completion of all operator reclamation liability should the operator be found unable or unwilling to do the required work.

As outlined below, the following criteria shall be contained within the reclamation plan to complete the requirements for bonding:

A. Disturbed Area

1. Locate and determine acreage of each disturbed area within the permitted area. The legal description of the bonded or disturbed area must accompany the bond.
2. Provide pre- and postreclamation contours and or cross sections to indicate where material is to be located and in what manner.

B. Topsoil Storage and Distribution

1. Locate and identify topsoil storage piles.
  - a. Provide volume of stockpiles in cubic yards.
  - b. Provide acreage covered by each stockpile.
2. Identify stockpile distribution.
  - a. Show where each stockpile is to be distributed.
  - b. Indicate the depth of the topsoil distributed.
  - c. Calculate topsoil volume requirements for each area.
  - d. Provide balance sheet tabulation of topsoil availability vs requirements.
3. Identify any supplemental material used as topsoil.
  - a. Locate borrow areas and depth.
  - b. Identify any offsite material to be used.
    - i. Purchased topsoil.
    - ii. Topsoil supplement materials.

C. General Earthwork Calculations

1. Mass balance.
  - a. Determine material distribution.
  - b. Determine waste or borrow required for mass balance.
2. Equipment selection (Cat Performance Handbook or Rental Rate Bluebook).

- a. Determine size and type of equipment to be used based on application.
    - i. Loading.
    - ii. Hauling.
    - iii. Dumping.
    - iv. Grading.
    - v. Compaction.
    - vi. Ripping and scarifying.
    - vii. Clearing and grubbing.
    - viii. Dust control.
  - b. Determine productivity rates.
    - i. Haul distances.
    - ii. Road conditions.
    - iii. Grades.
    - iv. Elevation.
    - v. Operator and equipment efficiency.
3. Determine unit operating costs.
- i. Subcontractor's rental rates for equipment.
  - ii. Equipment operating costs.
  - iii. Equipment operator labor costs.
  - iv. Support labor or equipment used during earthmoving operations.
4. Determine fixed operating costs.
- i. Mobilization for equipment.
  - ii. Demobilization for equipment
- D. Demolition and Cleanup

1. Costs to disassemble and remove.
  - a. Structures.
    - i. Buildings.
    - ii. Foundations.
    - iii. Pads.
    - iv. Surfaced roads and parking areas.
  - b. Equipment.
    - i. Abandoned equipment.
    - ii. Salvage yard.
  - c. Miscellaneous.
    - i. Trash and debris.
      - (A) From mining operations.
      - (B) From demolition.
2. Location and disposition for disposal.
  - a. Onsite burial.
  - b. Removal to landfill.

E. Revegetation Costs

1. Seed mixture.
  - a. Locate and identify areas for each particular seed mix.
  - b. Cost breakdown for each seed mixture.
2. Mulching.
  - a. Identify areas for mulching and application rate as determined by the mine plan.
    - i. Straw mulch.
    - ii. Hydromulch.
    - iii. Tackifiers.

- b. Determine equipment used for application.
- 3. Erosion control.
  - a. Silt fencing installed in conjunction with revegetation.
  - b. Special contouring or other surface preparation required during revegetation.
    - i. Contour planting and mulching.
    - ii. Soil aeration.
- 4. Fertilization.
  - a. Soil amendments required for revegetation.
    - i. Baseline soil data.
    - ii. NPK analysis and other samples taken at time of revegetation.
- 5. Shrubs and seedlings.
  - a. Unit cost per plant.
    - i. Cost per plant.
    - ii. Delivery.
    - iii. Special storage requirements.
    - iv. Special fertilization requirements.
  - b. Labor to install.
    - i. Hand planting.
    - ii. Watering.
  - c. Determine unit cost per acre or per 1000 plants for estimating purposes.
- 6. Miscellaneous costs.
  - a. Protective fencing.
  - b. Irrigation.

c. Signs and markers (maintenance).

d. Supervision.

7. Determine revegetation unit costs on a per acre unit for each type and area to be revegetated.

F. Monitoring Costs

1. Revegetation.

2. Rill and gully erosion.

3. Sedimentation.

4. Hydrologic.

5. Subsidence.

G. Maintenance Costs

1. Reapplication where vegetation has not been satisfactory.

2. Supplemental erosion control measures.

3. Irrigation or watering.

4. Vegetation surveys to determine level of success.

H. Cost Adjustments

1. Cost are to be adjusted to reflect subcontractor's and rental rate costs.

2. Adjust costs to include all operating costs for reclamation construction.

3. Include indirect, overhead and profit costs, if not already included.

4. Provide contingency costs.

5. Apply cost indexing for inflation or other cost factors which will affect the bond estimate for the life of the reclamation plan.

6. Contractor's bonds and insurance.

7. Costs of engineering and design for reclamation construction

I. Miscellaneous Considerations

1. References.

- a. List source materials used in making the cost estimate.
- b. Provide names or firms hired or used to determine the reclamation cost estimate for bonding.

2. Assumptions.

- a. Provide assumptions or criteria used in determining the cost estimate.
- b. Provide calculations and factors used in determining productivity of equipment or manpower requirements.

3. Schedule.

- a. Provide schedule for mine reclamation.
  - i. Correlate reclamation activities with those as outlined in the plan.
  - ii. Provide a logical and sequential schedule indicating reclamation activities.
    - (A) Account for seasonal considerations.
    - (B) Allow for normal delays and revisions during construction.
- b. Reference reclamation activities to those requirements as detailed in the reclamation plan.

4. Maps and plans.

- a. Provide drawings which clearly depict various reclamation activities.
- b. If separate bonds or phased bonding is to occur.
  - i. Identify clearly each area or activity that is related to each bond.
  - ii. Indicate expected date of each area for approval and bond release.

5. Legal requirements.

- a. Provide legal description of area to be covered under each bond.
  - b. Provide rider to bond to notify the Division of any change in amount or conditions of the bond or of the surety.
  - c. If federally leased land or mineral rights are included the bond must be written to both the state of Utah and to OSM.
6. Bond forms are provided by the Division for use by the applicant.

0658R

January 28, 1986

TO: Technical File

FROM: Rick P. Summers, Reclamation Hydrologist *RS*

RE: Price River Coal Company, Surface Facilities Minor Modifications, December 16, 1985, ACT/007/004, Folder No. 3, Carbon County, Utah

Summary: The above referenced submittal was reviewed relative to hydrology concerns on 1-27-86. A technical review could not be completed at this time due to several deficiencies (see below). Basically, the submittal proposes the following: 1) a new sewer treatment facility, 2) a parking facility and infiltration pond constructed on previously undisturbed area, and 3) remodeling of the bathhouse and warehouse.

Recommendations: Respond to operator with a letter requesting response to submittal deficiencies. Technical review can not be completed until an adequate response is submitted.

Body: The following deficiencies were noted and must be clarified:

- 1) All pages in the submittal must be numbered and dated. Correspondance and referencing is difficult as submitted.
- 2) Based upon probability theory, a 10 year design event has a 90% chance of failure within the projected 20 year life of the facilities. Due to the location of the proposed infiltrating pond (e.g. at the head of development in the channel bottom) the Division requests that a design storm of at least 25 years be used for the design diversion D-7. This design storm has approximately a 50 percent chance of success in a 20 year period.
- 3) The operator must submit details for sediment control for all newly disturbed areas.
- 4) The operator must submit calculations used to determine the design of the energy dissapators for the two proposed culverts.

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ACT/007/005  
Price River Coal Co.  
January 28, 1986

5) The application is unclear relative to the design for the 24 inch CMP proposed. Design details must be submitted.

6) The submittal references Table 7-14(a) for details of the design flow calculation for HC-1. This table is not included in the submittal. This table or a specific reference to the previous drainage plan submittal should be included for clarification.

7) Table 3.3-5(B) states that the proposed slope for diversion D-7 is 0.1 ft/foot. Map 3.3-4a shows the existing slope to be approximately 16% across the proposed parking area and 11% from the head of the infiltration pond to the existing road. The submittal should clarify this situation. A Manning's n-value of 0.045 was used for the calculation of channel velocity for D-7. Typically, a value of 0.035 (maximum) is used for riprap lined channels.

8) Calculations and designs (including justification for all assumptions) for riprap or other channel stabilization measures for diversion D-7 must be submitted.

9) Reclamation and regrading plans requested by other DOGM staff must include details for channel reclamation and restoration (UMC 817.44) for the proposed channel through the parking area.

10) The plan must address the undisturbed drainage to the North of the proposed parking facilities and infiltration pond.

11) The submittal states that the channel along the length of main valley floor is blocked and has been cleaned up as much as possible and will be reclaimed. Is this diversion D-6? If so, the submittal should be clarified to correspond with the recent proposed changes to the Hardscrabble Drainage Plan (i.e. channel will be reconstructed and reclaimed following abandonment of the area)

cc: Wayne Hedberg  
Susan Linner  
Dave Cline

0317R-72

February 7, 1986

TO: Technical File  
FROM: James Leatherwood, Reclamation Soils Specialist *JL*  
RE: Upgrade of Surface Facilities in Hardscrabble Canyon,  
Price River Coal Company, ACT/OC7/004,  
Carbon County, Utah

UMC 783.21 - JSL

The operator must provide an order 1 soil survey for the surface area that will be affected by the proposed surface facilities upgrade located in Hardscrabble Canyon. Maps pertaining to the soil resource identification shall be at a minimum scale of 1:6,000. This map should depict all soil boundaries. A narrative describing each soil unit along with present and potential productivity of each unit must be included. A soil description in terms of physiographic sections is not adequate. Accurate pedon descriptions must be submitted. Baseline soil analytical data must be completed with each soil unit. This data must include but not be limited to texture, organic matter content, total nitrogen, available phosphorous, potassium, calcium, magnesium, sodium, boron, electrical conductivity, pH, and sodium adsorption ratio. The soil resource identification should be used as a guide for topsoil removal decisions.

UMC 817.21 - 817.25 - JSL

The operator has failed to include all operational and reclamation plans pursuant to the soil resources that will be disturbed by the proposed construction plans. The soil operation and reclamation plans must be a complete concise narrative explaining the procedures that will be employed to salvage, stockpile, redistribute, and protect all soil resources front he proposed area. All operational equipment necessary to implement these plans must be fully described.

All soil removal operations should be carried out in moisture conditions that will not lead to undue compaction. Seasonal constraints should be identified. The soil survey (see UMC 783.21 - JSL) and results of physical and chemical analysis should be used to develop a soil removal isopach map. The depth of the topsoil removal must be clearly delineated. A topsoil mass balance table should be submitted. This mass balance table should include the exact acreage, and volume of topsoil removal for each soil series affected. A minimum of six inches must be salvage.

The operator should use the salvaged topsoil as contemporaneously as possible. If contemporaneous use of the topsoil is not possible, the topsoil must be stockpiled. The location of the topsoil stockpile should be such that the applicant can demonstrate that all hazards due to drainage has been taken into account. The topsoil stockpile must be protected from wind and water erosion. Berms and diversions should be employed to route surface drainage around the stockpile. In addition, revegetation of the topsoil stockpile will eliminate excessive erosion from wind and water. The seed mix and rate that will be used to revegetate the stockpile should be included in the application.

The season of the year during which topsoil redistribution will occur should be stated in the permit. The time in which soil is exposed to erosion following its redistribution should be minimized. The operator should utilize information based on a backfilling and grading plan to produce a surface that will minimize soil slippage. The redistributed topsoil depth should correlate with the volume of stockpiled topsoil. Will the redistribution depth of soil be uniform? What methods will be utilized to elevate soil compaction?

The scheme for sampling topsoil prior to topsoil removal and at the time of soil redistribution should be clearly presented. The intensity and depth of samples must be included. The chemical and physical analysis should include the parameter's prescribed under UMC 783.21 - JSL. The use of baseline soil data as a guide to fertility recommendation is recommended. The type, rate of application, method of application, depth and method of incorporation, equipment necessary for application must be provided.

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UMC 817.89(a) - JSL

The operator must include a commitment to sample the contaminated material from the proposed sewage treatment infiltration pond for possible toxicity. If the material is found to be toxic, a four foot cover of soil material must be placed on the toxic site. The analysis should include at a minimum the following parameters: lead, cadmium, selenium, mercury, zinc, sodium, electrical conductivity, pH, and the sodium adsorption rate.

UMC 817.106 - JSL

The application must include a commitment and a plan to regrade and revegetate areas which rill and gullies have eroded to a depth of nine inches.

jvb  
0437R-14