Attachment III

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Manti-LaSal National Forest
599 West Price River Drive
Price, Utah 84501

2820

April 16, 1981

UT0007

Mr. John Nadolski
OSM - Reclamation and Enforcement
Brooks Towers - 1020 15th Street
Denver, Colorado 80202

Dear Mr. Nadolski:

The Manti-LaSal National Forest has reviewed the subsidence monitoring report for Price River Coal Company's Braztah Complex that you transmitted to us in your letter dated February 19, 1981.

The letter refers to this information as "additional information". The only information presented by this report consists of subsidence monitoring point locations and monitoring point ground survey information. We have no record of receiving a base or original Subsidence and Hydrologic Monitoring Plan onto which the "additional information" would build. We need this original plan, if it exists, before we can review any other subsequent data, presented to us, for completeness and technical adequacy.

The following are requirements for establishing an adequate Subsidence and Hydrologic Monitoring Plan:

1. Prior to mining, the leasee shall perform a study to secure adequate baseline data to quantify the existing surface resources on and adjacent to the lease area. The study will be established in consultation with and concurrence by the surface managing agency, and shall be adequate to locate, quantify, and demonstrate the interrelationship of the geology, topography, all surface hydrology, vegetation, and wildlife. The baseline data will be established so that future programs of observation can be incorporated at regular intervals for comparison.

2. The leasee shall establish a monitoring system to locate, measure, and quantify the progressive and final affects of underground mining activities on the topographic surface, underground, and surface hydrology, and vegetation. The monitoring system shall utilize techniques which will provide a continuing record of change over time, and measurement of an infinite number of points over the lease area. The monitoring

...cant.

XII. Discussion of Project Impacts

Site locations should be compared to pit layout and facilities maps and post-mining contour (maximum grading disturbance) maps to assess the direct and indirect impacts to each site. This assessment should clearly identify all possible impacts to each site, detailing the type of anticipated impact; e.g. soil stripping, vandalism, blasting. For each site included on, or eligible for inclusion on the National Register, this assessment shall be done with reference to the Advisory Council's Criteria of Effect (36 CFR 800.3(a)) and Criteria of Adverse Effect (36 CFR 800.3(b)).

XIII. Recommendations

Methods of mitigating adverse impacts (e.g. avoidance if feasable, excavation, testing, collection, fencing) need to be stated and discussed for each site. Discussions should include the rationale behind these statements. Based on impacts and eligibility determinations, the applicant should make recommendations for cultural resources clearance.

XIV. References

XV. Appendices

A. Site forms and maps

B. Other, as needed and appropriate

shall be an extension of the baseline data and shall be conducted by the Office of Surface Mining in consultation with and concurrence by the surface managing agency.

If you have any questions, please call us.

Sincerely,

for
REED C. CHRISTENSEN
Forest Supervisor

should be of good quality, and features or structures represented clearly discernable.

D. Map(s) showing each site in relation to mine plan, and specific areas planned for disturbance i.e. potential impacts

E. Absence of Cultural Resources

If no cultural resources were located by survey, this should be explicitly stated. Reasons for this absence need to be discussed, in terms of th environmental and the cultural history of the area.

F. List of isolated finds, including locations

NOTE: Much of the information required in this section may be included in the site forms, which will be an appendix to the report.

XI. Evaluation of Resources

A. Integration of sites into regional framework, research design, or state research plan

B. Relation of results of analysis with stated research objectives

C. Identify any changes in research goals (if applicable)

D. Discussion of proposed or actual impacts on each located resource (refer to map(s))

E. National Register criteria of eligibility (36 CFR 60.6) will be applied to each site. The level of documentation to be supplied to substantiate eligibility recommendations must be sufficient to allow OSM to use this information to seek determinations of National Register eligibility in accordance with 36 CFR 63.3. The determination process would be expedited if this information was presented on National Register forms, however only sufficient information to complete these forms is required. The reasons a site is not significant must be stated clearly and succinctly, as must the

X. Inventory of Resources

A. Description of each site

1) Site number

2) Legal description and UTM

3) Site relationship to surrounding landforms & nearest water

4) Site size, horizontal and vertical

5) Observed features

6) Materials collected or observed - spatial distribution and variety

7) Site type/function with supporting evidence

8) Cultural/temporal affiliation

9) Elevation

10) Physical condition; i.e. eroded, vandalized, impacted by construction, etc.

11) Soils

B. Site maps

1) Scale, north arrow, key

2) Test areas (if applicable)

3) Artifact concentrations

4) Structures or features

5) Modern or recent intrusions; e.g. road, fence, power poles

6) Topographic features

7) Section lines or corners (if applicable)

C. Photographs

Photos recording historic sites and standing structures are mandatory. Photos of archaeological sites and artifacts should be included when they are relevant and useful. All photo reproductions

VIII. Field Methods

A. Survey techniques

1) Specific project boundaries: acreage and percent of mine plan and adjacent area covered, ground visibility. Include a map of the mine plan area which indicates area surveyed.

2) Types of transects and interval between surveyors

3) Recording techniques (mapping procedures, photographs, etc.)

4) Crew size and man hours (e.g. two crew members walking transect at 15 m. intervals, acres covered per person per day)

B. Collection techniques; e.g. grid, random, grab, total or non-collection

C. Subsurface testing techniques

1) Methods; e.g. shovel, backhoe, auger

2) Type; e.g. random, grid, non-random (testing of located or suspected feature)

3) Data collection; e.g. screening of fill, soil samples, provenience control

D. Other techniques employed; e.g. remote sensing

E. Constraints on investigation; e.g. limitation of access, poor ground visibility, other environmental limitations, etc.

IX. Laboratory Methods

A. Types of analyses performed

B. Method of chronological determinations

C. Description of assemblages

D. Graphic representations of artifacts (if applicable)

B. Flora, fauna

C. Climatic conditions; past, present, and during survey

D. Present land use: e.g. mining, farming, ranching

E. Historic Land Use: e.g. farmed, homesteaded, mined

VI. Previous Investigations and Known Sites

A. Literature Search

1) National Register of Historic Places (demonstrate that it has been consulted)

2) Historic documents and records

3) Published and unpublished survey and excavation reports, including State Archaeologist's and/or SHPO's records (studies in the region should be cited, as well as any site specific studies)

4) State Register of significant properties (if applicable)

B. Informant sources, amateur and professional

C. Complete documentation is necessary for all references

VII. Research Design

A. Specific definition of what constitutes a "site"

B. General cultural sequence of region

C. Types and density of sites expected

D. Research objectives

E. Kind of Survey - intensive survey, sample survey, reconnaissance

F. Development of regional oriented research plan (regional research designs are encouraged, eliminating the need for contracting institutions to develop a new research design for each project)

G. Types of survey, collection, testing and analysis methodologies to be employed; and rationales

E. Date of Report

II. Abstract

A. Work performed

B. Summary of types and numbers of cultural resources located

C. Brief evaluation of significance, National Register eligibility, and impact

D. Management recommendations-summarization

III. Table of Contents

IV. Introduction

A. Purpose of report, i.e. what the applicant proposes - refer to mine plan application, and compliance with pertinent cultural resources legislation

B. Identify contracting institution, antiquities permit number and expiration date

C. Scope of work, and potential mine plan impacts to cultural resources

D. Dates work was performed

E. Location of mine plan, general and specific - refer to maps

F. Ownership of land - complex, multiple ownership should be clarified through use of maps

G. Disposition of field notes and collected cultural material

V. Environmental Setting

A. Physical features of project area

1) Topography

2) Drainage

3) Elevation

4) Soils

5) Geology

Standards for Reporting Cultural Resources Investigations

The following report format outlines the information which is recommended for a cultural resources survey report. The order need not be followed, nor does the investigator have to limit the scope of study to those items identified in the guidelines. However, all items listed herein should be adequately described or reported upon.

Such guidelines are appropriate to assure that there is clear and adequate coverage of the information required to review mine plan applications, achieve uniformity in interpretation and format, and expedite implementation of the Section 106 requirements of the National Historic Preservation Act. Information provided in these reports will allow OSM to fulfill its responsibilities under the Programmatic Memorandum of Agreement and thereby facilitate review of mining and reclamation plans. The report should be submitted in a volume separate from the rest of the mine plan to facilitate compliance with the Archaeological Resources Protection Act of 1979 (PL 96-95).

I. Title Page

A. Type of Investigation; e.g. intensive survey, sample survey, reconnaissance survey, testing

B. Mine plan name and county/state location

C. Name of mine plan applicant

D. Principal Investigator, author, and contracting institution

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

April 19, 1982

xc: K. Hutchinson
E. Buoy
R. Wiley
4-23-82/p

Mr. Gordon Cook
Price River Coal Company
P.O. Box 629
Helper, Utan 84526

RE: Price River Coal Company's
Technical Analysis
Response and Approval
Crandall Canyon Modification
ACT/007/004
Carbon County, Utan

Dear Mr. Cook:

Based upon the anticipated completion of the OSM's Environmental Analysis for the Crandall Canyon Modification on or about April 23, 1982 and after receipt of a detailed response (April 7, 1982) for the stipulated and conditional approval, final approval is hereby given for the Crandall Canyon Modification to the Price River Coal Company's Complex Mine Plan.

Two items worth noting at this time are further clarification of items already agreed upon and solely listed for convenience.

Stipulation 2-19-82-1TT (UMC 817.11)

The perimeter markers which are of the lathe and flag type construction will have the dimensions approximately 1 inch by 3 inches and be clearly visible from one station to the next.

Stipulation 2-19-82-7SK (UMC 817.45)

The specified 60-day time limit will begin April 23, 1982. Indication of the location for monitoring points for the oil separater and parking lot runoff should be made on the same map as the flow and design information committed to in 2-19-82-10SK. Commitment to monitoring for the same NPDES parameters as specified in the Crandall Canyon permit is understood.

I hope this notice will satisfy all concerned regarding the regulatory involvement with tne Crandall Canyon Surface Facility.

Sincerely,

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

RECEIVED
APR 23 1982
GORDON COOK
PRICE RIVER COAL CO.

INI/cp

xc: K. Hutchinson
E. Buoy
[redacted]

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
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241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

April 23, 1982

Mr. Gordon Cook
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

RE: Price River Coal Company
Technical Analysis and Approval
Crandall Canyon Modification
ACT/007/004
Carbon County, Utah

Dear Mr. Cook:

Based upon the completion of the OSM's Environmental Analysis for the Crandall Canyon Modification on April 23, 1982 (personal communication with John Montgomery, April 23, 1982) and after receipt of Price River's detailed response (April 7, 1982) to the stipulations for conditional approval, final approval is hereby given for the Crandall Canyon Modification to the Price River Coal Company's Complex Mine Plan.

Two items worth noting at this time are further clarification of items already agreed upon and soley listed for convenience.

1. Stipulation 2-19-82-1TT (UMC 817.11)

The perimeter markers which are of lathe and flag type construction will have dimensions approximately 1 inch by 3 inches and be clearly visible from one station to the next.

2. Stipulation 2-19-82-7SK (UMC 817.45)

The specified 60 day time limit will begin April 26, 1982. Indication of the location for monitoring points for the oil separator and parking lot runoff should be made on the same map as the flow and design information committed to in 2-19-82-10SK. The commitment to monitoring for the same NPDES parameters as specified in the Crandall Canyon permit is understood.

I hope this notice will satisfy all concerned regarding the regulatory involvement with the Crandall Canyon Surface Facility.

Sincerely,

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

JWS/TNT:tr

cc: Richard Dawes, OSM

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

April 28, 1982

CERTIFIED MAIL NO. 3968399
Return Receipt Requested

Ms. Sally Keefer, Hydrologist
Utah State Department of Natural Resources
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, Utah 84114

Re: Pond Relocation Construction
at Crandall Canyon

Dear Sally:

In a letter dated February 3, 1982, you required that we submit plans to you for review 90 days prior to construction of a new, relocated sediment pond for the Crandall shaft site. Some time has been needed to evaluate spatial relations due to some minor adjustments in retaining wall alignment and to recalculate rock fill quantities in respect to the areal extent needed. We now provide the required designs for your approval. We hope that you can rapidly provide such approval, since completion of the retaining wall will result in the completion of 90% of the work on the new pond. By virtue of its location and height, the retaining wall will form the entire northern and eastern embankments of the new pond. We will then only have some internal finish work and installation of the discharge structure to complete the pond.

We feel that 90 days is going to be a very difficult time constraint due to the additional area needed to accommodate the daily surface accretion of rock materials from the shafts. We need to use the existing pond area for fill materials as soon as possible.

If the weather holds, we should finish the lower section (about 500') of the retaining wall by May 1. We might allow ourselves two weeks after additional time to do the finish work on the new pond. If possible, please try to complete your review within some minimum time block so that we may avoid a costly shutdown of shaft construction because of diminished fill space.

We feel that construction of this new structure may be best addressed under Section 817.49(H)(5)(i) as an emergency measure. The existing pond, as you know, is under great stress.

PRICE RIVER COAL COMPANY
P.O. BOX 629 - 801-472-3411 OFFICE
HELPER, UTAH 84526

Characteristics of the New Pond Capacity:

The new pond will have a total capacity of about 53,000 ft.^{3}. The existing pond has a design capacity of 22,680 ft.^{3}. Additional storage area has been provided to better accommodate the excess water and sediment from shaft muck and the continued combined shaft water production of about 30 cfs. The collected shaft water is relatively pure and, we feel, could be piped directly to the stream channel as formally proposed and approved in the April 3, 1982 DOGM letter. This will be done during new pond construction for, at least, the No. 2 shaft, which is currently the largest water producer (about 20 cfs.). Dirty water, used in drilling, will come up with the shaft muck and amount to about 10,000 gpd.

Discharge Structure:

The original pond design (2-17-81) called for a discharge structure capable of passing a peak flow of 7.7 cfs. for the 25 year, 24 hour storm. This design was derived on the basis of a 7.4 acre runoff area. Recalculation of area after diversion installation reduced this figure to 6.6 acres, which would produce about 6.7 cfs. peak runoff. Original design called for an 18" cmp riser and outlet pipe at 12% slope. Average flow from muck and shaft water will contribute less than 0.1 cfs. to normal flow, resulting in a needed peak flow discharge rate of about 6.8 cfs. An 18" pipe size should be sufficient for the new spillway.

The new spillway will be of the riser and barrel construction. Attached Exhibits NP-2 and NP-3 show location and dimensions of the spillway. An oil skimmer will be fitted to the top of the riser pipe.

The top of the riser will be at an elevation two feet below the top of the retaining wall. The outlet pipe will be installed under the retaining wall on a grade of 5% for about 26' until it daylights on the natural slope. An elbow joint will be installed and another 35' of pipe attached down the 30% slope to the channel. Impact dissipation in the form of 1' plus riprap will be placed below the outlet.

Pond Embankment:

The entire constructed pond embankment will be formed by the retaining wall. Depth of the pond, as controlled by the eastern end of the wall, will be an average 16'. The retaining wall is of the Hilfiker welded wire wall construction.

The welded wire wall is installed in 18" lifts compacted to 90% and designed to retain natural slopes or earth fill. Actual compactions during construction are being monitored by a Troxler and certified operator. Tests are indicating that 90-100% compaction are being achieved. Characteristics of the wall and construction methods are contained in a publication

PRICE RIVER COAL COMPANY
P.O. BOX 629 - 801-472-3411 OFFICE
HELPER, UTAH 84526

from the Hilfiker Company and will be provided again as soon as we receive some new copies.

Please contact me immediately if any additional information is needed.

Sincerely,

R. L. Wiley

Robert L. Wiley
Environmental Engineer

RLW:ga

Attachments

cc: James W. Smith, Jr. - DOGM — Cert. # 3968400
S. McNeal - UDH - Cert #3968402
J. Montgomery - OSM Cert. # 3968401

xc: R. Wiley
K. Hutchinson 5-13-82
E. Buoy

United States Department of the Interior

OFFICE OF SURFACE MINING
Reclamation and Enforcement
BROOKS TOWERS
1020 15TH STREET
DENVER, COLORADO 80202

April 30, 1982

Mr. Cleon B. Feight, Director
Utah Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 81114

Dear Mr. Feight:

This letter is to provide the Office of Surface Mining's concurrence with the Division's February 19, 1982 conditional approval (with stipulations) of a minor modification to the Price River Complex in Crandall Canyon. The proposed action is for the construction of ventilation/access shafts and related surface facilities at Crandall Canyon in accordance with the plan submitted to this office on March 20, 1981. The Geological Survey has also concurred with this action in their March 30, 1981 letter (attached).

Our approval is subject to the following stipulation: Within 90 days of acceptance of the Administrator's approval, the Price River Coal Company shall submit to the regulatory authority for their approval, a plan for placement of excavated shaft material (waste rock). This plan must address location of excavated shaft material (both on and off the Crandall Canyon site), stability of placement (i.e., safety factor), final topography and its stability, chemical analysis of excavated material, and drainage control in accordance with UMC 817.71 through 817.74. No new surface disturbance shall take place until this plan has been submitted to and approved by the regulatory authority.

We believe it is proper for the Office of Surface Mining (OSM) to approve this action as a minor modification to the existing approved Mining and Reclamation Plan for the Price River Complex (formerly Braztah Mines) for the following reasons: 1) there is to be a limited amount of surface disturbance, 2) the Environmental Assessment has not identified any significant environmental impacts that should result from the proposed action, 3) the proposed action contains an emergency element in connection with ventilation needs for the underground mine workings, and 4) the complete Price River Complex is to be reviewed as expeditiously as possible following the applicant's timely response to OSM's May 29, 1981 completeness review.

John Montgomery has discussed with Tom Tetting a schedule for the applicant's response to our completeness review of the Price River Complex Mining and Reclamation Plan, review of this response by OSM and UDOGM, preparation of a Technical Analysis by an OSM contractor, response to Technical Analysis deficiencies by the applicant, and review of the Technical Analysis and decision document by OSM and UDOGM. The times agreed upon must necessarily be estimates pending our development of the contractor's scope of work. However, I wish to emphasize that the June 30, 1982 deadline for Price River Coal Company's response to the completeness review is to be regarded by them as a firm date. Finally, the applicant should be advised that the hydrologic impacts of the Crandall Canyon facility will be included in the assessment of cumulative hydrologic impacts to be carried out for the Price River Complex.

Thank you for your cooperation in working with us to move this action forward.

Sincerely,

Allen D. Klein

Allen D. Klein
Administrator
Western Technical Center

Enclosure

cc: Gordon Cook

ENVIRONMENTAL ASSESSMENT

Price River Coal Company's

Crandall Canyon Modification
to the
Price River Mining Complex

I. Introduction:

The Price River Coal Company (PRCC), as part of their overall Mining and Reclamation Plan (MRP) for the Price River Complex, is presently in the process of beginning construction of two mine ventilation shafts and building an access road in Crandall Canyon (approved by the State of Utah and the Office of Surface Mining in 1980). PRCC is also planning to construct other surface support structures in Crandall Canyon that have not received approval from the Office of Surface Mining (OSM). This project is known as the Crandall Canyon Modification. The plans for the modification have been reviewed in a technical analysis by the Utah Division of Oil, Gas, and Mining (UDOGM) and were conditionally approved by UDOGM on February 19, 1982 (Technical Analysis based upon acceptance and implementation of seventeen (17) separate stipulations). The Geological Survey concurred with these plans via letter to OSM on March 30, 1981.

The proposed action is to concur with the UDOGM's conditional approval (with stipulations) of a minor modification to the Price River Complex in Crandall Canyon and to add an additional stipulation. The purpose of this Environmental Assessment is to identify the existing and future impacts in order to make that decision.

The Crandall Canyon ventilation shafts and associated structures are to be located near the town of Helper, just west of State Route #6 in northwestern Carbon County, Utah; Township 12 South, Range 9 East, Sections 27, 28, and 29. The affected surface area will be approximately 28 acres. The modification will provide ventilation and access for men and equipment to PRCC's #3 and #5 underground mines, the portals for which are located south of Crandall Canyon in Hardscrabble Canyon and Sowbelly Gulch, respectively. Coal will not be removed through the shafts or hauled through the Crandall Canyon surface facilities.

Following completion of the Crandall Canyon facility (and construction of an underground coal conveyor system at a later date), operations in Hardscrabble Canyon and Sowbelly Gulch will be phased out, and the portal facilities will be removed and reclaimed. This process will require about 3 years following the completion of the Crandall Canyon facility. This phase-out and reclamation process will ultimately result in the reclamation of about 30 acres of surface land that are presently in active use.

II. Purpose of Proposed Action:

The proposed facilities are required to provide necessary improvements in mine ventilation and to reduce the underground transportation time for men and materials during the projected 30 year life-of-the-mine.

III. Preferred Alternative:

A. The Applicant's Proposal:

The Crandall Canyon Modification consists of construction plans for the following facilities: Two mine shafts, a Class II access road of 7,500 feet, a Class III access road of 5,000 feet, water and gas lines, mine ventilation system, men and materials hoisting system, bathhouse-office building, sewage treatment plant, leachfield, workshop-warehouse building and storage area, parking area, and a stream channel diversion totalling approximately 3,000 feet.

B. The Office of Surface Mining's Action:

The Office of Surface Mining concurs with the Division's (UDOGM) February 19, 1982 approval of the Crandall Canyon Modification with the following stipulations:

1. Stipulation - 2-19-82-1TT (UMC 817.11)

The applicant must submit a statement to the Division to the effect that all signs; identification, perimeter and otherwise, have been installed and conform specifically to the 817.11 regulations.

2. Stipulation - 2-19-82-2TT (UMC 817.13-.15)

The applicant should submit a statement to the Division that all exploration holes and monitoring wells will be or have been abandoned in accordance with UMC 187.13-.15. (Although never specifically mentioned, the applicant is assumed to be aware of the minimum State and U.S. Geological Survey requirements.)

3. Stipulation - 2-19-82-3EH (UMC 817.22)

The applicant must indicate the depth and volume of soil to be removed from each area of construction. These figures are needed to insure enough soil material is available to provide the six inch depth of resoiling proposed by the applicant.

4. Stipulation - 2-19-82-4EH (UMC 817.22)

The applicant must indicate the equipment and methods to be employed in removal from insitu and transporting of topsoil to storage locations.

5. Stipulation - 2-19-82-5EH (UMC 817.23)

The applicant must address the methods of erosion control used to insure topsoil stockpile protection prior to plant establishment.

6. Stipulation - 2-19-82-6EH (UMC 817.24)

The applicant must provide the equipment and methods employed to insure that the requirements set forth under UMC 187.24 are achieved.

7. Stipulation - 2-19-82-7SK (UMC 817.45)

If an NPDES permit is not required, then the operator shall carry out storm discharge monitoring from the two oil separators. Data shall be gathered at least once per 90 day period (assuming an occurrence of runoff). An analysis of the first flush should be carried out with at least one more discharge sample obtained 10 minutes later. Those parameters included in the impact monitoring program shall be applied to this analysis.

8. Stipulation - 2-19-82-8SK (UMC 817.46)

The applicant must submit detailed design specifications addressing UMC 187.46 (j-u), as applicable, to assure the stable construction and operation of pond 016.

9. Stipulation - 2-19-82-9SK (UMC 817.47)

A plan must be submitted to the Division and approved at least 60 days prior to construction; the applicant must provide:

Detailed design specifications for the constructed spillway on pond 016. Include the design for point of discharge.

10. Stipulation - 2-19-82-10SK (UMC 817.47)

The applicant must provide:

Designs indicating stormwater routing for upper and lower pad through oil separators.

11. Stipulation - 2-19-82-11SK (UMC 817.54)

The applicant must describe adjacent water uses which may be impacted by the shaft excavation and determine a means for supplying water if interruption, contamination or diminution occurs.

12. Stipulation - 2-19-82-12SK (UMC 817.56)

Price River Coal Company must submit an adequate discussion on measures to renovate the permanent Crandall Creek stream channel diversion at the time of final reclamation.

13. Stipulation - 2-19-82-13MR (UMC 817.89)

The applicant must obtain a letter from appropriate landfill authorities showing approval to dispose of trash at the landfill.

14. Stipulation - 2-19-82-14MR (UMC 817.89)

Is the area where the oil and etc., stored in tanks covered by the application's SSCP plan?

15. Stipulation - 2-19-82-15MR (UMC 817.99)

Should a slide occur within the permit area, the applicant would be required to notify the Division and comply with any remedial measures required by the Division.

16. Stipulation - 2-19-82-16MR (UMC 817.131)

The applicant must address Section 817.131 and comply with this regulation should temporary abandonment of the Crandall Canyon facility be initiated.

17. Stipulation - 2-19-82-17MR (UMC 817.150-.176)

The applicant must submit a letter from the Utah Division of Transportation stating their approval of plans for the new intersection at Utah State Route 6 and the Crandall Canyon access road.

18. OSM Stipulation - 4-23-82-18 (UMC 817.71-.74)

Within 90 days of acceptance of the Administrator's approval, the Price River Coal Company shall submit to the regulatory authority for their approval, a plan for placement of excavated shaft material (waste rock). This plan must address location of excavated shaft material (both on and off the Crandall Canyon site), stability of placement (i.e., safety factor), final topography and its stability, chemical analysis of excavated material, and drainage control in accordance with UMC 817.71 through 817.74. No new surface disturbance shall take place until this plan has been submitted to and approved by the regulatory authority.

IV. Description of Existing Environment

The Crandall Canyon permit area is very narrow (about 300 feet at the widest point) and ranges in elevation from about 6,400 feet to 8,400 feet at the upper end of the canyon. The major types of vegetation are mixed mountain brush, Douglas fir/aspen forest and a riparian/canyon bottom complex.

An ephemeral stream is located in the bottom of the canyon, where the surface structures will be built. A spring is located approximately one mile below these planned facilities, and at this location, the stream classification changes to intermittent.

V. Description of Affected Environment

A. Hydrology

Approximately 3,000 feet of ephemeral stream will be diverted. During construction there will be increased sediment loads downstream and an unquantified loss of groundwater.

The Utah Division of Oil, Gas, and Mining has determined that PRCC has adequately sized the permanent diversion for the ephemeral Crandall stream channel. The slopes of the channel will be riprapped as required

and contained between the canyon's natural stone facade and a man-made retaining wall in specific locations. PRCC plans to maintain and enhance the permanent diversion to simulate its natural form.

PRCC will use a sedimentation pond for topsoil storage runoff, an oil separator for facilities area runoff, and a septic system with a leach-field for waste water treatment.

Natural drainage from the surrounding watershed will be routed to the stream channel through a culvert system. The drainage ditches around the surface facilities area have been designed to safely convey a 25-year, 24-hour precipitation event.

If any aquifers are encountered during shaft development, the water will either be sealed off or collected and pumped to storage tanks for later use. Excessive amounts of water encountered from shaft development will be discharged in accordance with the State of Utah effluent limitations.

B. Soils

Three types of soils--entisols, inseptisols and mollisols--will be affected over an area of 28 acres. As a result of the interim approval given by OSM and UDOGM to initiate shaft construction (September, 1980), PRCC has removed and stockpiled the topsoil from the shaft site areas. Before construction begins in the surface support areas, the upper six (6) inches of unconsolidated growth medium (topsoil) will be removed and stored in designated locations. In areas where suitable topsoil exists in excess of six inches, a greater amount may be collected to provide resoiling material in areas where topsoil is unavailable. Topsoil stockpiles will be seeded and mulched for protection against erosion as they are to remain in place for a minimum of thirty (30) years. During final reclamation, disturbed areas will be graded to approximate original contours with topsoil being redistributed to a depth of about six (6) inches.

C. Vegetation

Construction of the facilities will result in a loss of 28 acres of three vegetation types. Twelve acres will be restored following abandonment of mining while the remaining sixteen acres will be permanently left as roads and stream diversions. The riparian/canyon bottom complex is located along a narrow band at the bottom of the canyon. This community consists of mixed conifers, narrowleaf cottonwood, scrub oak and maple. The Douglas fir/aspen forest community is generally located along the north-facing slopes of the canyon. Less than two acres of this conifer/aspen community will be affected. Dominant species in the "mixed mountain brush" community are pinyon pine, juniper and sagebrush. This community occurs on most of the south-facing slopes at lower elevations.

PRCC's revegetation effort will return the disturbed areas to pre-mining conditions and productivity at the facility site. In order to achieve this result, seed mixes to be used for reclamation are adapted to the area and are compatible with the post-mining land use.

D. Fish and Wildlife Resources:

The wildlife habitat that existed at the facilities area will be lost and replaced at the time of mine abandonment. Crandall Canyon is located in the Wasatch Plateau, which provides habitat for the following important game and non-game species: mule deer, elk, mountain lion, black bear, blue grouse, cottontail rabbits, golden eagles and mourning doves. The permit area is located in high priority habitat for mountain lion and black bear. No known threatened or endangered species have been found in the canyon. The power transmission line to the Crandall Canyon facilities was constructed according to approved design criteria for the protection of raptors. The U.S. Fish and Wildlife Service (FWS) has not identified any impacts to raptor nest sites from the proposed action.

E. Cultural Resources

Crandall Canyon has been inventoried for cultural resources. Several historic sites were located by the survey. They were recommended as not meeting any of the eligibility criteria for inclusion in the National Register of Historic Places. This recommendation has received concurrence from the Utah Historic Preservation Officer.

F. Socioeconomics:

The Crandall Canyon facilities will provide increased ventilation capability and more convenient access to the underground workings by miners. This would not result in any increase in work force, but would increase safety and efficiency in the mine. At a later date these shafts will be used as access for machinery to construct the underground conveyor system. This action will be addressed in an Environmental Assessment covering the entire Price River Complex.

G. Reclamation

The Crandall Canyon facility will remain active for a minimum of thirty (30) years. At that time, or when the facility is no longer needed, buildings will be disassembled, all paved surfaces will be broken up and discarded in the shafts, fill materials will be returned to the shaft, disturbed areas will be graded to original contour, stable drainageways will be established across disturbed areas, and stored topsoil will be replaced and seeded.

VI. Alternatives to the Approval of the Crandall Canyon Modification

Alternative Number 1: No action or disapproval of the modification

The disapproval or no action alternative would impede the safe and efficient recovery of coal from the existing #3 and #5 mines. Primarily, the shafts are urgently required to provide improvement in mine ventilation and to reduce the underground transportation time for men and materials.

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

The Technical Analysis (TA) and Environmental Assessment (EA) preceding the FONSI identify certain environmental impacts that would occur from the construction of the ventilation/access shafts and associated facilities at the Crandall Canyon Modification of the Price River Complex. The construction activities would in a limited sense affect groundwater, surface water, and wildlife habitat. These impacts have been addressed in the TA prepared by UDOGM and in the EA prepared by OSM.

Other impacts identified by OSM and UDOGM would be appropriately mitigated to reduce harm to the environment by the environmental protection measures specified in the mining plan.

The Crandall Canyon proposal was addressed in both the Uinta-Southwestern Utah Environmental Impact Statement (EIS) prepared by the Bureau of Land Management (December, 1980) and the Central Utah Coal EIS prepared by the Geological Survey (December, 1978). Both EIS's concluded that no significant adverse impacts should result from the Crandall Canyon operations.

Based on the evaluation of impacts given in the TA and EA, we find that no significant impacts to the human environment would result from the construction. Therefore, an EIS is not required, and I am approving the proposed Crandall Canyon Modification for the Price River Complex.

/s/ Allen D. Klein

Allen D. Klein
Administrator
Western Technical Center

4/30/82

Date

Alternative Number 2: Approval of the Modification under the Price River Complex Mining and Reclamation Plan review process.

Because of the greater length of time required for approval of Alternative #2, the construction of the necessary facilities described in Alternative #1 would be delayed for at least one year. It is considered unlikely that mining could continue for a year or more without improvement in the present conditions.

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

May 12, 1982

Jim Smith, E. Hooper,
S. Keefer, and T. Tetting
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, Utah 84114

Dear Reclamation Staff:

Please review the attached plan for the use of an existing, on-site gravel pit for use as a topsoil and other resoiling materials storage area. We would like to proceed with the use of this canyon in coordination with Crandall Canyon upper site development so as to have to handle the materials only once. If we remain on schedule we will want to begin transferring soil materials by June 15, 1982.

Your help in this matter will be greatly appreciated.

Sincerely,

PRICE RIVER COAL COMPANY

R. L. Wiley

Robert L. Wiley
Environmental Engineer

RLW:lb

Enclosures

Return Receipt Requested

PRICE RIVER COAL COMPANY

P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

May 12, 1982

Mr. John Montgomery
Office of Surface Mining
Reclamation & Enforcement
Brooks Towers
1020 15th. Street
Denver, Colo. 80202

Dear John,

Please review the attached plan for the use of an existing, on-site gravel pit for use as a topsoil and other resoiling materials storage area. We would like to proceed with the use of this canyon in coordination with Crandall Canyon upper site development so as to have to handle the material only once. If we remain on schedule we will want to begin transferring soil materials by June 15, 1982.

Your help in this matter would be greatly appreciated.

Sincerely,

PRICE RIVER COAL COMPANY

R. L. Wiley

Robert L. Wiley
Environmental Engineer

RLW:lb

Enclosures

TOPSOIL AND REFUSE PILE COVERING MATERIAL CENTRALIZED STORAGE SITE: GRAVEL CANYON

GENERAL DISCUSSION

Price River Coal Company has a multi-faceted problem involving materials availability for resoiling and refuse pile covering for future reclamation phases. Our existing mine sites with the exception of the Crandall Canyon development, are Pre-SMRCA facilities constructed without concerns for eventual reclamation and, as result, have generated none of the needed resoiling materials. We have wrestled with this problem, seriously, since it became apparent that completion of Crandall facilities would allow a phase-out of the No. 3 and No. 5 Mine Site and the subsequent commencement of reclamation activities by, perhaps, late 1983.

The purchase of topsoil was initially considered to be the only solution. This method presents difficulties of both a financial and a materials quality nature. Costs would range between ten and twenty dollars per delivered yard, depending on haulage distance. An acre resoiled with 6" of material requires 800 $yds.^3$. The potential problems of finding a resoiling material with physical and chemical properties compatible with the environmental conditions of our sites and suitable as growth medium for our target plant species, are perplexing and will require detailed study of each topsoil unit prior to purchase.

In Crandall Canyon we have found, at least, a partial solution to our problems. The Crandall development is being constructed mostly on alluvial material (geomorphically speaking, with no reference to the alluvial valley floor regulations). Side canyons, along the main channel have deposited substantial quantities of soil materials, which has allowed us to pick up

TOPSOIL AND REFUSE PILE COVERING MATERIAL CENTRALIZED STORAGE SITE: GRAVEL CANYON

TABLE OF CONTENTS

GENERAL DISCUSSION: (CONT.)

and store about 18,000 yds.^{3} of topsoil to this point. Upper site development should generate about 7000 yds.^{3} of topsoil and about 45,000 yds.^{3} of sub-material which includes several buried topsoil layers. These quantities of material could allow us to reclaim between 10 and 60 acres of old mine sites and refuse piles depending on the acceptibility of sub-materials as topsoil and determinations of refuse non-toxcicity.

We have previous discussed moving the 45,000 yds.^{3} of sub-materials to an existing mine site for temporary storage with D.O.G.M. personnel and have received concurrence of this plan from D.O.G.M. in early May, 1982. We had mentioned also that we may move and use the topsoil from the upper site, as well. Although we've continued to indicate on-site storage, we now feel that the more immediate use of this material is the better plan, considering the potential for diminished soil productivity during protracted storage (30 years). Recent regulation interpretations seem to be supportive of this concept. Relocation will also provide nearly 1.5 additional acres of outside storage within the present proposed perimeter.

We have come to realize that storage of these materials at either Castle Gate or Willow Creek may conflict with space and timing requirements imposed by the operation and development of these sites. We feel that both the regulatory agencies and our financial backers would bristle at moving this material to a secondary, temporary storage site. The more suitable plan should be to move all materials to a site where it would not be disturbed until needed for reclamation. We have located and intend to develop such a site. We will, for sake of brevity, refer to this site as Gravel Canyon, due to its past excavation by the H. E. Lowdermilk Company for its' aggregate - like burned stone deposits.

SITE DESCRIPTION

Gravel Canyon is located on the west side of State Highway 6 and 50, across Price Canyon from Price River Coal Company's coal preparation plant. The entire canyon is Price River Coal Company's fee property beyond the 100' highway right-of-way line. This is a typical steep sided canyon with an initially steep profile tapering to the broad, relatively flat canyon mouth. The canyon floor and north - facing slope has been mined for gravel from the mouth to about 800' up canyon. The main drainage channel was diverted a number of years ago, along the toe of the south - facing slope and directed north - east from the canyon mouth to the Price River through a culvert under the state road. The canyon has an existing access road to the west end of the pit where it ties to former exploration on drill roads. Our proposed storage site is designed to be entirely within the confines of the existing pit and occupy an area of 3.2 acres.

SITE DEVELOPMENT

Site development will include installation of a three foot high perimeter berm, diversion of drainage from the north facing slope, grading of the road, construction of on-site drainage collection facilities and some minimum grading to develop uniformity in the pit floor. No remaining topsoil exists within the pit area.

Berm and Diversion:

The berm will be constructed on the north side, as shown on the attached maps, using a backhoe. The berm will be installed and maintained along the outer edge of the access road. Berm and diversion on the south side will be constructed using a small dozer connecting the upper pits and a former access road.

The average grade of the diversion will be about 10%. The last 50' of the diversion drops off at about 70% grade. This section will be rip-rapped using

	UMC (SMC)	Section	Page
(vi) If auger mining is proposed, the location and diameter of auger holes, the depth to be drilled, and the estimated percentage of recovery. In determining whether or not to recommend approval of proposed auger mining, the Regional Director and mining supervisor shall take into account the percentage of recovery, which shall in general exceed 30 percent, and probable adverse effects upon water quality.	785.20	N/A	
If surface mining is proposed, include a general layout of the proposal including location and width of box cut(s), location of main haulroads, and location and width of coal fenders.		N/A	
211.10 (c)(8) Any requests for variances from the performance standards of 30 CFR Part 211.		N/A	

	UMC	Section	Page
other mineral values encountered within the logical mining unit; hydrologic data and other information relevant to the mining plan; all mineral crop lines and the strike and dip of the coal to be mined within the area of land to be affected; location and extent of known surface and underground mine workings (active and abandoned), oil or gas wells, and water wells within 1/4 mile of the affected lands. (Hydrologic information is required only as relevant to resource recovery.)			
Plan maps of the area to be mined on a suitable topographic base showing: lease boundaries and numbers, boundaries of nonfederal coal, LMU boundaries, and surface ownership boundaries.		~~4.3.1~~ ~~4.3.2~~	
(iv) Locations of surface structures and facilities, including loading facilities.	784.23 (b)(1)	~~3.2.3~~ ~~3.2.4~~	
(v) For an underground mine, in addition, the planned mine layout, including location and dimensions of shafts, slopes, drifts, crosscuts, rooms, haulageways, aircourses, entries, and barrier pillars; show typical panel recovery, sequence of development and retreat.		~~3.3.1.2~~	
Submit the Roof Control and Ventilation System and Methane and Dust Control Plans approved by Mine Safety and Health Administration (MSHA) as a part of the mining and reclamation plan.		~~3.3.1.6~~	
Include a structural coutour map of bed(s) to be mined.		6.4.2	
If several seams are involved, include interburdern isopach map(s) on 10-foot intervals.		6.5.5	
Include an isopach map of overburden of surface mines on 20-foot intervals.		6.5.5	
Include an isopach map of overlying strata over underground mines on 250-foot intervals.		6.5.5	
Furnish a copy of any subsidence control plan required by 30 UMC 784.20.		~~3.4.2~~	

	UMC	Section	Page
211.10(c)(6)(xii) Furnish complete logs of all exploration drill holes (both surface and underground) in Federal leases.	783.14 (a)(1) (ii)	6.5	
211.10 (c)(6)(xiv) Plans for protecting oil, gas, and water wells as well as oil, gas, and underground water resources, when encountered.	783.25 (5)	3.3.2.1	
211.10 (c)(6)(xv) Any justification for not recovering any coal deposits that may be detrimentally affected in terms of future recovery by the coal developent operations proposed.	784.13 (b)(6)	3.3.3.2	
(If no coal preparation plant is planned and if the operator plans not to mine coal beds or portions of coal beds because of high sulfur, high ash, or other chemical or physical properties, the operator shall submit a narrative and analyses of the rationale for not mining such beds or portions of seams.)			
211.10 (c)(7) Suitable topographic maps or aerial photographs showing:			
(i) Topographic and natural drainage features, roads and vehicular trails.	783.25 (k)		
(ii) The name of the watershed and location of the surface stream or tributary into which mine waters will be discharged, if applicable.	783.16 (a) 783.25 (y)		
(iii) Cross sections and plan views of the land to be affected, including the actual area to be mined, showing elevation and location of drill holes and depicting the following informa ion: the nature and depth of the various strata of overburden; the nature and thickness and extent of any coal, or if rider seams above the specific coal proposed to be mined; the nature of the strata beneath the coal to be mined for a vertical distance of at least 20 meters beneath the base of the coal seam; the location of the next known deeper coal seam below the deepest seam to be mined and representative characteristics thereof; the location of any	783.25 (a) 783.25 (j)		

	UMC	Section	Page
211.10 (c)(6)(iv) The engineering techniques proposed to be used in mining. The plan shall describe the method of mining and present justifications for the method selected. The selected mining system shall conform to sound mining practices and be based on current technology and economics.	784.11 (a)	~~3.3.1.3~~	
211.10 (c)(6)(v) A list of all major equipment.	784.11 (a)	~~3.3.4~~	
211.10 (c)(6)(vii) The method of operation and measures by which the operator plans to comply with the obligations and requirements set forth in 211.4 and 211.40 of this Part and any special terms and conditions of the lease, permit, or license. (This can be by a narrative statement and must include only those items related to resource recovery.)	784.13 (a)(2)	~~3.3.3~~	
211.10 (c)(6)(viii) The anticipated starting and termination dates of each phase of the mining operation and number of acres of land to be affected.	782.17 (a) 784.13 (b)(1)	3.36	
211.10 (c)(6)(x) The measures for ensuring the maximum practicable recovery of the mineral resource.	784.13 (b)(6)	~~3.3~~.3.1	
(Sufficient data should be submitted to substantiate the anticipated recovery factor of the resource for the coal reserve base. Data includes sufficient information in the form of narrative, cross-sections, coal thickness isopachs, overburdern isopachs and quality and quantity data (Btu content, ash, moisture, sulfur, volatile matter, and fixed carbon and any other available information thay may affect blending or combustion) of all known potentially minable seams on the lands involved. The areal extent of mining of each seam to be mined should be delineated. This information must conform with the requirements of General Mining Order No. 1.)			
211.10 (c)(6)(xi) The method of abandonment of coal mine operations including protection of unmined coal and other mineral ressources.	784.13 (b)(8) 784.14 (d)		

Attachment I

	UMC	Section*	Page
(1) 211.10 (c)(1) Names, addresses, and telephone numbers of persons responsible for operations under the plan to whom notices and orders are to be delivered, and the names and addresses of surface owners of record, and owners of record of subsurface minerals, if other than the United States.	782.13 (a)	2.2	
211.10 (c)(2) A description of geologic conditions, with maps and tables where appropriate, within the area where mining is to be conducted and including any Logical Mining Unit. Such description shall include, as a minimum, potential geologic hazards; and a description of the structural features of the coal and overlying strata, including faults, cleats, joints and fractures and any other information which would affect the orientation of the mine or production methods.	783.14	3.3 6.0	
211.10 (c)(6)(i) The nature and extent of the coal deposit in terms of Btu content, ash, water, sulphur, volatile matter and carbon content, and any other available information that may affect blending or combustion and including estimated recoverable reserves. The recoverable reserves shall be reported for all coal seams of mineable thickness, considering the type of mining and the value of the coal. (This information must conform with the requirements of General Mining Order No 1.)	783.25 (c), (d)	3.3.1 6.5.5.2	
211.10 (c)(6)(ii) The method of mining, including mining sequence and proposed production rate; the plan for any lease issued or readjusted after August 4, 1976, must provide for the mining of all the reserves of the logical mining unit of which the lease is a part in a period of not more than forty years; that period shall begin on the date of approval of the first mining plan for that logical mining unit.	784.11 (a)	~~3.3.1.3~~	
The plan must include planned sequence of mining by year for the first 5 years and by number in 5-year increments for remainder of mine life.	783.12 (a)	3.3.1.4 3.3.7 & 3.3.8	

*Suggested sections listed in Utah DOGM "Permit Application Guidelines"

(c) 211.10 (c)(6)(ii) The mine plan for a logical mining unit must show the mining of all reserves in a period of not more than 40 years. The complete recovery is shown as 48 years for mine No. 5, 81 years for Price Canyon mine, and 46 years for the Cordingly Canyon mine.

(d) On page 3 of chapter III, it states "where two seams of minable coal are within 30 feet of each other, then only the more economically minable of the two seams is scheduled to be mined."

The GS will require the top minable seam to be mined first rather than have it sterilized or destroyed. A much greater potential of a spontaneous combustion fire is possible with the upper seam broken up and becoming a part of the gob or caved material. Situations of this type must be reviewed with the GS.

(e) 211.10 (c)(6)(v) A list of all major equipment.

(f) 211.10 (c)(6)(vii) The method of operation and measures by which the operator plans to comply...30 CFR 211.4 and 211.40 and any special terms and conditions of the lease permit or license. This can be by a narrative statement including only those items related to resource recovery.

(g) 211.10 (c)(6)(viii) The anticipated starting and termination dates of each phase of the mining operation and number of acres of land to be affected.

(h) 211.10 (c)(6)(x) The measures for ensuring the maximum practicable recovery of the mineral resource. The GS must review and approve any plans to leave or abandon coal.

(i) 211.10 (c)(6)(xiv) Plans for protecting oil, gas, and water wells including oil, gas, or water resources encountered underground.

(j) 211.10 (c)(6)(xv) Any justification for not recovering any coal deposits that may be detrimentally affected in terms of future recovery by the development operations proposed.

(k) Additional miscellaneous data required to assist in evaluating underground mine plans.

(1) Strike and dip of seams to be mined.
(2) Interburden isopachs
(3) Isopach maps of overlying strata on 250-foot intervals (the 1"=2,000' maps in the report do have overburden lines on 500 foot intervals.)
(4) The complete plans approved by Mine Health and Safety Administration for Roof Control and Ventilation System.

The mine plan should also contain a cross reference which designates those sections and pages which contain the 30 CFR 211 requirements.

Jackson W. Moffitt

Berm and Diversion: (Cont.)

some of the remaining 3' + boulders remaining on the site. The drainage area captured by this diversion is about 9.0 acres of well vegetated hillside at a 54% slope.

Diversion minimum sizing, dictated by peak runoff was determined using S.C.S. methods depicted in their hydrology field manual. The curve number used is 65 which by using S.C.S. chart 10.1, results in the per acre runoff from the 1.9" ten year storm to be about .2 inches. The peak discharge is determined using the formula:

$Q = CIA$ where the peak runoff, Q =

C = Coefficient of runoff

$$\frac{.2}{1.9} = .11$$

i = rainfall intensity based
Tc of 10 minutes = 1.92 inches/hr.

A = area = 9 acres

(9) (.11) (1.92) = 0.1.9 cfs use 2 cfs

Determination of cross-sectional area of the diversion are based on Mannings Formula:

$$V = \frac{1.49}{n} \left(\frac{a}{p}\right)^{2/3} S^{1/2}$$

and $Q = AV$

A ditch with a cross-sectional area of at least 2 ft.^{2} would provide adequate capacity. The minimum dozer cut of about 8' wide and 6" deep, sloped into the hillside will provide a cross-section of 3.1 ft.^{2}.

On Site Drainage Collection:

The area, 3.2 acres, will generate about 0.2 inches per acre runoff or 2324 ft.^{3} volume storage needed. Sediment collection area, using .035 ac.ft./acre is determined to be 407 ft.^{3}. A total of needed storage volume of 2731 ft.^{3}. Our intent is to excavate a level bottom ditch across the canyon mouth, as shown on attached map. The dimension of the ditch will be 160' long x 3' wide x 3' deep with 1:1 side slopes and have a capacity of about 2900 ft.^{3}. The ditch will have a rip-rapped overflow point on the south end to discharge the 25 yr. runoff to the highway road ditch. A 48" C.M.P. 30' in length will be installed for access at road alignment. Materials excavated will be used for berm construction on the east side of the collection ditch. The crossing over the pipe will be somewhat elevated to both prevent pipe damage and to internalize drainage.

Materials Storage Characteristics:

The attached 50' = 1" scale maps show existing pit configuration and maximum potential storage capacity. This capacity could be about 104,000 yds.^{3} if the pile configuration depicted in the attached cross-sections if achieved. It is unlikely that we will ever use this entire storage capacity since Crandall will only provide about 52,000 yds.^{3} of material.

Upper and lower soil materials will be picked up separately; the topsoil immediately and the sub-materials transferred about a month later. The materials will be segregated within the storage site. Storage piles will be placed against the north - facing pit bank, below the berm and diversion ditch. Slopes on the pile will not exceed 1v:1.5H.

The period of useage for this site will be life of mine, although the initially stored materials should occupy the area for less than five years. Should we, in the future, find a good buy on topsoil or generate excess from a future facility development, this site would be used for storage.

Soil Materials Protection:

During developmental phases, a chain link fence and gate will be installed to limit access. All materials will be seeded with plant species of both annual and perennial habit in the fall of 1982. The recommended seed mix will be:

Common Name	Species	Rate (Lbs./Ac.)
Alfalfa (Var. Ladek)	Medicago satina	10
Barley	Hordeum vulgare	15
Great Basin Wild Rye	Elymus cinereus	5
Great Needlegrass	Stipa viridula	4
Indian Ricegrass	Oryzopsis hymenoides	3
White Sweet Clover	Melilotus alba	5

Rates will be for pure live seed.

Some inorganic fertilizer may be applied depending on the outcome of soil tests. Piles will be mulched using cereal or alfalfa hay and crimped.

Site Final Reclamation:

We will be liable for reclamation of this site at the termination of its use. A reclamation plan with whatever specifics the regulatory agency feels comfortable requiring will be provided within a time period to be established by the regulatory agency. In general, a plan will include grading the storage site and spreading 6" of topsoil over the scarified area. Re-vegetation by means approved for Crandall sites. The old pit highwall will not be backfilled. The south diversion will remain permanent to inhibit erosion on the reclaimed site.

The possibility exists that the final land use may again be a gravel pit, if the remaining mineable materials are viewed as useful by the Highway Department or some dirt contractor. We will, however, plan to reclaim our 3.2 acres and see what developes.

SUMMARY

We have discussed Price River Coal Company's need for resoiling materials and some difficulties involved. We have proposed a partial solution to the problem by gleaning excess potentially suitable materials from Crandall upper site development. We have proposed a centralized, well protected storage location on an un-reclaimed mine site and discussed the concept with both D.O.G.M. and O.S.M. personnel during recent site visits, i.e., April, 1982: J. Montgomery, O.S.M.; S. Lindsey, O.S.M.; T. Tetting, D.O.G.M.; L. Kunzler, D.O.G.M.; E. Hooper, D.O.G.M. Responses to the proposal have all seemed favorable.

We would like to proceed with this development as soon as possible. If we may proceed, it is imperative that we coordinate site preparations with initial upper Crandall site topsoil removal so that we will handle this material only once.

Gravel Canyon preparations will require only about two to three days work and will be performed in part by Price River Coal Company's personnel and inpart by the upper Crandall site contractor, General Coal Construction Company. Contractor mobilization will begin for the upper site on June 1, 1982. Topsoil transport should begin by June 15, 1982, if the developmental portion of this plan can be rapidly approved.

Attachments:

2 - 1" = 50' site plans
1 - set cross-sections
1 - 1" = 200' location map
2 - Color glossy 8"x10" aerial photos

cc: Jim Smith, E. Hooper, Salley Kefer,
Tom Tetting of D.O.G.M.
John Montgomery, O.S.M.
Gene Haub and K. Hutchinson of Price River Coal Co.

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

May 18, 1982

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

RE: Approval
Crandall Canyon Project
Modification
Price River Complex
ACT/007/004
Carbon County, Utah

Dear Mr. Cook:

The Office of Surface Mining has completed its Environmental Assessment of Price River Coal Company's Crandall Canyon Project and has not identified any significant environmental impacts as a result of the proposed action. They have also determined that there is to be a limited amount of surface disturbance and there is an emergency element in connection with the mine's ventilation needs. For these reasons, and the fact that review for the Price River Complex permanent program application will be undertaken as expeditiously as possible, the Office of Surface Mining concurs with the Division's February 19, 1982 conditional approval of Price River's Crandall Canyon Project as a minor modification to the existing approved interim mining and reclamation plan (MRP).

In addition to the Division's stipulations outlined in the above letter, the Office of Surface Mining's concurrence for approval is subject to the following stipulation:

> "Within 90 days of acceptance of the Administrator's approval, the Price River Coal Company shall submit to the regulatory authority (Division) for their approval, a plan for placement of excavated shaft material (waste rock). This plan must address location of excavated shaft material (both on and off the Crandall Canyon site), stability of placement (i.e., safety factor), final topography and its stability, chemical analysis of excavated material, and drainage control in accordance with UMC 817.71 through 817.74. No new surface disturbance shall take place until this plan has been submitted to and approved by the regulatory authority."

The Office of Surface Mining wishes to emphasize that the June 30, 1982 deadline for Price River's response to the completeness review, as outlined in the previously established review schedule for the Complex MRP, is to be regarded as a firm date. Also, please be advised that the hydrologic impacts of the Crandall Canyon facility will be included in the assessment of cumulative hydrologic impacts to be carried out for the Price River Complex.

Enclosed you will find a copy of the Office of Surface Mining's Environmental Assessment of the Crandall Canyon Modification. Should you have any questions regarding this approval, please don't hesitate to call.

Sincerely,

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

JWS/te

Enc: E.A.

cc: Allen D. Klein, OSM

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

May 26, 1982

CERTIFIED MAIL NO. 3968207
Return Receipt Requested

Mr. James W. Smith, Jr.
Coordinator of Mined Land Development
Utah Department of Natural Resources
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, Utah 84114

RE: OSM/DOGM Additional Stipulation: *Our approval is subject to the following stipulation: Within 90 days of acceptance of the Administrator's approval, the Price River Coal Company shall submit to the regulatory authority for their approval, a plan for placement of excavated shaft material (waste rock). This plan must address location of excavated shaft material (both on and off the Crandall Canyon site), stability of placement (i.e., safety factor), final topography and its stability, chemical analysis of excavated material, and drainage control in accordance with UMC 817.71 through 817.74. No new surface disturbance shall take place until this plan has been submitted to and approved by the regulatory authority.*

Dear Mr. Smith:

Discussion with both OSM and DOGM personnel has left us with the firm belief that the foregoing stipulation was based entirely on the Agency's misconception; that it was PRCC's intent to haul and dispose excavated shaft materials off site. We have eschewed long distance removal of such materials and have never implied any deviation. Plans for storage, compaction, final configuration, stability, drainage controls and the chemical and physical analyses of materials were all included in either the 2/21/81 Crandall submission, or the subsequent ACR Response document. We feel that we have adequately addressed all these items and neither your determination of completeness nor your technical analyses have tended to disagree.

Please provide us either clarification of this stipulation, which drastically varies from our interpretations derived through discussions with the alleged authors, or confirm our understanding by "committing" to your foreknowledge of the pre-existence of the stipulated information. Let us put this matter to rest.

PRICE RIVER COAL COMPANY
P.O. BOX 629 - 801-472-3411 OFFICE
HELPER, UTAH 84526

The two other modified stipulations in the recent DOGM communique concerning temporary lathe perimeter markers and additional drainage control maps with discharge monitoring points located are acknowledged and "Committed to".

Sincerely,

Robert L. Wiley
Environmental Engineer

RLW:ga

cc: E. Haub
K. B. Hutchinson
T. Tetting, DOGM

Scott M. Matheson
Governor

James O. Mason, M.D., Dr.P.H.
Executive Director
801-533-6111

DIVISIONS
Community Health Services
Environmental Health
Family Health Services
Health Care Financing and Standards

OFFICES
Administrative Services
Health Planning and Policy Development
Medical Examiner
State Health Laboratory

STATE OF UTAH
DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
150 West North Temple, P.O. Box 2500, Salt Lake City, Utah 84110

Alvin E. Rickers, Director
Room 426 801-533-6121

June 1, 1982

Price River Coal Co.
P. O. Box 629
Price, Utah 84526

Re: Price River Coal Mine Plan

Gentlemen:

We have reviewed the 1981 Price River Coal Company Mining Plan and submit the following comments.

1. We have approved three sediment ponds for the Crandall Canyon facility and have requested additional information on the current proposal to relocate one of these ponds. Also, a sanitary system for the Crandall Canyon facility was approved for 600 workers in October 1981 provided a drinking water system is approved.

2. The mining plan is insufficient in detail to complete our evaluation of the other sanitary and sediment pond systems. Information on the sanitary system should indicate number of workers, past approval on treatment, disposal and other appropriate design features based upon our regulations. The design information for the sediment ponds should indicate runoff areas, pond volume, outlet details, and embankment slopes and width.

3. The operating plan for the public water supply facilities described in the report is outdated in terms of existing facilities and proposed developments. Currently Price River operates a surface water treatment facility at Castle Gate, however, this facility does not meet the construction standards of the "Utah Public Drinking Water Regulations".

4. We understand you are now about to proceed with design of a new water treatment plant, and that you also are evaluating

the possibility of developing groundwater to serve the Crandall Canyon facilities. Both of these developments will need to be approved by our Bureau of Public Water Supplies before any construction begins.

Sincerely,

Dennis R. Dalley
Assistant Director

cc: Southeastern Dist. Health Dept.
Division of Oil, Gas & Mining

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

June 7, 1982

Mr. Robert L. Wiley
Environmental Engineer
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

RE: Modification to use existing gravel pit for resoiling materials storage
PRCC
ACT/007/004
Carbon County, Utah

Dear Rob:

The Division has reviewed the request for a minor modification to the mine plan to make use of an existing on-site gravel pit for "topsoiling and other soiling materials" storage. The plan appears not only logical but justified in nature and although appearances initially conjure up the old parable involving Peter and Paul, I'm sure that long-term solutions will eventually be developed.

It is our understanding that this area is on fee land; has been previously disturbed by a gravel operation; and is already an existing part of the mine plan area. In delivering final approval for this project there are a few thoughts the Division would like confirmed. At your earliest opportunity could you provide answers to the following:

In reference to the final reclamation; which reference area (RA) will be used for revegetation success? Please provide confirmation of your intentions to commit to the type of reclamation methodology used in the Crandall Canyon project proposal.

A 1:1 slope could pose a highly erosive situation if the ditch is unlined as the flow is assumed to enter in a diffuse manner. The DOGM suggests that PRCC rip-rip the sides of the channel to prevent such an occurrence.

The Division's approval is hereby given for this modification in the knowledge that contractual deadlines may be met by its implementation. Please address the earlier mentioned concerns in light of this decision.

Enclosed is a copy of the DWR letter discussed on June 1, 1982.

Sincerely yours,

THOMAS N. TETTING
ENGINEERING GEOLOGIST

Encl: a/s

cc: OSM, John Montgomery

TNT/cp

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

June 10, 1982

Mr. Rob Wiley
Environmental Engineer
Price River Coal comapny
P. O. Box 629
Helper, Utah 84526

RE: Crandall Canyon Sedimentation
Pond Modification
ACT/007/005
Carbon County, Utah

Dear Rob:

The Division of Oil, Gas and Mining has completed the review of Price River Coal Company's (PRCC) request to modify the size and location of the sedimentation pond in Crandall Canyon.

Due to the use of the Hilfiker retaining wall as both an embankment for the Crandall Creek Stream channel and for the sedimentation pond, a number of concerns have arisen between both DOGM and the State Engineer's Office.

The following should be addressed by PRCC to further expedite this review and permit approval.

1. It is understood that an operational flow of approximately 10,000 gpd drill and muck and 43,200 gpd ground water will occur in the modified pond. Therefore, the maximum 53,000 cf capacity of the pond will be reached within seven days, at which time a discharge from the emergency spillway could be anticipated. This is unacceptable to DOGM's permit requirements as UMC 817.46(i) requires that a combination of principle and emergency spillways be provided to safely discharge the peak flow of the 25-year, 24-hour event.

The capacity of the 10-year, 24-hour event must be provided for in all cases irregardless of operational flow. DOGM recommends that PRCC modify the current emergency spillway by adding a principle spillway inlet or utilize some other appropriate means for dewatering operational flow after an appropriate detention time has occurred. If a dewatering device or principle spillway inlet is added to the emergency riser pipe then the capacity and appropriate detention of the 10-year, 24-hour event must be provided for above the level of dewatering.

2. UMC 817.46(l) requires the top width of the pond embankment to be "not less than the quotient H and 35/5 feet. The sedimentation pond embankment varies from 17.5 feet to 8 feet width although with the 16 foot height of the wall, the required width is 10.2 feet.

   UMC 817.46(m) requires that the combined upstream and downstream slope of the sediment pond embankment equal 1v:5h. Plan Exhibit NP-2 indicates that the upstream slope of the pond will be approximately 0.5:1. This slope is not satisfactory for compacted natural materials (refer to State Engineer's letter).

   The Hilfiker retaining wall has proven stable under a variety of "baseline" conditions (thesis' by L. M. Peterson 1980, and J. A. Bishop 1979). However, the use of a reinforced earth wall as an embankment for a sedimentation pond has not been documented. Therefore, a provision must be made to increase the combined upstream and downstream slope ratio to 1v:5h or PRCC must demonstrate that the embankment is designed and constructed to insure a minimum 1.5 static safety factor and is certifiable by a registered professional engineer.

3. DOGM and the State Engineer agree that it is necessary to line the pond with an impervious material to prevent potential seepage into the fill material. The State Engineer has recommended that several small diameter observation wells be established in the embankment to monitor the occurrence of seepage. DOGM agrees that such monitoring will further ensure the long-term stability of the retaining wall.

Enclosed is a copy of the State Engineer's letter regarding this modification. It has been incorporated into our review.

Please contact me if you have further questions.

Sincerely,

Sally Kefer

SALLY KEFER
RECLAMATION HYDROLOGIST

Enclosures

cc: Allen Klein, OSM, Denver
Bob Morgan, Dam Safety
Steve McNeal, Department of Health

SK/btb

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

June 15, 1982

Rob Wiley
Environmental Engineer
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

RE: Crandall Canyon
Modification Stipulation
ACT/007/005

Dear Mr. Wiley,

The Division would like to pass along the following information: Stipulation No. 18, originally presented in OSM's April 30, 1982 Environmental Assessment of the Crandall Canyon Modification, has been adequately satisfied after a recent review conducted by the OSM. It will no longer need to be addressed.

Sincerely,

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

JWS/TNT:rb

Certified Mail - Return Receipt Requested

PRICE RIVER COAL COMPANY

P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

June 28, 1982

Mr. Jim Smith, Mined Land Co-ordinator
Department of Natural Resources
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, Utah 84114

RE: Notification of intent to modify surface facilities at the Castle Gate coal preparation plant: Temporary return beltline from clean coal stacking area to load out belt line.

Dear Mr. Smith:

Our need to respond to current market conditions has necessitated a temporary alteration in our coal processing facilities to satisfy raw coal purchasers. The previously unused clean coal stacking area has been used as a coal storage area. Coal is being delivered to the site via the existing enclosed belt line and stacking tube.

Some re-furbishing of drainage controls was needed to assure adequate storage area and minimize environmental pollution potential. Re-furbing included raising the height of existing berms, installation of a diversion on the north side of the storage area and installation of a culvert to the Price River to carry the unaffected hill side drainage.

The diversion was cut on the alignment of an old road using a D-6 size machine and a backhoe. Capacity is more than adequate to divert the ten year runoff. The culvert, installed is an 18" CMP.

Drainage designs were calculated using the attached 1" = 200' map. The grade on the diversion splits the drainage area into two sections as shown. Area "A" is 8.5 acres, area "B" 2.7 acres. These are well vegetated, undisturbed slopes. Using the equation $Q = CIA$ and assuming 20% runoff, a 5 minute time concentration and intensity of 2.7 inches per hour (based on an interpolation of both Price and Scofield data) we have generated the following peak runoff figures:

Area A - 4.7 Cfs

Area B - 1.5 Cfs

The 18" CMP used for area "A" with at least 16" of head at the inlet is adequate. The dozer cut diversions have a capacity of at least 10Ft.^{3} cross-sectional area and are obviously more than adequate for these small drainages. Outlets for both area will be rip-rapped.

PRICE RIVER COAL COMPANY
P.O. BOX 629 - 801 - 472-3411 OFFICE
HELPER, UTAH 84526

Storage in this area began on June 17, 1982. Diversion and pipe installation were completed (minus rip-rap) at that time. We are uncertain as to the time period storage may be required but to load this material out we will need to install a temporary 42" load out belt. The proposed alignment is shown on the attached 1" = 100' plan map. The proposed alignment will necessitate moving the existing south road berm closer to the river (depicted). This berm will be a minimum 2 feet high and installed prior to belt construction.

We need to begin construction of the belt within a few weeks. Due to our unplanned total shut down until the end of July, we are unsure of exact timing.

Please contact me or Ken Hutchinson if you have further concerns in this matter.

Sincerely,

PRICE RIVER COAL COMPANY

R. L. Wiley

Robert L. Wiley

cc: K. B. Hutchinson

Attachments

ESTIMATED RETURN PERIODS FOR SHORT DURATION PRECIPITATION
(inches)

Station: [redacted] Dam
Latitude: 39° 47'

Elevation: 7630
Longitude: 111° 07'

RETURN PERIOD (years)	DURATION 5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	[redacted]
1	.15	.23	.29	.40	.51	.58	.65	.81	.96	1.11
2	.17	.27	.34	.47	.60	.69	.78	1.00	1.20	1.40
5	.22	.34	.43	.60	.76	.88	1.00	1.29	1.55	1.82
[redacted]	.25	.39	.49	.68	.86	1.00	1.14	1.49	1.80	[redacted]
25	.31	.48	.60	.84	1.06	1.23	1.39	1.80	2.16	2.54
50	.33	.51	.64	.89	1.13	1.33	1.52	2.00	2.43	2.87
100	.36	.55	.70	.97	1.23	1.46	1.67	2.21	2.69	3.19

Station: Silver Lake Brighton
Latitude: 40° 36'

Elevation: 8700
Longitude: 111° 35'

RETURN PERIOD (years)	DURATION 5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	24 Hr
1	.07	.11	.14	.19	.24	.42	.59	1.01	1.39	1.78
2	.10	.16	.21	.28	.36	.56	.75	1.22	1.64	2.08
5	.17	.26	.33	.46	.58	.80	1.01	1.53	2.00	2.48
10	.20	.31	.39	.54	.68	.92	1.16	1.74	2.26	2.80
25	.25	.38	.48	.67	.85	1.13	1.39	2.05	2.64	3.25
50	.28	.44	.56	.77	.98	1.28	1.57	2.30	2.95	3.62
100	.32	.50	.64	.88	1.12	1.45	1.76	2.54	3.24	3.96

TABLE 5-2(a)

ESTIMATED RETURN PERIODS FOR SHORT DURATION PRECIPITATION (INCHES) - PRICE, UTAH*

urn iod rs)	Duration 5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	24 Hr
	.08	.13	.17	.23	.29	.37	.44	.62	.78	.95
	.12	.18	.23	.32	.40	.49	.58	.80	1.00	1.20
	.16	.25	.32	.44	.56	.68	.79	1.07	1.32	1.58
	.20	.31	.39	.54	.68	.81	.94	1.25	1.53	1.82
	.24	.37	.47	.65	.82	.98	1.13	1.50	1.83	2.18
	.28	.43	.54	.75	.95	1.12	1.29	1.71	2.08	2.47
	.31	.49	.62	.85	1.08	1.27	1.45	1.91	2.32	2.74

ef: Utah State University, 1971, Department of Soils and Biometeorology Bulletin No. 1.

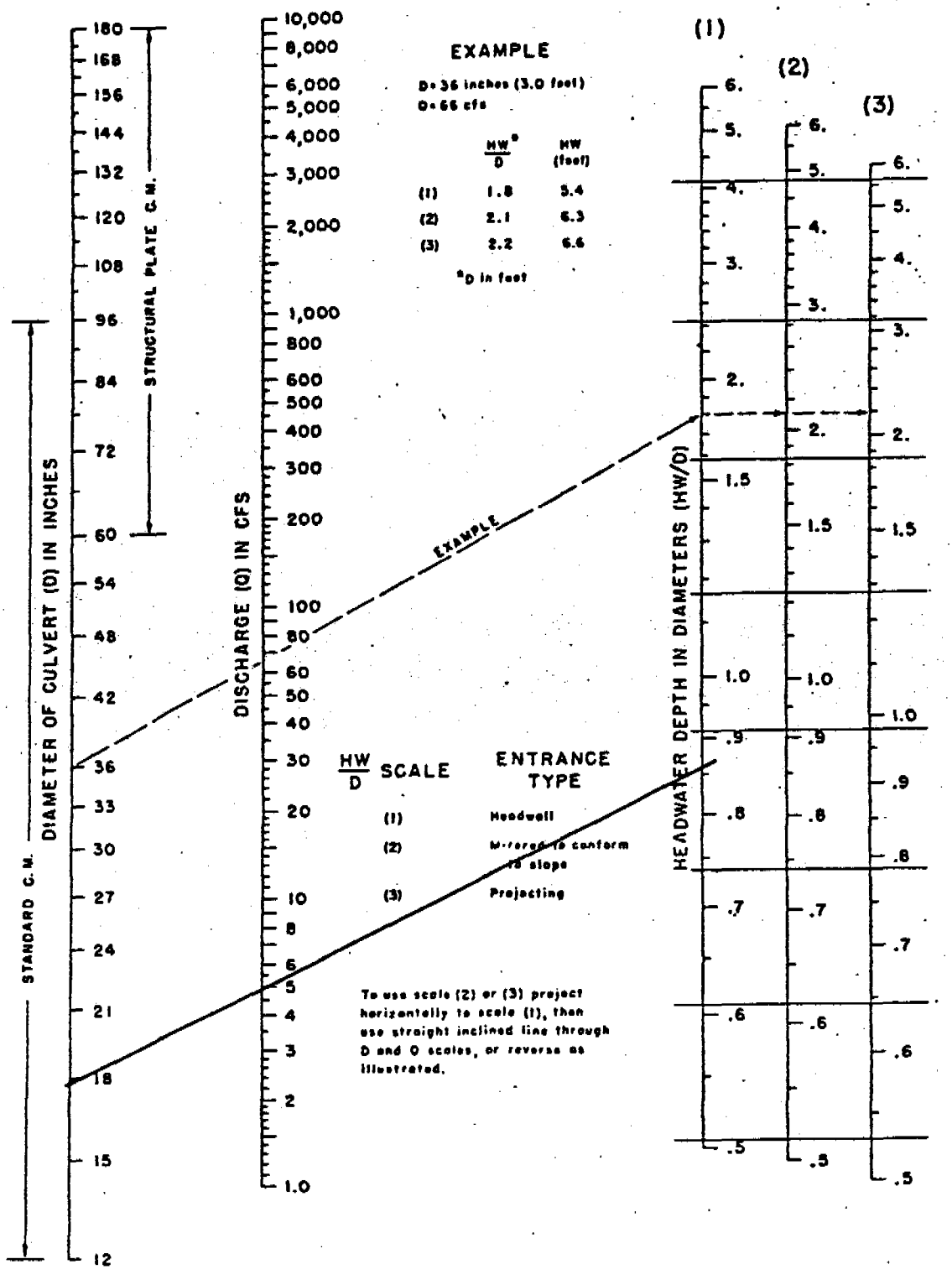
TABLE 5-2(b)

PRECIPITATION FOR CASTLE GATE AREA**

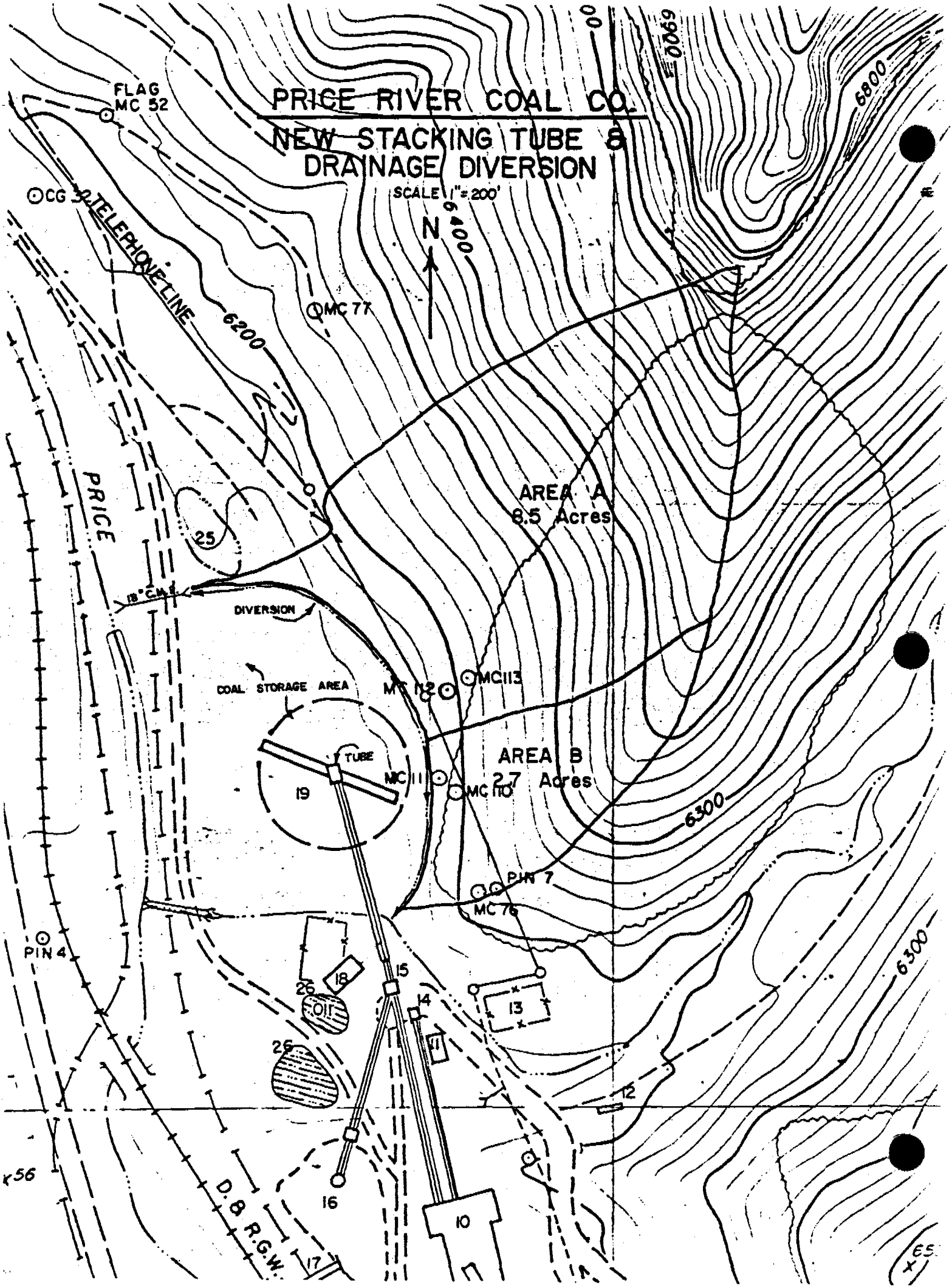
Storm	Precip (in)	Storm	Precip (in)
yr-6 hr	.92	2 yr-24 hr	1.30
yr-6 hr	1.20	5 yr-24 hr	1.65
yr-6 hr	1.32	10 yr-24 hr	1.90
yr-6 hr	1.65	25 yr-24 hr	2.30
yr-6 hr	1.85	50 yr-24 hr	2.70
yr-6 hr	2.05	100 yr-24 hr	2.90

Ref: National Oceanic and Atmospheric Administration, 1974, NOAA Atlas 2, Vol. VI, Rainfall Frequency Maps of Utah

Chart 2-53: HEADWATER DEPTH FOR C.M.P. CULVERTS WITH INLET CONTROL



BUREAU OF PUBLIC ROADS JAN 1963


PRICE RIVER COAL CO.
NEW STACKING TUBE &
DRAINAGE DIVERSION
SCALE 1"=200'
N
FLAG
MC 52
CG 32
TELEPHONE LINE
MC 77
6200
6400
6800
PRICE
AREA A
8.5 Acres
AREA B
2.7 Acres
18" C.M.P.
DIVERSION
COAL STORAGE AREA
MC 112
MC113
TUBE
MC 111
MC 110
PIN 7
MC 76
PIN 4
6300
D.&R.G.W.
25
19
26
18
011
15
14
13
11
12
16
10
17

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

July 1, 1982

Mr. Rob Wiley
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

RE: Time Extension for ACR Response
ACT/007/004
Carbon County, Utah

Dear Rob:

As per your request, the Division hereby grants an extension of the deadline for submitting your response to the Apparent Completeness Review of the Price River Complex Mining and Reclamation Plan from June 30, 1982 to August 9, 1982.

The Office of Surface Mining concurrence has been received in granting this extension. Should you have any questions, please don't hesitate to call.

Sincerely,

LYNN KUNZLER
RECLAMATION BIOLOGIST

LK/mn

cc: John Montgomery, OSM
Tom Tetting, DOGM

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

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Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

July 21, 1982

Mr. Rob Wiley
Price River Coal Company
P. O. Box 629
Helper, Utah 84526

RE: Miner Modification
Castle Gate Prep Plant
ACT/007/004
Carbon County, Utah

Dear Rob:

As per your letter of June 28, 1982, requesting approval to install a temporary 42" load-out belt at the Castle Gate Coal preparation plant, the Division hereby grants the requested approval.

Should you have any questions, please contact Lynn Kunzler or Tom Tetting of my staff.

Sincerely,

JAMES W. SMITH, JR.
COORINDATOR OF MINED LAND
DEVELOPMENT

JWS/LK/dc

cc: OSM (Denver)

PRICE RIVER COAL CO.
Recd.
JUL 23 1982
Engineering

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

July 27, 1982

CERTIFIED MAIL NO. 3968214
Return Receipt Requested

Ms. Sally Keefer
Utah Department of Natural Resources
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, Utah 84114

RE: Response to DOGM Letter of June 10, 1982, Concerning Crandall Canyon Sediment Pond and Subsequent Meeting at DOGM Offices on the Subject

Dear Ms. Keefer:

In response to your letter and the subsequent meeting held in your offices on July 2, 1982, we provide the following comments and information.

There seems to be a misconception of the characteristics of the operational flow received by the new pond. Price River Coal's letter of April 28, 1982 indicated that ground water would be piped away from the pond. This has been done for both No. 1 and No. 2 shafts. Water generation is restricted to about 10,000 gpd for drill water. This quantity is realistically reduced by the combination of infiltration, evaporation and adhesion to some substantially less.

The final storage capacity, at 1:1 inner slopes, is 50,000 $ft.^3$, or 374,000 gallons. Should the entire 10,000 gpd be received at the pond, it would require 37.4 work days, or 6.2 weeks to fill the pond to maximum capacity. Additionally, the operational flow will be reduced by half when excavation of the No. 1 shaft is completed. The projected completion date is September 23, 1982. The No. 2 shaft should be completed by the first week of December and an operational water flow terminated.

Your concern for the ability for the spillway to handle the operational flow (0.0018 cfs), plus the 25 year, 24 hour storm (6.7 cfs) runoff should be satisfied by the ability of the 18" diameter CMP to pass 20-30 cfs with the amount of headwater designed (12' stand pipe and 2' freeboard above inlet).

So that we may address your need to retain the 10 year, 24 hour volume of runoff capacity at all times, we will install a

PRICE RIVER COAL COMPANY
P.O. BOX 629 - 801 - 472-3411 OFFICE
HELPER, UTAH 84526

decant pipe to dewater the pond when water level reaches a point where only the storm retention capacity remains. The decant will be a 6" diameter steel pipe, affixed to the stand pipe, 4' above the bottom of the pond (see attached pipe drawing). A butterfly valve will be attached for ease of operation. The sediment storage below the decant will be 15,000 $ft.^3$. The total water capacity stored at the point of dewatering will be 27,000 $ft.^3$ (201,960 gallons). It will require, at least, 20 working days to reach this level at present flow and 40 after September 23, 1982. The capacity to be retained above the dewatering level will be 23,000 $ft.^3$, which exceeds the 10 year runoff volume (22,680 $ft.^3$). A point will be marked on the pond embankment to indicate dewatering level (7.2' above pond bottom). Dewatering will occur on Monday mornings to maximize detention time after the last inflow on Saturday shift.

For satisfaction of your concerns for stability of the Hilfiker wall and the pond embankment, please review the included copies of reports from the consulting structural engineering firms of Rollins, Brown and Gunnell and Selvage and Heber. Also included are copies of materials test results and in place compaction tests.

Potential seepage through the fill will be minimized by sealing the entire pond with 1-2" of bentonite clay.

When operational flow has ceased, and during final site work, this pond will be cleaned out, returning the original capacity. The pond will be used for paved area runoff from the finished Crandall site. The pond interior will be resealed and hard surfaced.

Sincerely,

R. L. Wiley
Environmental Engineer

RLW:ga
Attachments

cc: Bob Morgan, State Engineer's Office
Steve McNeal, Utah Department of Health
K. B. Hutchinson, PRCC
Ed Buoy, PRCC
Frank Pero, PRCC
Gene Haub, PRCC

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

August 6, 1982

Mr. Rob Wiley
Environmental Engineer
Price River Coal Company
P. O. Box 629
Helper, UT 84526

RE: Sedimentation Pond
Relocation
Crandall Canyon
ACT/007/005

Dear Rob:

The Division has completed the review of information detailing the design of the proposed sedimentation pond in Crandall Canyon. Those deficiency items which were discussed at tne July 2, 1982 meeting have been adequately addressed except for one item. The proposed depth of the bentonite clay liner in the pond (1"-2") is questioned. The feasibility of spreading an intact 1" seal over the entire pond seems hard to guarantee. This concern is warranted based on the potential hazards of a constant operational flow and water accumulation in the pond. The pond relocation is approved based on the combination of designs submitted on April 28, June 9, and July 27, 1982. A condition to this approval is that PRCC line the pond with 2"-4" of bentonite clay to guarantee a more even seal and to meet the stipulations of the State of Utah's Dam Safety Engineer.

If you have further questions, contact Sally Kefer or Pam Grubaugh-Littig.

Sincerely,

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

JWS/SK/dc

cc: Allen Klein, OSM, Denver
Joe Helfrich, DOGM
Tom Tetting, DOGM

PRICE RIVER COAL CO.
AUG 1 4 1982
Engineering

DIVISION OF WILDLIFE RESOURCES
DOUGLAS F. DAY
Director
EQUAL OPPORTUNITY EMPLOYER
1596 West North Temple/Salt Lake City, Utah 84116/801-533-9333

August 6, 1982

Reply To SOUTHEASTERN REGIONAL OFFICE
455 West Railroad Avenue, Box 840, Price, Utah 84501
(801) 637-3310

Mr. Robert L. Wiley
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

Dear Rob:

Larry Dalton has reviewed the draft of chapters 9 (vegetation) and 10 (wildlife) that are to be included in the company's Mine and Reclamation Plan. The following recommendations are offered for your consideration.

Vegetation

1. Seed mixture No. 2 and 3 would each be enhanced if more forbs were included. It is recommended that penstems (Penstemon spp.), Lewis flax (Linum Lewisii) and asters (Aster spp.) become elements of the prescription.
2. Due to the local abundance of the pinion-juniper type pinion pine (Pinus edulis) and juniper (Juniperus spp.) are not particularly desirable in any seed mix.
3. If recommendation No. 1 is acceptable, penstems and Lewis flax could be deleted from the bulk seed mix.

Wildlife

10.2-1 - It is recommended that the company reconsider its position regarding disallowance of legal hunting or other uses by sportsmen on the property. Legal activities by sportsmen are not perceived as negative impacts to wildlife, ~~rather they~~ represent acceptable management practices. It is not conceivable that illegal practices by so-called sportsmen would become any greater on the company's lands than on other areas open to sportsmen use. Therefore, it would be acceptable and appreciated by our Division if the company would allow legal uses of the wildlife resource associated with the permit area. Obviously, many company facilities and areas under reclamation need protection from trespass.

Rob, both chapters are well done and reflect considerable consideration for the wildlife resources. Please convey our appreciation for the company's concern for wildlife. If we can be of any further service, please coordinate with Larry Dalton.

Sincerely,

John Livesay, Supervisor
Southeastern Region

JL:LBD:gp

cc: Darrell Nish

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dr. G. A. (Jim) Shirazi, Division Director

August 8, 1983

Mr. Rob Wiley
Environmental Engineer
Price River Coal Company
P.O. Box 629
Helper, UT 84526

RE: Willow Creek Stream
Channel Culvert Approval
ACT/007/004, Folder #4
Carbon County, Utah

Dear Rob:

The Division has completed its review of the proposed stream channel culvert modification submitted by Price River Coal Company on July 12, 1983, and has determined that the 10-foot diameter smooth steel pipe is adequate to handle the probable flood event for the projected life of the access area. I apologize for not getting this reviewed sooner, but the staff had a difficult time finding a nomograph for smooth steel pipe and also locating your borrow site.

Approval of the modification is hereby granted and construction may commence according to the proposals set forth in the modification. If we may be of further assistance, please let us know.

Sincerely,

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

JWS/DD:gl

cc: Bennett Young, OSM
D. Darby, DOGM
T. Tetting, DOGM
Debbie Richardson, Hart Associates

United States Department of the Interior
OFFICE OF SURFACE MINING
Reclamation and Enforcement
BROOKS TOWERS
1020 15TH STREET
DENVER, COLORADO 80202

August 10, 1982

Mr. Ron Daniels
Deputy Director
Utah Division of Oil, Gas & Mining
4241 State Office Building
Salt Lake City, Utah 84114

Dear Mr. Daniels:

The Office of Surface Mining concurs with the Utah Division of Oil, Gas and Mining (UDOGM) in extending Price River Coal Company's deadline for submitting their deficiency responses to the Apparent Completeness Report (ACR) on the Price River Complex Mining and Reclamation Plan.

The applicant has identified some uncertainties involving Alluvial Valley Floor (AVF) areas in the Price River Complex and has requested that UDOGM specialists visit the mine site to help resolve certain questions regarding AVF lands. Also, Price River Coal Company is revising their Mining and Reclamation Plan in order to provide greater clarity by incorporating a Federal cross referencing index, a USGS 211 permitting cross referencing index and a reader's guide. Because the mine site visit, AVF determination and MRP alterations will cause a delay for Price River Coal Company, OSM concurs with UDOGM in granting an extension of the deadline for the ACR responses from August 9, 1982 to August 31, 1982.

Should you have any additional questions, please contact John Montgomery of my staff at (303) 837-2451.

Sincerely,

Richard E. Dawes

for Allen D. Klein
Administrator
Western Technical Center

cc:
Tom Tetting, UDOGM
Rob Riley, Price River Coal Company

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

August 12, 1982

CERTIFIED MAIL NO. 3968220
Return Receipt Requested

Mr. Dave Darby, Reclamation Hydrologist
Utah Department of Natural Resources
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, Utah 84114

RE: Adjacent Alluvial Valley Floors

Dear Mr. Darby:

The meeting and site visit conducted on August 9, 1982, in Price Canyon and at PRCC offices concerning the existence and proximity of the alluvial valley floor, concluded with an agreement that there were no alluvial valley vloors within the mine plan area. There are probably AVF conditions within three miles down stream of our coal preparation plant.

Several questions remained to be answered concerning the lands being farmed on the north side of Helper, within the suburb of Martin. These questions are addressed as follows. Much information has been provided through discussions with Mark Page, Area Water Engineer.

Question No. 1: Is there a sub-irrigation condition?

Answer: No (Mark Page)

Question No. 2: What is the cumulative area of farmland in the Martin Area?

Answer: County plat maps and a driving survey of the area revealed that there are about 40 acres being used or usable for low intensity, "hobby" farming. (See red outlined areas on plat copies.)

Question No. 3: Are there any wells in Martin?

Answer: No (Mark Page)

PRICE RIVER COAL COMPANY
P.O. BOX 629 - 801-472-3411 OFFICE
HELPER, UTAH 84526

We hope this additional data provides you with sufficient information to complete the AVF determination and recommendation for PRCC mine properties.

If you have additional needs, please contact me or Mark Page, should further explanation of local hydrologic balances be of interest.

Sincerely,

R. L. Wiley
Environmental Engineer

RLW:ga

Enclosure

cc: K. B. Hutchinson, PRCC
D. Stephens, PRCC
M. Page, Area Water Engineer, Price
T. Tetting, DOGM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80295-0699

AUG 17 1982

Ref: 8WM-C

Mr. Robert L. Wiley
Environmental Engineer
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

Re: Price River Coal Company
NPDES Permit Numbers:
UT-0023086, UT-0023141 and
UT-0023272

Dear Mr. Wiley:

Upon reviewing the renewal applications for the Price River Coal Company permits, we have decided to inactivate NPDES numbers UT-0023272 and UT-0023141 in order to consolidate all of the outfalls for this facility into one permit. We have incorporated the outfalls from the two above-mentioned permits into your current NPDES permit number UT-0023086.

The proposed permit for Price River Coal Company, UT-0023086, will be public noticed shortly. There will be a 30-day comment period. Once the comment period is up, provided no adverse comments are received, the permit will be issued as soon as the State of Utah certification is received.

If you have any questions concerning the above-mentioned matter, please contact Rob Walline of my staff at (303) 837-4901.

Sincerely yours,

Patrick J. Godsil
Chief, Compliance Branch
Water Management Division

cc: Utah Department of Health

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

August 23, 1982

Mr. Rob Wiley
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

RE. AVF DETERMINATION
PRICE RIVER COMPLEX
ACT/007/004
CARBON COUNTY, UTAH

Dear Rob:

Enclosed is the Division determination of the existence and status of alluvial valley floors on and adjacent to Price River Coal Company's mine plan. These determinations were made as a result of the investigation conducted on August 9, 1982.

If you have any questions or comments, please contact me, Tom Tetting or Dave Darby.

Sincerely,

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

cc. Allen Klein, OSM, DENVER
David Darby, DOGM
Tom Tetting, DOGM

JWS/DD/mn

ALLUVIAL VALLEY FLOOR DETERMINATION

OF PRICE RIVER COAL COMPANY'S

MINE PLAN AND ADJACENT AREAS

Introduction

In response to OSM's comments pertaining to alluvial valley floors in the Apparent Completeness Review dated May 29, 1982, Price River Coal Company requested that a field determination be made of their project and adjacent areas by a regulatory agency to evaluate the existence of any alluvial valley floor.

On August 9, 1982, personnel from the Division of Oil, Gas and Mining representing various disciplines toured Price River Coal Company's mine permit area and areas adjacent to the mining project specifically to determine the existence of any alluvial valley floors and if existent, to what extent mining could affect the alluvial valley floors.

Federal and State regulations provide for the protection of alluvial valley floors from mining activities. No coal mining operation can materially damage the quantity or quality of surface or groundwater systems which supply alluvial valley floors, and mining operations may not interupt, discontinue, or preclude forming an alluvial valley floor. By definition alluvial valley floors are:

> "...the unconsolidated stream laid deposits holding streams with water available sufficient for subirrigation or flood irrigation agricultural activities but does not include upland areas which are generally overlain by thin veneer of colluvial deposits composed chiefly of debris from sheet erosion, deposits formed by unconcentrated runoff or slope wash, together with talus, or other mass-movement accumulations, and windblown deposits"

In a general sense, alluvial valley floors are those areas which are located in topographic valleys, which are underlain aby unconsolidated deposits which usually have a landform appearance of floodplains or terraces, which have an agricultural importance derived from the availability of surface or groundwater.

Applicants are required to make initial identifications of alluvial valley floors based on readily or easily obtainable data, and conduct detailed studies only on specific problem areas.

Findings

Tom Tetting, Engineering Geologist, Everett Hooper, Soils Specialist, Lynn Kunzler, Biologist and David Darby, Hydrologist, from the Division of Oil, Gas and Mining met with Rob Wiley, Environmental Engineer, and Don Stevens, Geologist, representatives of Price River Coal Company.

Preliminary discussions took place at Price River Coal Company's office in Helper, Utah. Maps were examined which depicted historic, present and future mining areas as well as topographic and geomorphic features. Potential AVF sites along Willow Creek, the Price River, Spring Canyon and Kennilworth, Utah, were chosen for investigation.

The conditions along Willow Creek and the Price River within the mine plan area are limited with respect to the existence of AVFs. State highways, railroad tracks, precipitous slopes, river width and narrow canyon walls account for only a few areas that qualify as AVF under the specified size criteria of an area 50 feet wide or 10 acres in size. Such areas have been utilized already for a sewage treatment facility, an electrical power plant and the coal loadout for Price River Coal Company which were there prior to the passage of SMCRA. Several areas up Willow Creek have been used as coal waste dumps during earlier mining times.

Historically there has not been any farming along the Price River or Willow Creek. Price River Coal Company presently owns all surface rights along the rivers and during the process of mining foresees no change in that status.

Outside the mine plan area three sites were investigated for their potential as an AVF. The area surrounding the town of Martin, two miles downstream from the eastern edge of the mine plan area along the Price River, showed good conditions for an AVF. The area lies on a pediment formed by stream laiden deposits of the Price River and include several small parcels of land developed (approximately 41 acres) for agriculture (corn and alfalfa and one orchard) by several individuals. Upon further examination it was learned that irrigation waters for farming are supplied via canal diverted from the Price River. No springs or wells occur near the town of Martin for irrigation or culinary purposes.

Spring Canyon was another area examined where a small orchard (approximately 2 acres) exists. Communications with the owner revealed that the orchard has been abandoned for 11 or 12 years. Water from two springs about 150 yards above the orchard was used for irrigation. The flow rate at the present time is approximately 35 to 40 gpm. The owner stated that the flow had decreased in the last 20 years although no records or data of flow exist. The most significant decrease took place after several mines closed down.

The area surrounding the town of Kenilworth was investigated due to its location adjacent to the mine plan area. The investigation revealed that it is located on a pediment of the Manchos shale. Although flora exists amidst the residential section, there is no farming. Water is supplied through a public water system. The stream channels are ephemeral in nature and do not contribute to irrigation.

Determination

Alluvial valley floor investigations within and adjacent to the proposed Price River Coal Company's permit area has resulted in the determination that the criteria necessary to establish an alluvial valley floor does exist to a small extent within the river channels of the permit area, and to a greater extent near the suburbs of Martin immediately south of the mine plan area and in Spring Canyon.

In view of information presented during the tour it was determined that:

1. The Price River is monitored above and below the coal processing plant to access changes in water quality.

2. Historic mining in 30 to 40 mines has existed in and ajacent to the mine plan area along the escarpment which lies above Kenilworth, Spring Canyon, Martin and Helper. Also, the Price River has been mined under several times. It is speculated that any groundwater that could supply those areas has already been affected. Since present mining occurs farther down dip and away from the AVF there is less chance that mining will have any effect on the AVFs.

3. No farming or agricultural activity takes place on the mine plan area, and therefore the small areas along the river channels that could be classified by definition as AVFs are insignificant due to their isolation and size.

4. There was no finding near the town of Kenilworth that indicated an AVF exists.

5. There are no wells used in and adjacent to the mine plan area. The springs up Spring Canyon are used by one family to water their lawn. All other irrigation uses water supplied via canal by the Price River which in turn is regulated from Scofield Reservoir. All culinary water is supplied from springs near Scofield Reservior and from the waste water treatment plant north of the coal processing facility which takes water from the Price River.

The Division has made the determination that present and future mining will not change the status or condition of the water resources, soils or geology relating to alluvial valley floors in or adjacent to the mine plan area.Mining will not interrupt or cause diminution of the existing ground water or irrigation waters in a significant manner.

August 26, 1982

BTB

I, Betty T. Barela, have received three copies of Price River Coal Company's ACR Response and Plan Revision on the above noted day.

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

August 25, 1982

Mr. Thomas Tetting
Engineering Geologist
Utah Department of Natural Resources
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, Utah 84114

RE: ACR Response

Dear Mr. Tetting:

PRCC's responses to the OSM ACR of April, 1981, is submitted as follows. PRCC was aware of certain deficiencies at the time of original plan submittal and has generated the needed information in ensuing year. The plan submitted in March of 1981, was the same and somewhat expanded plan submitted in September of 1980 (mentioned in the OSM letter of May 29, 1981). A new version is submitted with the ACR Response, which includes all new information, as well as additional data generated from the Crandall Canyon ACR.

The responses to the ACR are often referenced to the revised mine plan. We hope that sufficient information is now available to achieve completeness.

Please review the ACR Response in conjunction with the MRP introductory information. We have developed a cross reference for both DOGM and USGS regulations and a master Table of Contents. Should any questions arise as to content or organization, please contact me immediately so that the problem can be speedily rectified without protracted paper exchange.

Sincerely,

R. L. Wiley

Robert L. Wiley
Environmental Engineer

RLW:ga
Attachments - Three (3) copies: ACR Response
Mine Plan
Map Supplement

Copies for: DOGM
OSM
OSM Technical Consultant

NOTE: A copy has been placed on file for public review at the Carbon County Recorder's Office. Please advise as to the need for re-publishing the public notice.

PRICE RIVER COAL COMPANY'S
ITEMIZED RESPONSE TO THE OFFICE OF SURFACE
MINING'S APPARENT COMPLETENESS REVIEW

782.13 Identification of Interests

The mining and reclamation plan (MRP) states (p. 2.9) that the Price River Coal Company is the principle operator and the Blackhawk Coal Company is the lessor of the Federal leases. Indiana and Michigan Electric Company and its parent company, American Electric Power Company, Incorporated, are the owners of both Price River Coal Company and Blackhawk Coal Company. The applicant does not state whether American Electric Power or Indiana and Michigan Electric has operated a surface coal mining operation in the United States within the preceding five years.

- Neither American Electric Power nor Indiana & Michigan Electric have been the designated operator of a coal mining operation within the preceding five years.

If these entities have operated a surface coal mining operation within this time period, the applicant should provide documentation of the name(s) and location(s) of the surface coal mining operations, any current or pending coal mining permits, and a list of all violations related to a mining and reclamation permit. The applicant must also state whether any of these operations has had a Federal or State mining permit suspended or revoked and whether any performance bond has been forfeited.

The MSHA numbers appear to be assigned to Mines #3 and #5 (#42-00165 and #42-01202). Is this correct? On page 2-18 and EPA permit is referred to as the New Peerless Mine. What mine is this and to which discharge does this apply? Are all discharge points anticipated during the life of the permit accounted for by EPA discharge permits?

- The MSHA numbers are correct!

- The New Peerless Mine is an abandoned operation (circa 1928) within the PRCC A Seam coal reserve. It has filled with several million gallons of water. The potential exists for draining all or a portion of this accumulation to prevent damage to future adjacent mine development. No water has been discharged to date, but the NPDES Permit will be retained for the eventuality.

- All future discharge points need not be anticipated. NPDES application processing time with EPA is six months. We need only that much lag time prior to developing a new point source.

Exhibit 3-7 appears to show coal leases and on page 2-9 assignments of federal, state and county coal leases are addressed. Have the assignments of the federal and state leases been approved?

- Federal Leases Nos.. SL-029093, SL-046653, U-058184, U-0146345, U-0148779, U-25484 and U-25683, were approved by BLM by letter dated 9/4/81. The remaining five assignments are pending and under appeal for lease readjustment. See Chapter II, Section 2.2, for present status.

Exhibit 4.2-1 shows the owners of surface and subsurface areas in the permit area. The applicant should also provide the addresses of the owners of record of all surface and subsurface areas within and contiguous to any part of the proposed permit area.

- See.....Table 4-1; shows names and addresses of all owners of surface areas adjacent to the "Mine Plan Area". See Exhibits 4-1, 4-2 and 4-3.

782.15 Right of Entry and Operation Information

The plan identifies eleven federal coal leases, four state leases, and a county lease. Exhibit 3 also shows several areas of fee and private coal. In addition to enumerating the leases, the applicant should describe the basis for the legal right to enter and conduct underground mining activities in terms of the type and date of execution, the specific lands and legal rights claimed.

- All areas intended to be mined by PRCC are either fee land (owned by Blackhawk Coal) or specific coal leases, which provide the right to mine coal. See Section 2.2 and Exhibits 4-1 and 4-2.

782.17 Permit Term Information

The applicant has requested a permit term of 30 years (p. 2-14) based upon financial and diligence commitments. The applicant does not meet the requirements of 786.25 in two respects: (1) the application does not contain sufficient information for the 30-year term, and (2) the applicant does not show that a longer term is needed to allow the applicant to obtain necessary financing of equipment and the opening of the operation. The applicant does provide information on amortization of investments, apparently through 1988, a period of about eight years (pp. 2-14 through 2-16); however, this statement does not address a need to obtain financing for equipment or opening a new mine. Section 3-6 provides an example where the applicant proposed acceptance of a general discussion with a permit condition to provide detailed plans later. Issuance of a permit for longer than five years for this situation is prohibited by Section 782.17 of the Utah Underground mining code.

- See Chapter II, Section 2.5.

782.18 Personal Injury and Property Damage Insurance (p. 2-17)

Amount is greater than minimum coverage requirements; however, the applicant must specify if the General Liability Policy (#I SL-G0002SSL-3) covers both personal injury and property damage.

- General Liability policies, by definition, include both personal injury and property damage coverage.

The applicant must provide a statement added to the certificate assuring that the policy is noncancellable without prior notice to the regulatory authority.

- See copy of the Certificate of Insurance in Chapter II, Section 2.6.

782.19 Identification of Other Licenses and Permits

In Chapter II, page 18, it states the following licenses and permits are currently in effect: (more pertinent ones listed)

MSHA--Roof Control Plan, Mine No. 3
MSHA--Ventilation Plan, Mine No. 5
USGS--Approved Mining Plan, April 27, 1977
DOGM--Mining Plan Permit; February 1976

The specific information required by the "permits" of USGS and MSHA (i.e., these plans) are not included as a part of this submittal and must be included to have a complete mining and reclamation plan on file with the agencies involved and for approval by the Secretary. If any materials are submitted in compliance with General Coal Mining Order #1 and are considered "confidential" by that order, the material, with the exception of coal quality information, shall also be submitted to the regulatory authority in unclassified form. Please find a cross-check sheet attached (Attachment I) which should be completed with the resubmission.

- Regulation 782.19 does not require the submittal of other permits, only information relating to type of permit, issuing authority, I.D. numbers (if any) and pertinent dates. The "agencies involved" have copies of the various permits that they require. Additionally, we object to including MSHA Roof and Ventilation Plans in the Mine Plan, since they are re-approved by MSHA every six months and could be modified from any plans we might submit with the SMCRA application. We are concerned about receiving secretial approval of roof and ventilation plans that will be obsolete at the time of final signature. See Chapter II, Section 2.7 .

The following permits are an example of other permits that need to be addressed: Utah Department of Health, Utah Industrial Commission, Utah State Engineer, and Carbon County (right-of-way permit, building permit, zoning).

- We have compiled a new listing of permits, which we hope complies with the requirements of 782.19. See Chapter II, Section 2.7.

With respect to the Notice, and in the opinion of the regulatory authority, it will be necessary to indicate to the public exactly when the comment period, and the period in request for informal conference, will expire. The expiration date provided in the public notice is incorrect since it indicates that the period for request of an informal conference will expire four weeks after the first date publication, about 21 days after the last date of publication (See UMC 786.11(a) and 784.14(a)). The appropriate mechanism to notify the public of close of the comment period should be discussed with the regulatory authority. Also, the applicant should provide the proof of publication in the Sun Advocate (page 2-19).

- If we were in error and if requested by the regulatory authority, we will re-publish in any format or publication specified by the regulatory authority.

783.12 General Environmental Resources Information

The applicant must provide the starting and termination dates of each phase of the mining operation and the number of acres of land to be affected due both to surface mining operations as well as the area over the underground mining activities (i.e., for operation of the proposed shafts and portal areas).

- See Chapter III, sub-sections for all existing surface facilities concerning facility description and reclamation. Also, see Table 2-1 on page 45. Exhibits 3-3 through 3-20 show all underground mine development with projected timing. The area under which mining will occur is approximately 20,000 acres.

Cultural Resources

The following deficiencies need to be corrected by the applicant in order to comply with the National Historic Preservation Act and other Federal statutes:

1. Need complete copies of individual reports for the various locations referenced in Chapter 5-2 of the mining and reclamation plan.

- The statement on page 5-2 indicating the non-inclusion of the various reports was in error and will be deleted in the final application. The referenced reports were and are all included as appendices to Chapter V.

2. The historic remains associated with early mining industry (towns, workings, etc.) need to be evaluated by a qualified historian. (See comment (3).)

This evaluation must satisfy the requirements for, and should be in a form that may be used for, Determination of Eligibility for the National Register.

- See Chapter V, Section 5. In a meeting at OSM offices on 5/19/82, Foster Kirby of OSM advised that no further information for existing sites would be needed. Mr. Kirby recommended that PRCC coordinate new facility development with State History. PRCC contacted State History through DOGM during the last week of May, 1982, to obtain any existing data on proposed facilities. We have yet to receive a response.

3. Areas of potential and proposed surface disturbance (facilities, portals, roads, sediment ponds, etc.) require a 100% inventory for cultural resources and the report of the inventory submitted to the regulatory authorities. Attachment II is a suggested outline for the report.

- All areas of proposed surface disturbance will be evaluated and reviewed by SHPO prior to initiation of new activities.

4. Most of the area in Crandall Canyon has been inventoried and has received archaeological clearance from OSM and the Utah SHPO. A copy of the inventory should be incorporated in the resubmission.

- See Appendix 5E.

5. Potential impacts both direct and indirect in regard to the "Willow Creek" cemetery need to be addressed. No destructive activities may take place within 100 feet of the cemetery boundaries. See Comment 3.

- Portals and other support facilities currently exist within 100' of the cemetery. PRCC owns the land on which the cemetery is situated and has intended since pre-SMRCA days (1977 211 Plan) to re-open this facility. In any event, only construction and not destructive activities are intended. See Chapter III, Section 3.6, for a discussion of the Willow Creek area and the proximity of the cemetery.

The applicant is encouraged to work closely with the regulatory authorities as additional information is developed and provided in order to identify any areas that request "sample surveys" in areas projected to be affected by subsidence. The extent and intervals of any additional surveys shall be decided in consultation with the State Historic Preservation Officer.

- OK.....

783.14 Geology Information

Structural contour maps for the base of each coal seam should be provided. Isopach maps of overlying strata on 250-foot intervals (Exhibit 3 does have overburden lines on 500-foot intervals). Also, isopach maps of the interburden for each coal seam are needed. Exhibit 6-1, geologic map, should include strike and dip.

- Discussions with USGS have revealed that they are satisfied with 500' intervals unless the interval is less than 50'. Isopachs have been developed for all such cases and are depicted on Exhibits 6-6 through 6-10.

A discussion of the lithologies of the Wasatch, Price River, Castle Gate, Blackhawk and Mancos Formations should be included in the section on regional geology. A stratigraphic column for the above formation should be included in the text.

- A generalized section of the coal region is provided as Exhibit 6-1A. Site specific cross-sections of the coal property are provided as Exhibits 6-2 through 6-2C.

A detailed discussion of the lithology of the Star Point, Aberdeen and Castlegate sandstones should be provided for the mine plan area. Please make specific references to core hole data.

- See Chapter VI, Section 6-1.

Exhibit 6.2 (Drill Hole Location Map) should indicate which holes have geophysical logs, lithologic logs, water level, etc., available. The drill hole logs provided at the end of Chapter 6 do not include any information on gross lithology or water levels. Drill hole logs similar to Exhibit 7, hole #MC-207, should be submitted for each drill hole used in the construction of cross sections, structural contour maps and isopach maps.

- We cannot provide drill hole logs like MC-207 with information such as rock quality and conductivities, since this sort of thing was only done on MC-205, 206, and 207. We could provide drawn logs with the lithology on them, but this would require the making of 204 of

them. Our drawn logs that we now have only show the coal section with the coal seams and Aberdeen and Starpoint Sandstones being shown on them. To construct 204 logs with lithology would take several months time.

A number of drill hole logs have been provided as an appendix to Chapter VI.

A specific description of the coal, interburden, and roof and floor of each coal seam to be mined is required, in part to identify toxic- or acid-forming materials and to identify geologic hazards. This discussion should include lithology, local fracturing, jointing, cleating, stringers and slaking.

- Chemical and physical properties of coal, roof and floor materials, have been included on Tables 6-1, 6-2 and 6-3 for the Sub Seam 3, A Seam, B Seam, C Seam, D Seam and Kenilworth.

The text in Section 3.3-1, page 1, indicates the wast fines from the prep plant will be placed underground. Please submit a plan covering this procedure, which includes approval of the plan from MSHA.

- We have no intent to place waste fines underground. The verbage in Chapter III relating to this activity is only a description of practices performed by earlier mining operations - old Diamanti operation. See Section 3.3.

784.15 Ground Water Information

The application presents only a very general description of the ground water system over the mine plan area. Ground water monitoring stations are shown on Figure 7-10 and are tabulated in Table 7-1, but the data presented are very limited (usually one or two samples). Thus, it is nearly impossible to assess the affects of mining and the efficiency of monitoring. The mine plan indicates that water measurements (quality and quantity) were terminated in 1979. If additional data are available, the applicant should provide them. Before the effects of mining can be quantified, the geo-hydrologic system must be known. With this in mind, it is suggested that the applicant conduct and likely expand their water monitoring system in a manner designed to better define the relationship of springs to areas of recharge and to define the effects of subsidence on these springs. The monitoring system should be clearly designed around the geohydrologic system and must be designed in consultation with the regulatory authority.

- A more detailed discussion of the water monitoring program is provided as Appendix 7A - the Vaughn Hansen summation.

Few springs (stations Nos. B-22, B-32, and B-33) are monitored, and the length of monitoring for those springs is at most two samples. This may not be enough information to determine the effects of subsidence on springs. The applicant should discuss, with maps and narrative, the stratigraphic and structural relationship of these springs and other springs in the permit area. From what strata do they issue? Do the relative flow rates and water quality support the extent of recharge or are the discharges related to the fracture system? The geohydrologic information should be better defined in consultation with the regulatory authority.

- We have monitored continuously since April, 1977. Test results have been supplied to the regulatory agencies for every sampling event. See Appendix 7A.

  Additional geologic information is found in Chapter VI.

Probably one of the most efficient ways of determining the effects of mining on the ground water system is to document the existing mine discharges. This includes quantity and quality of total mine discharge (where applicable), location in the mine where ground water is encountered (i.e., from the floor, roof, faulted areas), variation in flows (i.e., water flow terminates 500 feet from face, water flow increases, water flow remains constant over time), and the quantity of water encountered and areas presently flooded. The applicant should document the existing effects of mining on the ground water system and provide this information to the regulatory authority. The plan contains some estimates of discharge from the mine (p. 7-5), but, on pages 3.1-3.9 and 7-9, it is stated that no definitive studies have been completed to measure sustained flow at the mines or springs. If this uncertainty can be better defined, with existing data, it may not be necessary to collect extensive amounts of additional data.

- There are no mine discharges unless we pump water out, which is rare. There is a water shortage. Some minor perched water zones are encountered in mining; mostly in channel sandstones, but this water is used in mine processes. There is never enough water generated to support mining activities. Water must be pumped into the mines at an average rate of 1,000,000 gallons per month.

  Water is lost from the mines on the coal. About 10% by weight of the raw tonnage is water. This water either becomes part of the process water at the preparation plant or is evaporated from the storage piles at Castle Gate.

  As previously stated, water encountered underground is in perched, isolated pockets. Flows from these areas are of short duration (a few hours to a few days) and of very low discharge rate. These trapped pockets have no recharge. Mining is currently under 1500' to 2000' of

cover. Most of the strata are of extremely low permeability. The springs which are monitored on the surface show no particular relationship to mining activities.

Discussions with the District State Water Engineer, Mark Page, indicate that the impact of PRCC mining on the local water regime is negligible. There has been no definable relationship between mining activity and water yield for downstream uses.

Review Appendix 7A, Chapter VIII, Section 7.1; Chapter VI, geologic information, and Chapter III, Section 3.2.

Monitoring wells are indicated to be employed in Sowbelly Gulch (over the underground mine workings) and in Bear Canyon (away from the workings) and to show the same head in the Black Hawk formation (p. 1-8). Logs, drilling, and well completion data should be provided for these wells, along with all monitoring records.

- See Chapter VI, Appendix 6A, MC-205, MC-206, MC-207, Drill Logs.

Please note that on page 7-23, three springs and five wells are stated as being monitored while on page 7-2 it is shown that three springs and six wells are monitored. Please provide clarification. It would be most useful if all monitoring activities were discussed in one place in the text.

- See Chapter VII, Sections 7.1 and 7.2, and Appendix 7A.

783.16 Surface Water Information

Maps reference (Figure 7-10) have been included that show surface water drainages and monitoring locations but there is no detail whatsoever. Maps should be on a 1:250,000 scale. The map (p. 7-26) showing monitoring locations should indicate where the disturbed areas are in order that the suitability of the locations may be assessed. Longitudinal profiles for streams that are to be disturbed must be included. This includes the following streams: Hardscrabble Canyon, Sowbelly Gulch, and Willow Creek.

- There are at least 30 maps in the MRP which are in extreme detail. Monitoring stations have been included on Exhibit 7-1. This map is on a scale of 1:24,000 and clearly shows all needed detail. A map on a scale of 1:250,000 would provide no meaningful detail for PRCC area. Should you wish to review such a map, you may

obtain a USGS map at 1:250,000 scale. This map is 2° longitude by 1° latitude and designated, "Price" - NJ 12-2 of the V 502 series.

Profiles or gradients for the channels mentioned can be derived from various topo maps included in the plan, i.e.: Exhibit 7-1, Exhibits 3.1, 3.2-1, 3.3-1, 3.6-1, etc. We do not feel that the busy work required to produce profiles is justified in that no useful engineering information will result, nor will any additional protection of the environment be provided.

Monitoring data needs to be updated. Sediment yield measurements must be included. Applicable water quality and use classifications of receiving waters should be addressed.

- See Appendix 7A.

If samples are collected twice monthly (p. 7-34, 35), why is there only one data point per month for may stations? We believe it would be to the advantage of the applicant to analyze the water quality data for relationships to flow since some of the higher values appear to be related to high flows.

- An error - the term is bi-monthly - every two months. Initially, many stations were monitored monthly. We do not understand the second sentence.

783.18 Climatological Information

Conclusions about site wind patterns (p. VI-1) are drawn from a 1978 U.S. Geological Survey (USGS) study, but no data from the study or mention of where the study occurred is incorporated into the submittal. The applicant should consider more specific data. Due to the ultimate size of the mine complex, the applicant should consider on-site wind monitoring to establish an accurate picture of site wind patterns to aid in planning erosion control, revegetation, and air pollution control.

- See Chapter XI, excerpts from the USDI EIS for the Central Utah Coal Region.

  We do not anticipate a realistic necessity for monitoring wind.

The temperature data presented on page 1 is incomplete. The applicant must include data for average monthly temperatures and temperature ranges.

- See Chapter XI, Table 11-1.

The applicant should also identify the number of growing days per season at the mine area based on the last and first freeze dates. This information is required for proper design of the revegetation plan.

- The average growing season for agricultural crops in the Price area is May 15 through September 30. First and last freeze dates in the upland areas is highly variable. Awareness of the averages does not help in the least in getting a planting into the ground. A reclamation plan is based on use of species that are native or adapted to the conditions at the mine site.

783.19 Vegetation Information

The applicant has not provided a vegetation map of the permit area. The locations of reference areas should be included on the map. At a minimum, the map(s) need to address all areas proposed for surface disturbance. The applicant has not indicated the acres of each vegetation type (mixed Conifer, Mountain Brush, Pinyon-Juniper, etc.) which will be disturbed during the mine operation, nor has the applicant identified the vegetation types that existed on previously-disturbed areas which will continue to be used in the mine operation. Disturbance acreages per vegetation type should be given for all operations proposed to be conducted during the 30-year permit term (including the Price, Panther, and Cordingly Canyon Mines). No mention is made of canyon bottom or riparian communities which exist or existed on some disturbance sites (i.e., the Castle Gate Preparation Plant on the Price River and the Portal No. 6 facilities on Willow Creek).

- See Exhibit 9-1 and Vegetation Study in Chapter IX, Section 9.1.

The applicant has not developed a method for evaluating post-mining revegetation success. If the reference area method is used (as is indicated on p. 5, Chapter IX of the mine plan), the reference areas should be compatible with, and provide utility for the post-mining land uses - livestock and wildlife habitat (Chapter IV, p. 1). Reference areas must closely represent the affected vegetation communities for selected parameters (production, cover, woody plant density), according to a confidence level or other statistical test for equality.

The applicant has not supplied baseline vegetation information for the affected (by surface activities) vegetation communities or for reference areas. Cover (%, by species, and total cover), production, and woody plant density should be collected on all affected communities and corresponding reference areas. The baseline data should be statistically representative of the communities described. An explanation of the sampling methodology used to collect the vegetation data should be included. It would be highly desirable and is, therefore, recommended that the applicant have the regulatory authority review the proposed methods of data collection before sampling begins. If this were done, any problems existing in the methods would be resolved beforehand.

- See Chapter IX.

783.24 Maps: General Requirements

The applicant should expand upon Exhibit 3-2 and show all roads from the various mines (present and proposed). The applicant also needs to show all public roads within the permit area and the boundaries of Price River Recreation Area.

- All roads are shown - there are few in the area. The Recreation Area boundaries are shown on Exhibit 4-2.

783.25 Cross Sections, Maps and Plans

The applicant must provide maps and plans depicting the location (and depth, if available) of gas and oil wells within the proposed permit area. Existing pipelines, and any powerlines (for future portals) should be identified.

- There are no oil and gas wells. Water lines and powerlines are shown on Exhibit 3-22.

The exhibits have been certified by a registered land surveyor. Work performed by a land surveyor is acceptable only if it is certified by a qualified professional engineer. Therefore, all engineering-type exhibits must be certified by a registered professional engineer.

- See all exhibits.

784.11 Operation Plan: General Requirements

The application briefly discusses the mining operations to be conducted at Sowbelly Gulch (Section 3.2), Hardscrabble Canyon (Section 3.3), Castle Gate Preparation Plant (Section 3.4), Trash Canyon (Section 3.5), and Willow Creek (Section 3.6). A more detailed discussion was presented for Crandall Canyon (Section 3.7). A very preliminary presentation was made for several other shafts and portals depicted on Exhibit 3-2. The applicant must describe the construction, use, maintenance, and removal of all facilities necessary to conduct mining operations over the proposed term of the permit. Statements such as that indicating that surface facilities for the Rains Canyon Mine will be of similar size and function as the facility being constructed in Crandall Canyon (p. 3.1-15) are insufficient to satisfy the requirements of UMC 782.17. (See also 782.17).

- Operations at Sowbelly, Hardscrabble, Castle Gate and Willow Creek are ongoing, pre-law mine sites.

  See Chapter III, Section 3.1.

The applicant states (p. 3.1-27) that the rock waste from Utah Fuel No. 1 (constructed December 1977) will be deposited in accordance with MSHA standards in a nearby canyon. Page 3.5-1 states that the conveyor tunnel development (Utah Fuel No. 1) waste has been dumped along the south wall of the canyon. This apparent discrepancy should be clarified through use of map(s) showing all disturbed areas, and identifying the nature of disturbance, for all areas associated with the existing mining and reclamation operations. Please identify the period of time during which the rock wastes were and will be deposited. Also, provide engineering data and design specifications used, or to be used, to contract the rock waste piles.

- See Exhibit 3.5-1.

  Rock material from Utah Fuel No. 1 was deposited in a canyon south of the facility. This activity was completed in November, 1976. There is no current use of the disposal area by PRCC operations nor is there any intended use.

784.13 Reclamation Plan: General Requirements

Bonding

The applicant discusses under Section 3 that surface facilities will be removed, shafts and other openings will be sealed, access and haul roads will be reseeded. Cost information is provided in Tables 3.2-4, 3.3-1, 3.4-1, 3.5-3, etc.

a. Please provide clear description of the procedures used to calculate volumes and areas to be reclaimed. The calculations should be related to maps and cross sections contained in the plan.

- See Chapter III, Section 3.1-9, Chapter VIII, Chapter IX, Section 9.4; also, Sections 3.2, 3.3, 3.4, 3.5, 3.6, 3.7 of Chapter III.

b. For the Castle Gate Preparation Plant, provide cost estimate for building disassembly and removal. We cannot accept "salvage" as the cost because the regulatory authority may not have first lien on the buildings (p. 3.4-7, Table 3.4-1).

- See Section 3.

c. For Trash Canyon area, no cost is given for removing the conveyor, p. 3.5-1.

- There is no conveyor in Trash Canyon. Trash Canyon is not part of the MRP. Work there was completed by Braztah in 1976. PRCC accepts no liability for this area.

d. For Willow Creek, Panther Mine, Cordingly Canyon Mine, Rains Shaft, Sowbelly Shaft, Mathis Shaft, no cost is given for facility removal, presumably because design details for facility construction have not been finalized. The bond amount must be adjusted to include these costs if details are finalized, p. 3.6-6. Otherwise, the permit term cannot cover these facilities.

- When detailed designs are provided, we will also provide bond to cover reclamation.

Under Section 801.16 (August 1980) subsidence monitoring equipment or mine drainage controls must be bonded for construction of ultimate removal. Is this included in the bond amount? p. 3-11

- This statement is totally mystifying!

Please clearly indicate the areas of surface disturbance that are to be bonded on appropriate maps of proposed surface facilities (including roads, diversions, and sediment-erosion controls).

- See site maps for all facilities; Exhibits 3.2-1, 3.3-1, 3.4-1, etal.

Revegetation

a. The applicant has not adequately addressed the following portions of the revegetation plan:

1. Mulches - type(s) to be used, method(s) of securing.
2. Seed Mixture - pure live seeding rate; how applied (broadcast or drilling). If broadcast, how will seed be covered? See b, below.
3. Use of Introduced Species - Show justification in terms of post-mining land use (UMC 817.112). Discuss how the introduced species will provide utility for livestock and wildlife. The applicant should be aware that some introduced species may compete with and prevent the establishment of other species (such as shrubs), since introduced species are bred for their competitiveness. A monoculture-like situation where one or a few species of the same life form are dominant should be prevented, since comparable diversity of the reference area would not be met and the requirements of the post-mining land use would not be met.
4. Topsoil Stockpile Stabilization Delineate the seed mixture(s) and mulch(es) that will be used for stabilization of these piles. It may be advisable to seed stockpiles with the permanent seed mixes both to provide information on success and to generate seed sources.

The applicant should relate the seed mix more closely to the community structure (trees, shrubs, forbs, grasses) of each predisturbance (or reference) area) community and, therefore, should consider using more

than one seed mix to address different slopes, aspects, and plant growth mediums.

- See Chapter IX, Section 9.1.

Backfilling and Grading

Backfilling and grading applicable to the portal areas is discussed in the reclamation plan of each of the mines. A post-mining contour map is necessary to enable a perspective view of how much grading is proposed or any change to natural drainage systems that have been disturbed. It also appears appropriate to provide adequate information to identify any substantial changes in surface topography that could affect erosion along surface water channels (see 783.16 also).

- We propose to do little backfilling due to the lack of sufficient materials. Disturbance has mostly been in canyon bottoms. After building, removal areas will be graded to uniform and gently sloping conditions suitable to a revegetation program. See reclamation plans in Sections 3.2 through 3.7, Chapter VIII, Chapter IX.

  Reclamation cross-sections would provide little useful information and mostly show elevation change caused by topsoiling. This is not a strip mining operation. Major changes to the topography do not occur*.

  We propose to contour the mine sites to be compatible with natural surroundings. Vertical or near vertical cliffs, common on all sites, are part of natural surroundings. Canyon bottoms are flay-lying to gently sloping in cross-section. The overall gradient has not been altered and will remain after reclamation.

  It is recommended that the agency reviewers visit the sites before requiring the additional and considerable extra work needed to prepare cross-sections.

*The only areas where significant changes are part of the plans are refuse and rock fill areas. We feel that sufficient plans and cross-sections are provided for these situations, i.e.; Crandall Canyon shaft site and Schoolhouse Canyon refuse area (see Section 3.7 and Appendix 3.4A).

Portal sealing is depicted on two diagrams (pp. 3.1-50 and 3.1-51). Both of the fitures are titled "Permanent Mine Portal Seal." The first figure shows two rows of cinder blocks while the second figure shows just backfilling. The applicant should clarify as to which method will be used for permanent mine portal sealing. Also, the applicant must describe, and provide appropriate drawings for, the measures used to seal and to plug the large, surface-to-coal-seam shafts.

- Both methods will be used depending on the situation either alone or in combination.

  Shaft sealing is discussed in sub section 3.7-5(3), page 308.

784.14 Reclamation Plan: Protection of the Hydrologic Balance

Detailed maps showing sedimentation ponds and points of discharge, dams, water treatment facilities, diversions, impoundments and post-mining channels must be included. The more minor structures required later in the permit term may be represented by typicals.

- See all site maps.

Calculations were only given for the two ponds in Crandall Canyon. Quantitative engineering analyses must be reported for runoff volume, sediment volume, flow routing, detention time, depth/capacity, dewatering devices, and dam construction, and proposed limits on pollutants in discharges.

- See all sections on surface sites (3.2 through 3.7) and Chapter VII.

Section 3.4 on page 4 states that two areas in the Castle Gate area drain improperly and will be regraded to form retention basins. The maps, sizing calculations and time tables must include these proposed activities.

- See Sub-Section 3.4-3.

784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dams and Embankments

Typical cross-sections for each impoundment or certified time schedules for submission must be included in the plan. Engineering design plans, certified by a registered professional engineer, are required for each impoundment.

- See Sub-sections 3.2-3, 3.3-3, 3.4-3, 3.5-3, 3.6-3, all related exhibits and maps, Chapter VII, Sections 7.4 and 7.5.

784.20 Subsidence

The applicant should discuss the presence of any structures or renewable resources in or adjacent to the mine plan area that could be affected by subsidence. This discussion should include maps of the following:

1. any structures (buildings, roads, dams, etc.) located within the angle of draw (e.g., U.S. Highway 50/6 and State Highway 33).

2. surface water bodies, wells or springs located within the angle of draw (e.g., Price River and all perennial streams).

3. any vegetation communities considered to be renewable resource within the angle of draw.

4. any pipelines or utility lines located within the angle of draw (e.g., Mountain States Fuel's gas pipeline).

- See Sub-section 3.1-2.

  Cross reference Exhibits 3-21 and 3-22 with all preceding mine maps.

Also, cross-sections indicating aquifers or saturated zones that could be affected by subsidence should be included.

- See Exhibit 6-1, 6-1A, 6-1B, 6-1C.

The applicant should discuss the extent and the expected effects of planned subsidence.

- See Sub-section 3.1-2.

The applicant mentions CP leaving barrier pillars and using the room and pillar mining technique to lessen the possibility of subsidence in some areas (i.e., the gas pipeline, highways). These areas should be clearly indicated on a map, and the structures or resources these methods are designed to protect should be indicated.

- CP???

  See Sections 3.1-2 and all exhibits showing present and proposed underground workings in the areas of Price Canyon and Willow Creek.

The applicant plans to place three monitoring monuments above each panel with at least 2000 feet between each monument. The monitoring plan would be more effective if the applicant determined beforehand which areas of the mine are most likely to have subsidence and concentrated the mine plans in these areas. Also, monuments should be placed near buildings, highways, ponds, rivers, etc., so that these areas can be monitored for subsidence.

If damage is expected to occur, then the applicant should have a plan to mitigate the effects of this damage. This plan could include restoration, rehabilitation, replacement, purchase or insurance of damaged structures or renewable resources.

- See Section 3.1-2 and Exhibit 3-21.

Comments from the Manti-LaSal National Forest regarding the Subsidence and Hydrologic Monitoring Plan are attached to this ACR (Attachment III).

- There is no forest service land within or near PRCC mining area. The Manti-LaSal Forest headquarters was contacted in May of 1982. They have no concerns.

784.22 Stream Channel Diversion

Detailed plans for diverting stream channels are mandatory. This includes all present stream diversions (i.e., Hardscrabble Canyon, Sowbelly Gulch, and Willow Creek. As noted previously, plans must include longitudinal profiles and bottom substrate (for intermittent and perennial streams) and should also include typical cross sections, sizing requirements with supporting calculations and maps for the proposed diversions. Also, a reclamation plan using the above information as a model is needed for each intermittent and perennial stream diversion.

- Hardscrabble and Sowbelly Canyons are ephemeral streams. PRCC proposes no changes to Willow Creek at this time. See Section 3.6.

Section 3.5 on page 3 states that the existing access road in Trash Canyon will continue to act as the stream channel. This is not acceptable practice as referenced in UMC 817.161.

- Trash Canyon is a pre-law rock waste disposal area placed by the Braztah Corporation in November of 1976. PRCC does not and has no intent to use the area.

784.18 Use of Public Roads

The applicant shall describe the measures to be used to ensure that the interest of the public and the landowner are protected by all activities within 100 feet of the right-of-way line for any public road in the permit area. A public hearing may be required in order to ensure adequate public response. These public roads include U.S. Highway 50/6 and State Highway 33.

- The only PRCC sites within 100 feet of the highway right-of-way is a portion of the

Willow Creek area and the Utah Fuel No. 1 raw coal belt portal. The Utah Fuel portal was an operating facility prior to 1977. Further discussion on Willow Creek can be found on page 163 of the MRP.

784.19 Underground Development Waste

The general design of the Schoolhouse Canyon Refuse Pile is discussed in Section 4 and 6 of the Phase II report (by Golder Associates). However, there is no indication what actual strength parameters or method of analysis were used in the stability study. The applicant needs to provide the critical section and demonstrate that the final configuration of the refuse pile will maintain a minimum factor or safety of 1.5. Numerous information is referenced to the Phase I report. This report should also be included in this application.

- Selected information from the Phase I study has been included and is included in the MRP as an addendum to Appendix 3.4A; the Phase II report on Rufuse Disposal. Inclusion of the bulky Phase I report, in its entirety, is inappropriate since it is an "in house" feasibility study.

The Schoolhouse Canyon Refuse pile is designed to have a capacity of 3 1/2 million tons which corresponds to a 7 1/2 year life, ending in 1984. Applicant has not discussed any other refuse disposal for the remaining life of the Price River complex operation. Plans for the entire permit term must be provided.

- See page 142. As stated, we plan to expand the Schoolhouse Canyon refuse pile and provide plans for the modification within one year. PRCC is also in the initial phases of design for a long term refuse disposal area. Sites under serious consideration include Bear Canyon, Barn Canyon, Gentile Canyon and the Kenilworth Flats. A plan for such a life-of-mine facility should be complete within two years and will be submitted as a modification.

The potential toxicity of the fill material has not been discussed. Please provide analysis of material as a plant growth medium.

- A toxicity analysis taken in 1980 is included as follows. Some additional information generated in 1982 by Native Plants is also included.

Price River Coal Company

Several coal refuse piles occur in or near the area of ownership by the Braztah Corp. or Price River Coal Co., Carbonville, Utah. Mining activities in the Price River Canyon began in the early 1900's. The area at 1830 m elevation receives 25 to 30 cm of annual precipitation and apparently has no water available for revegetation. Topsoil will be a problem because the undisturbed adjacent sites have little soil and are composed of mainly exposed surface bedrock. Currently, Price River Coal Co. produces 1.5 million tons of coal annually and expects to produce 6.5 million tons annually in the future. Coal is separated and washed near the refuse area.

Some revegetation efforts have been made on the old pre-regulation refuse piles, although success has been limited. Several older refuse piles exist near the Price River Property whose ownership is questionable. These abandoned piles have great potential for environmental pollution, particularly water pollution.

The current refuse pile is nestled in School House Canyon. Runoff water has been diverted from the top of the canyon to another canyon. The refuse pile is currently 61 m tall and terraces occur every 15 m. The pile appears stable and has a 37% slope. The life of the refuse pile is three to four more years (1986) and the growth will continue in a vertical direction.

Analyses for several elements and compounds were done for the current refuse pile and also one of the older refuse piles (Table).

Table .

	pH	EC	SAR	K*	Na*	Ca*	Mg*	Cl*	SO_4*	HCO_3*
Topsoil	8.38	0.14	0.47	0.53	0.52	23.0	1.16	<.001	0.04	0.009
New refuse (School House)	7.89	1.76	3.62	0.44	4.26	26.4	1.23	0.31	1.6	0.014
New refuse	9.43	0.73								
Topsoil	8.99	0.11								
Old refuse										
0-15 cm	6.70	0.96								
15-30 cm	5.77	1.55								
#22										
0-15 cm	8.53	0.22	0.26	0.25	0.37	36.4	2.30	0.03	1.3	0.010
15-30 cm	8.38	0.37	0.22	0.19	0.31	37.9	2.06	<.001	1.48	0.012
#23										
0-30 cm	8.05	0.40								

	ppm B	%K	NO_3-N	P	% Organic Matter	% Sand	% Silt	% Clay	Texture
Topsoil	58.0	0.62	1.35	4.2	3.4	37	37	26	loam
New refuse (School House)	58.4	0.39				63	16	21	sandy clay loam
New refuse			0.90	2.0	6.3	63	17	20	sandy clay loam
Topsoil						35	32	33	clay loam
Old refuse									
0-15 cm						72	12	16	sandy loam
15-30 cm						70	12	18	sandy loam
#22									
0-15 cm	176.4	0.24	1.0	4.0	6.3	74	12	14	sandy loam
15-30 cm	224.4	0.18	0.7	4.2	4.5	67	19	14	sandy loam
#23									
0-30 cm						75	11	14	sandy loam

*expressed as meq/100g.

pH, EC and SAR are within normal plant tolerance ranges. The diversity of refuse piles within the Price River area allows for some quantification of the variability of the spoil materials and influence of time. One sample obtained from the new refuse had a relatively high pH (9.43); however, another new refuse sample had a lower pH (7.89). The variation in pH among the older refuse piles located in different canyons ranged from 5.77 to 8.53. This shows the need for sampling at spot locations rather than pooling samples and may also suggest the need for varying reclamation treatments within the current refuse pile.

Refuse pile #3 which is acid (pH = 6.7 and pH = 5.8) is also the oldest and may indicate a decreasing pH with age. This however, needs more data to document conclusively.

Micronutrients appear to be within normal ranges with the exception of boron which is approaching toxic levels on the older refuse pile (176 and 224 ppm). Again, NO_3-N, P, and K would be recommended fertilizer additions in reclamation; the refuse and topsoil materials are all low in these macronutrients.

784.24 Transportation Facilities

- Crandall Canyon is the only new road under this permit; however, to meet regulations, sufficient information must be provided for all roads to derive profiles with grades shown and a typical cut and fill section for each road.

- The requested information is not presently in existence. All roads are shown on surface facility topo maps, from which grades can be derived.

  It would require several months to generate this information. Should the regulatory authority feel that this information is necessary, PRCC may be able to provide it during or as a result of technical analysis. It would be helpful if the R. A. would specify the roads for which it has concerns. The majority of roads are on the mine sites and have no cuts or fills. Many roads are county owned. Some additional road designs included for the Schoolhouse refuse dump access are found in Appendix 3.4A, Figures 4.2(a) and 4.2(b).

A licensed professional engineer, not surveyor (Chapter III, Section 3.2, letter by Gilbert R. Horrocks, registered surveyor)) is required to certify engineering drawings and calculations demonstrating the sizing of culverts under roads are adequate for the 10-year, 24-hour precipitation (runoff) event.

- See all drawings and exhibits for certifications. G. R. Horrocks is also a registered engineer.

784.26 Air Pollution Control Plan

The applicant has failed to provide a complete and detailed description of how air pollution will be controlled at the site. The applicant should estimate the potential emissions from each source on the project and then identify the specific control measures necessary and feasible. Due to the nature of the operation, the only meaningful air pollutant should be fugitive dust. The calculations and data used for emissions estimates should be included in the plan along with the estimates themselves.

- See Chapter XI, Section 11.2 and 11.3 Copies of the 1982 completed reporting forms are included with the ACR.

The applicant states (p. 11.2-8) that the company is "beginning to evaluate the air quality regime in and around the mine plan area." If this evaluation involves a monitoring program, as it surely must, the plan

784.26 Air Pollution Control Plan

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

May 12, 1982

CERTIFIED MAIL NO. 3968403
Return Receipt Requested

Mr. Brent C. Bradford
Executive Secretary
State of Utah
Air Conservation Committee
Department of Health
P. O. Box 2500
Salt Lake City, Utah 84110

RE: Emission Inventory Forms

Dear Mr. Bradford:

We are returning Emission Inventory Forms No. 1, No. 2, No. 3, No. 5, No. 11 and No. 12. We have completed most of the blanks.

If you have any further questions, please contact me at 472-3411, Extension 206. Two maps are attached for your reference.

Sincerely,

R. L. Wiley

Robert L. Wiley
Environmental Engineer

RLW:ga

Attachments

should explain either the present or the planned monitoring plan but preferably both. Any existing background TSP data for the site area should also be included with the plan.

- See Chapter XI, Section 11.3

If the Utah Department of Health has issued any emissions permits for this complex, the permits and/or their applications should be included with the plan.

- There is no UDH permit requirement for mines.

785.19 Alluvial Valley Floor Determination

The Price River Coal Company did not adequately address the identification of alluvial valley floors (AVF's). The applicant must begin the evaluation by defining the ground and surface water adjacent areas (as defined). Within the adjacent area, Price River Coal Company should map the stream-laid deposits in areas where they are greater than 50 feet wide and 10 acres in size. For the areas meeting the above criteria, Price River Coal must proceed with the additional information required under 785.19 (surface and subirrigation water availability soils, water quality or topography) to make an alluvial valley floor determination. This information is particularly warranted because the regional practice has been to farm along the Price River, indicating it is an alluvial valley floor.

If a positive AVF decision is made, then the applicant must complete the additional studies required under 785.19(d) and demonstrate the findings that must be made under 785.19(e). If an AVF determination is made and impacts could occur as a result of mining, then a monitoring plan must also be developed according to 822.14.

- The regulatory agency was contacted in July, 1982, to provide assistance in evaluation of adjacent areas for possible alluvial valley floors. The results and determinations derived from a DOGM field survey on 8/9/82 and subsequent investigations by PRCC personnel are included in Chapter VII, Section 7.5 as an addendum to previous AVF discussions.

800.11 Bonding

The applicant must supply information as to how the company intends to provide the bond, for what period, and for what total amount.

- PRCC bonds via sureties. The bonding period is to be until the completion of successful reclamation. There is currently $850,000.00 in surety bonds signed to DOGM $500,000.00 was provided in 1977. The additional $350,000 was posted in 1980 for the Crandall Canyon operation.

811.22 Topsoil

There is no rating of topsoil as suitable material for reclamation. The applicant should provide an evaluation and the results of the evaluation. The applicant should also indicate which soils will be disturbed at each site. This should be done in order to satisfy the performance standards for underground mining.

- Most sites are pre-1977 facilities which have no remaining topsoil resources. Information on Crandall Canyon topsoil and excess sub-soil

materials collected for reclamation is included as Appendices 8A and 8B.

The applicant should provide at least one set of laboratory data for each major horizon in order to assist with the assessment of the suitability of the soils to be disturbed or regraded for stabilization. For those previously disturbed areas where no topsoil was saved, but which must be graded and revegetated, some quantitative data needs to be provided to enable an assessment of any potentially major soil quantity problem that may be encountered during revegetation. It is suggested that the analyses generally include pH, EC, SAR, saturation percent, solvable Ca, Mg and Na, organic matter, phosphorous, potassium, nitrate-nitrogen, lime, texture particle size analysis. Analysis should be conducted by a qualified laboratory and results should be certified.

- See Appendices 8A and 8B.

In the previous discussion of baseline soil data, the areas of soil to be, or which have been, disturbed should be more clearly identified. Based on this identification, the volume of topsoil removed, possibly stockpiled, or any that has already been replaced, should be identified. Segregation of any soils should be identified. Any topsoil stockpile(s) should be identified (e.g., ventilation shaft, section 3.2-2, page 3). Those areas where topsoil was not salvaged, adequate topsoil or substitute materials that have been found suitable for topsoil material, through chemical and physical analysis, must be obtained. It is suggested that these sources of topsoil material or substitute material be identified, if possible.

- See Chapter VIII.

Section 8.3. Removal, Storage, Protection and Redistribution of Soil provides a brief discussion of topsoil handling. Additional information describing the methodology that will be used to remove, store and redistribute topsoil materials is requested. Discussion would include the handling of any interferring vegetation and equipment used to remove and redistribute topsoil materials.

- See Chapter VIII, Sections 8.3, 8.4, Chapter IX, Section 9.2.

  Equipment used will be standard earthmoving equipment, such as dozers, scrapers, front ent loader, etc.

817.97 Protection of Fish, Wildlife and Related Environmental Values

Before the regulatory authority can make a written determination of compliance, the applicant should:

1. Provide data and analysis used to develop a site-specific baseline and wildlife management plan. Discuss techniques used.

2. Provide a list of high interest and economically important species identified by a site-specific inventory.

3. Discuss habitat preference by species as identified in the inventory.

- See Chapter X, Sections 10.1 and 10.2.

4. Need discussion of all state and federally listed threatened and endangered species.

5. Wildlife management plan presented to company by UDWR. Company doesn't commit to any of the suggested techniques to minimize impacts. Which techniques will be used?

6. Riparian areas as briefly discussed in text, with importance of those areas stressed. However, there is no mention if any will be disturbed additionally and they are not discussed as a vegetation type. Need additional discussion of riparian zones and protective measures for riparian zones to show their utility for wildlife.

- See Chapters IX and X.

Socioeconomics

At the end of the completeness review for the Price River mining and reclamation plan, a technical-environmental assessment will be undertaken. To comply with the National Environmental Policy Act, the regulatory authority must do a socio-economic assessment of the potential impact of the mine on surrounding communities. Although the mine is an existing operation, the following information would be useful to our assessment:

- *The mine plan states that the force will increase from about 400 to 1600. We request that this increase be broken out by year for the life of the mine.*

- *A description of past and/or future assistance your company has made to communities impacted by your mining operation.*

- *Any information you may have concerning the residential patterns of your existing workforce will be useful to our assessment.*

- *The socioeconomic information provided in your mine plan is appreciated. If any other socioeconomic information that would be helpful to our assessment such as local slurveys, studies, etc., please not them in your response to this ACR.*

- We have provided the majority of the currently existing information. Some additional information may be available in the USDI EIS on the Central Utah Coal Region.

  The mine work force increase is broken down by year. See page 11.

PREP PLANT

Date 5/3/82

Firm Name Price River Coal Company
Mail Address P. O. Box 629, Helper, Utah Zip 84526
Plant Address Same Zip
Contact Person M. Jarrett/R. Wiley Title Sup./Env. Eng. Tel 472-3411
General Nature of Business Coal Mining

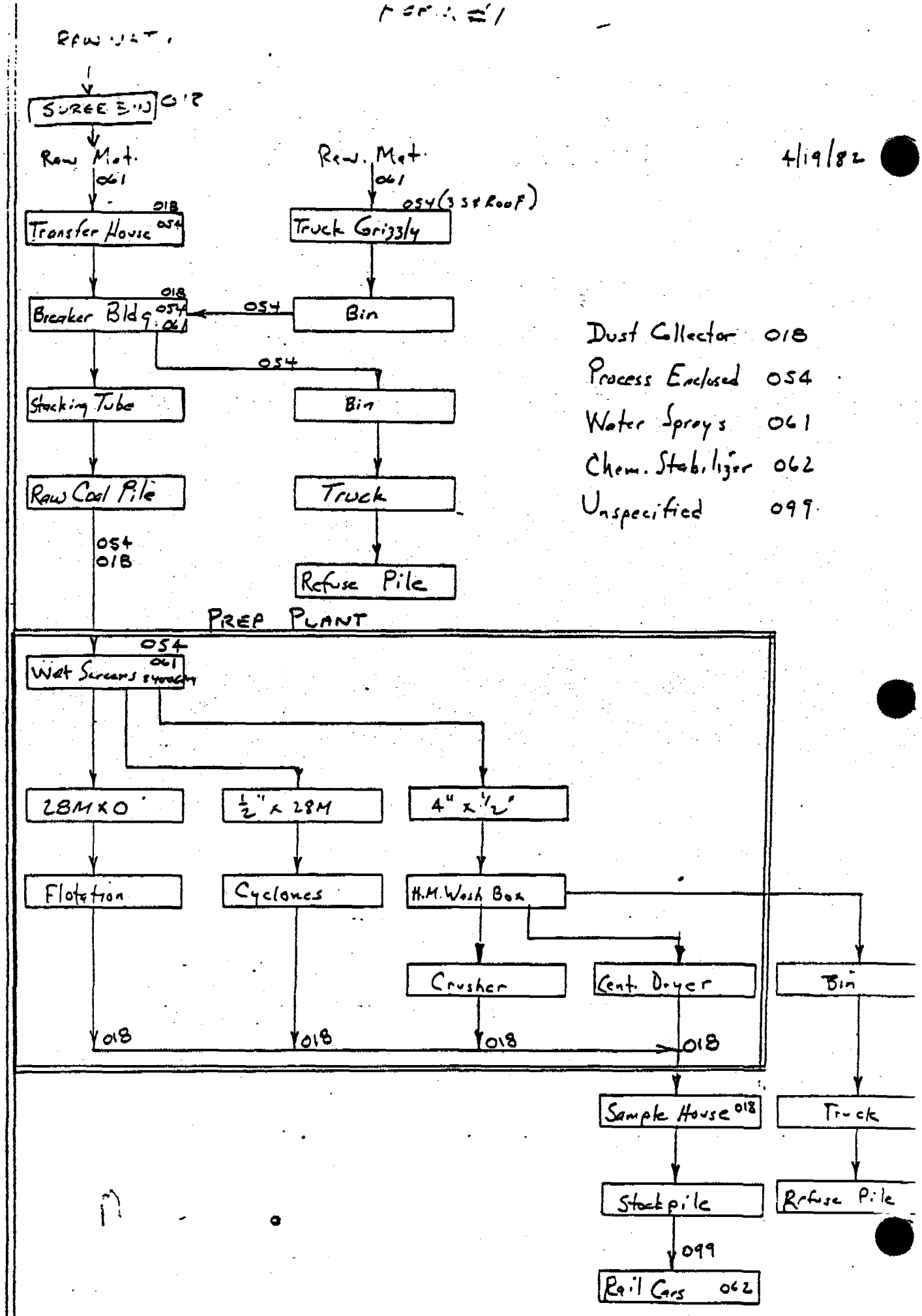
GENERAL

City	County	No. Employees	Land Area	Township/Range	Normal Operation		
					Hr./Day	Day/Wk.	Wk.
per	Carbon	31	50 Acres		7.75	5	5

Form 1. STACK OR VENT INFORMATION

Point Source Identification Number	Date of Last Complying Stack Test	Height (ft)	Exit Diameter (ft)	Temperature (°F)	Flow Rate (ACFM)	Moistur Content
BH-1	None	5	1.2 x 1.33	Ambient	7,750	NA
BH-2	"	8	2 x 2	"	8,400	"
BH-3	"	80	2.5 x 2	"	10,900	"
BH-4	"	6	2 x 2	"	12,200	"
BH-5	"	4	.83	"	1,000	"
BH-6*	"	50	2.5 x 2	"	6,000	"
BH-7*	"	4	2.5 x 2	"	12,200	"

*Not in Service


RAW MAT.
SCREENING
018
Raw Mat.
061
Raw Mat.
061
054 (3 sides Roof)
018
Transfer House 054
Truck Grizzly
018
Breaker Bldg. 054 061
054
Bin
054
Stacking Tube
Bin
Raw Coal Pile
Truck
054
018
Refuse Pile
PREP PLANT
054
061
Wet Screens 4 way
28M x 0
½" x 28M
4" x ½"
Flotation
Cyclones
H.M. Wash Box
Crusher
Cent. Dryer
Bin
018
018
018
018
Sample House 018
Truck
Stockpile
Refuse Pile
099
Rail Cars 062
Dust Collector 018
Process Enclosed 054
Water Sprays 061
Chem. Stabilizer 062
Unspecified 099
4/19/82

PREP PLANT
BAG HOUSES

Date 5/3/82
Firm Name Price River Coal Company
Mailing Address P. O. Box 629, Helper, Utah 84526

Form 2. CONTROL EQUIPMENT

Point Source Identification Number	Primary Control Code Number	Secondary Control Code Number	Combined Collection Efficiency	EMISSIONS (Tons/Year)							Method of Calculation
				Particulates	Uncontrolled (Office Use Only)	SO_x	NO_x	HC	CO	Other Specify	
BH-1	018		99.9%	.054		NA	NA	NA	NA		Materials Salvage
BH-2	"		"	.092		"	"	"	"		"
BH-3	"		"	.092		"	"	"	"		"
BH-4	"		"	.092		"	"	"	"		"
BH-5	"		"	.092		"	"	"	"		"
BH-6	"*		"	NA		"	"	"	"		"
BH-7	"*		"	NA		"	"	"	"		"
	Process										
	* Not in Service										

784.19 Underground Development Waste

LABORATORY ANALYSES REPORT

J. H. M. Laboratories

ANALYTICAL AND CONSULTING LABORATORIES

325 THIRTEENTH STREET
DUNBAR, W. VA. 25064
(304) 766-6283

ATTN: Frank Pero

Price River Coal Co.

P.O. Box 629

Helper, UT 84526

Lab No. See below

Date Sampled See below

Date Received 11/6/80

Analyst Wehman - Villers

Date Analyzed 11/6/80

Lab Numbers	39084	39085	
Identification	Refuse Pile	Refuse Pile Retention Pond	
Date Sampled	10/29/80	10/10/80	
Arsenic	<0.03	<0.03	mg/l
Barium	0.3	0.1	mg/l
Cadmium	0.01	<0.01	mg/l
Chromium	<0.01	<0.01	mg/l
Lead	<0.1	<0.1	mg/l
Mercury	<1	<1	ug/l
Selenium	<1	2	ug/l
Silver	<0.01	<0.01	mg/l

Samples prepared and analyzed according to RCRA EP Toxicity procedure 40CFR 261.

RECEIVED
DEC 1 1980

Submitted by

A. Dayton Carpenter

784.19 Underground Development Waste

July 2, 1982

Rob Willey
Braztah Corporation
Price River Coal Co.
P.O. Box 629
Helper, Utah 84526

Dear Rob:

I would like to thank you again for participating in our DOE funded study on coal refuse. Enclosed is a copy of that portion of the final report which mentions specifically your mine. The remainder of the report will not use your mine's name although useful information for your mine will be discussed. Your comments and approval for submission to the DOE, regulatory authorities, and other mines is desired. I will be contacting you shortly to discuss corrections, additions, and/or deletions for this portion of the report.

We have gained some very useful data from this study and the complete report will discuss alternative reclamation for refuse piles. The complete report will be sent to you within the coming month.

Sincerely,

Susan White

Susan White
Reclamation Specialist

SW:brg

Enclosure

FORM 2

Transfer Point Emissions:

.2 lbs./ton
Bag House provide 99.9% efficiency
.0002 lbs./ton

BH-1

546,409 TPY x .0002 = 109 lbs./year

÷ 2000 = .054 TPY

BH-2, BH-3, BH-4, BH-5

924,092 TPY x .0002 = 185 lbs./year

÷ 2000 = .092 TPY

PREP PLANT
&
#4 LOADOUT

Date 5/3/82
Firm Name Price River Coal Company
Mailing Address P. O. Box 629, Helper, Utah 84526

Form 3. PROCESS INFORMATION

Point Source Identification Number	Process Equipment Description	Raw Materials	Thru Put (Units/Yr.)	% Annual Thru Put				Average Actual Production Rate (Units/hr.)	Design Rate (Units/hr.)
				Winter	Spring	Summer	Fall		
LO-2	Truck Grizzly	Raw Coal	546,409 Tons	25	25	25	25	160 TPH	120TPH
LO-4	Clean Coal Load Out	Clean Coal	779,252	"	"	"	"	170 TPH	100TPH
LO-5	Rail Car Load Out	Clean Coal	779,252	"	"	"	"	"	"
LO-3	Raw Coal Stacking Tube	Raw Coal	924,092	"	"	"	"	200 TPH	1000TPH
LO-1	Raw Coal Load Out #4 Mine	Raw Coal	546,409	"	"	"	"	160 TPH	120TPH

FORM 1

BAG HOUSES - 018

		Type
BH-1	Utah Fuel No. 1 - Surge Bin Ht. - 5' Size: 14 x 18"	DC-1 60
BH-2	Transfer House Ht. - 8' Size: 24 x 24	DC-2 72
BH-3	Breaker Building Ht. - 80' Size: 30 x 24	DC-3 84
BH-4	Raw Coal Stacking Tube Loadout Ht. - 6' Size: 24 x 24	DC-4 96
BH-5A B C D	10" dia., Ht. 4'	
BH-6	Sample Building (Not in Use) 12 - 48 Ht. - 50' Size: 24 x 30	DC-5
BH-7	Clean Coal Loadout (Not in Use) Ht. - 4' Size: 24 x 30	DC-4

3/3/84

Form 5

Name Price River Coal Company

Plant Location Hardscrabble Canyon, Castle Gate (Prep Plant)

By

Fugitive Emission Source Description (be specific)	Materials Used			Production (Tons/hr.)		Pollutants (Tons/Yr.)						% Annual Production			
	Type	% Moisture Content	Quantity (Units/YR)	Design Rate	Average Actual Rate	Particulates	SO_x	NO_x	HC	CO	Other (Specify)	Winter	Spring	Summer	Fall
#4 Loadout Hardscrabble Canyon LO-1	Raw Coal	10%	546,409 TPY	160	120	28 TPY	NA	NA	NA	NA	NA	25	25	25	25
Truck Grizzly at Prep Plant LO-2	Raw Coal	10%	546,409	160	120	.14	"	"	"	"	"	"	"	"	"
Raw Coal Stacking Tube at Prep Plant LO-3	Raw Coal	10%	924,092	1000	200	.09	"	"	"	"	"	"	"	"	"
Clean Coal Load Out at Prep Plant LO-4	Clean Coal	10%	779,252	1100	170	.39	"	"	"	"	"	"	"	"	"
Rail Car Loadout at Prep Plant LO-5	Clean Coal	10%	779,252	"	"	.8	"	"	"	"	"	"	"	"	"

FORM 5

FUGITIVE EMISSIONS

Additional Transfer Points - .2 lbs./ton

#4 Loadout - LO-1

Raw Coal - 546,409 TPY
No controls x .2 ÷ 2,000 = 55 TPY
50% reduction from 10% inherent moisture 28 TPY

Truck Grizzly - LO-2

Raw Coal - 546,409 TPY
Grizzly enclosed on top and 3 sides } 75% control efficiency

10% inherent moisture
.2 x tons = 55 TPY
55 x .25 emissions = 15 TPY

Raw Coal Stacking Tube - LO-3

924,092 TPY - 200 TPH
E = .0002 lbs./ton x tons/year = 185 lbs./year
÷ 2000 = .09 TPY

Clean Coal Loadout - LO-4

779,252 TPY
10% Moisture = 50% control
.2 lbs./ton ÷ 2 = .1 lbs./ton = 77,925 lbs./year
T ÷ 2000 = 39 TPY

Train Loadout - LO-5

Tons same as LO-4
Coal cars sprayed w/chemical
Stabilizer .0002 lbs./ton
T x .0002 = 155 lbs./year
T ÷ 2000 = 0.8 TPY

FUGITIVE DUST

Price River Coal Company

County Carbon

Address P. O. Box 629, Helper, Utah 84526

orm 11

Roads	Type (See Code)	Vehicle Miles Traveled	Average Vehicle Speed (MPH)	Control of Dust		Est. Emissions (Tons/Year)	% Annual Road Usage			
				Method	Number of Applications Per Year		Win	Spr	Sum	Fal
-1 wbelly	2	108,870	20	Mag. Chloride	3		25	25	25	25
-1-Grizzly cess	1	1,492,283	5	Water*	100		25	25	25	25
-2-Refuse le	1	3,209	5	Water	Daily		25	25	25	25
-3 #4 oadout Access	1	373,071	2	Mag. Chloride	3		25	25	25	25
R-4 C Access	1	40,110	10	Water	25		25	25	25	25

*Sprinkling System - Rainbirds

ad Type Codes: 1 - Dirt; 2 - Gravel; 3 - Paved

Pile Location Preparation Map

Piles (Omit if not Applicable)

Type of Material Stored	Average Amount Stored Tons/Year	Sieve Analysis/ Sizing Description	Content of Material		Type of Control Dust/Emissions	Est. Emissions (Tons/Yr.)	% Annual Thru Put of Storage Piles			
			% Moisture	% Silt			Win	Spr	Sum	Fal
lean oal	779,252	1½" to 0"	8%	5%	Inherent Moisture & Water Sprays	10.5	25	25	25	25
aw oal	924,092	10" to 0"	8%	5%	"	12.5	25	25	25	25
efuse	144,840	4" to 0"	22%	5%	"	0.2	25	25	25	25

FORM 11

Road Mileage:

- Sowbelly Canyon - #5 - GR-1
  Gravel Road - 1.5 Miles

  189 employees x 3 miles/day = 567 mpd.
  1 delivery truck per day = 3 mpd.
  Total 570 mpd.

  191 days worked in 1981 due
  to UMWA Strike x 570 = 108,870 road miles

- Prep Plant - Grizzly Truck Access - DR-1
  Dirt Road - .4 Miles

  Coal haul truck from #4 Loadout
  546,409 tons hauled - 1981

  191 hauling days = 2,861 tpd.
  29 tons per truck = 99 round trips/day
  .8 miles/round trip = 79 miles/truck/day

  7,813 Total mpd.
  1,492,283

- Prep Plant - Refuse Pile Access - DR-2
  Dirt Road - .6 Miles = 1.2 Round Trip

  1 refuse haul truck = 55 tons
  144,840 tons/year ÷ 55 = 2,633 hauls/year
  14 hauls/day x 1.2 = 16.8 mpd.
  191 x 16.8 = 3,209 mpy.

- No. 3 Mine - #4 Loadout Access - .1 Miles - DR-3
  1,492,283 ÷ 4 = 373,071 mpy.

- Crandall Canyon - Access Road - 1.4 Miles - DR-4
  2.8 Round Trip

  70 employees x 2.8 = 196 mpd.
  Deliverys - 5 per day = 14 mpd.
  Total = 210 mpd.

  210 x 191 days = 40,110 mpy.

Storage Pile Fugitive Emissions:

E = Tons x .054 - lbs./ton/year -- No controls
50% efficiency = .027 - pile moisture

- Clean Coal = 779,252 tpy x .027 = 21,040 lbs./year
  21,040 ÷ 2,000 = 10.5 tpy

- Raw Coal = 924,092 tpy x .027 = 24,951 lbs./year
  24,951 ÷ 2,000 = 12.4 tpy

Refuse:

22% average moisture - assume 95% efficiency
E Factor .0027

144,840 tpy x .0027 = 391 lbs./year
391 ÷ 2,000 = .2 tpy

Date 5/11/82

OFF HIGHWAY SOURCES
Form 12

Firm Name Price River Coal Company

County Carbon

Address P.O. Box 629, Helper, Utah 84626

Mobile Sources	Number of Vehicles	Tons of Material Moved or Processed/Hr	Type of Material	Emission Controls		Usage (Hrs/Year)		Emissions (Tons/Year)				
				Type of Fugitive Dust Controls	# Applications/Year	Gasoline Powered	Diesel Powered	Particulate	SO_x	NO_x	HC	CO
Scraper		X										
Front End Loader	5	?	Coal Mine Mat'l.	Water Mag. Chloride	See Form 5		10,887					
Shovel												
Haze Dump Truck	9		Coal	"	"		27,504					
End Dump Truck												
Dragline												
Grader	1	X	Earth	"	"		52					
Bulldozer (Track Type)	2	X	Coal	"	"		1719					
Wheeled Dozers		X										
Tractors												
Rollers		X										
Other (Please Specify)												
Backhoe	1	?	Earth	"	"		160					

FORM 12

Equipment:

	Use	Hrs./Day	
- Front End Loaders			
Hough 550	Coal Loading	16	57 Hpd.
Hough 90	Coal Loading	1	
Hough H80B	Fork Lift	16	
Hough H80A	Fork Lift	16	
Cat 988	Load Coal	8	
- Bull Dozers			
Komatsu 155	Push Coal	8	9 Hpd.
Komatsu P65	Push Coal	1	
- Grader			
Hough	Road Work	1 Hr/Week	
- Backhoe			
Case 580B	Miscellaneous	4	
- End Dump Trucks - Coal Handling			
9 Diesel Trucks		16	144 Hpd.

191 Days Worked in 1981

40 Days for Backhoe

PRICE RIVER COAL COMPANY

RESPONSES TO USGS COMMENTS

1. On page 21 of Chapter I, the submittee states an attempt was made to adhere to the Division of Oil, Gas, and Mining's "Permit Applications--General Guideline for Organization Format and Content" (revised November 3, 1980) during the compilation of this document. The GS regulations were not considered and are not satisfied if this one-volume submittal is to be a complete mining and reclamation plan. The only data that can be considered for USGS-CD requirements is where there is duplication of requirements by the DOGM and USGS-CD.

- It is a shame that the government entities must each have a separate submission to satisfy their own desires - we had thought that by previous submissions, that any concerns of the GS had been satisfied, and that the guidelines of the Federal Paperwork Reduction Act (44 U.S.C. 3501 et seq.), had been fulfilled by our submission. A cross reference has been provided in the MRP Preface material.

2. In Chapter II on page 18, it states the following licenses and permits are currently in effect: (pertinent ones listed)

MSHA - Roof Control Plan, Mine No. 3
MSHA - Ventilation Plan, Mine No. 5
USGS - Approved Mining Plan, April 27, 1977
DOGM - Mining Plan Permit, February, 1976

Information required by the "permits" of USGS & MSHA are not included as a part of this submittal and must be included to have a complete mining and reclamation plan on file with the agencies involved and for approval by the Secretary.

- The OSM rules and regulations specifically ask for a "list" of permits currently in effect. List is included. Copies of the roof control and ventilation plans are on file at MSHA offices and will be furnished to the GS at their request. Since these plans are revised every six months, we can see no purpose in including another four inches of paper which will be outdated when received.

3. Since the 211 regulations referred to above were not directly addressed or cross referenced, a listing of the specific parts needing additional information will be listed below with an explanatory brief:

(a) 211.10(c)(2) Description of geologic conditions....Shall include, as a minimum, potential geologic hazards; and a description of the structural features of the coal and overlying strata, including faults, cleats, joints, and fractures.

(b) 211.10 (c)(6)(i) The nature and extent of coal deposit....including estimated recoverable reserves.

(c) 211.10 (c)(6)(ii) The mine plan for a logical mining unit must show the mining of all reserves in a period of not more than 40 years. The complete recovery is shown as 48 years for mine No. 5, 81 years for Price Canyon mine, and 46 years for the Cordingly Canyon mine.

(d) On page 3 of Chapter III, it states "where two seams of minable coal are within 30 feet of each other, then only the more economically minable of the two seams is scheduled to be mined."

The GS will require the top minable seam to be mined first rather than have it sterilized or destroyed. A much greater potential of a spontaneous combustion fire is possible with the upper seam broken up and becoming a part of the gob or caved material. Situations of this type must be reviewed with the GS.

- a. Geology discussed in the narrative.

  b. Reserves discussed in the narrative.

  c. Per telephone conversation with G.S., due to the complicated nature of the reserves, it is impractical to submit feasible plans for a 40 year complete extraction.

  d. All such plans will be reviewed with the RA on a site specific basis.

(e) 211.10 (c)(6)(v) A list of all major equipment.

- A list of major equipment has been included.

  See Chapter III, Section 3.1-9.

(f) 211.10 (c)(6)(vii) The method of operation and measures by which the operator plans to comply...30 CFR 211.4 and 211.40 and any special terms and conditions of the lease permit or license. This can be by a narrative statement including only those items related to resource recovery.

- PRCC will meet the obligations and performance standards required by 30 CFR 211.4, 211.40, and special terms and conditions of the lease permit or license. Methods are discussed in the narrative.

  See Chapter III.

(g) 211.10 (c)(6)(viii) The anticipated starting and termination dates of each phase of the mining operation and number of acres of land to be affected.

- Table included.

  See Chapter II, Section 2.5.

(h) 211.10 (c)(6)(x) The measures for ensuring the maximum practicable recovery of the mineral resource. The GS must review and approve any plans to leave or abandon coal.

- Longwall methods for bulk extraction should ensure maximum recovery. Any plans to leave or abandon coal will be reviewed with the R.A.

  See Chapter III, Section 3.1.

(i) 211.10 (c)(6)(xiv) Plans for protecting oil, gas, and water wells including oil, gas, or water resources encountered underground.

- No known oil, gas, or water wells are on the property. Only water encountered to date is "perched" water, with no acquifers being encountered. All water is used in the mines and preparation plant, with no discharge.

(j) 211.10 (c)(6)(xv) Any justification for not recovering any coal deposits that may be detrimentally affected in terms of future recovery by the development operations proposed.

- Every attempt will be made to recover all the coal - any coal that might be adversely affected will be reviewed with the RA.

(k) Additional miscellaneous data required to assist in evaluating underground mine plans.

(1) Strike and dip of seams to be mined.
(2) Interburden isopachs.
(3) Isopach maps of overlying strata on 250-foot intervals (the 1"=2,000' maps in the report do have overburden lines of 500 foot intervals).
(4) The complete plans approved by Mine Health and Safety Administration for Roof Control and Ventilation System.

The mine plan should also contain a cross reference which designates those sections and pages which contain the 30 CFR 211 requirements.

- (1) Strike and dip shown on maps.
  (2) Interburden isopach shown on maps.
  (3) Per telephone conversation with GS, due to the extreme topography over the area, the 500' interval contours will be accepted.
  (4) Roof control and ventilation plans furnished G.S.

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

August 27, 1982

CERTIFIED MAIL NO. 3968223
Return Receipt Requested

Mr. Lynn Kunzler, Biologist
Utah Department of Natural Resources
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, Utah 84114

RE: Use of Pesticides

Dear Lynn:

As per our telephone discussion of 8/26/82, concerning our intended use of pesticides, specifically herbicides and your verbal approval of such activity, I am providing the requested information.

PRCC intends to use herbicides to suppress vegetation in and within the 15' perimeter of all electrical substations to reduce fire hazard potential. We had discussed the use of two agents, by trade name; "Primatol" and "Roundup". We have chosen "Roundup" due to its lower toxicity to animal life, short duration of persistence and broad spectrum effectiveness.

Application will be at least twice per year, as needed.

Sincerely,

R. L. Wiley
Environmental Engineer

RLW:ga

cc: K. Hutchinson
W. Gore

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

August 31, 1982

Mr. Rob Wiley
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

RE: Herbicide Use
Price River Complex
ACT/007/004
Carbon County, Utah

Dear Rob:

As per your request to use the herbicide by the trade name, "Roundup", the Division finds this herbicide acceptable in its low animal toxicity and its non-persistence. Approval is hereby granted to use this herbicide to control vegetation around PRCC's substations as outlined in your August 27, 1982 letter.

Should you have any further questions, please don't hesitate to call.

Sincerely,

LYNN KUNZLER
RECLAMATION BIOLOGIST

LK/mn

cc: OSM, Denver
Dave Lof, DOGM
Tom Tetting, DOGM

Scott M. Matheson
Governor

James O. Mason, M.D., Dr.P.H.
Executive Director
801-533-6111

DIVISIONS
Community Health Services
Environmental Health
Family Health Services
Health Care Financing

OFFICES
Administrative Services
Community Health Nursing
Management Planning
Medical Examiner
State Health Laboratory

STATE OF UTAH
DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
150 West North Temple, P.O. Box 2500, Salt Lake City, Utah 84110-2500

Marv H. Maxell, Ph.D., Acting Director
Room 474 801-533-6121

533-6146
September 3, 1982

Mr. Robert L. Wiley
Environmental Engineer
Price River Coal Company
P.O. Box 629
Helper, UT 84526

RE: Construction Permit
Crandall Canyon
Sediment Pond Relocation

Dear Mr. Wiley:

We have reviewed the plans and information for the Price River Coal Crandall Canyon sediment pond relocation. Exhibits NP-1, NP-2 and information submitted July 27, 1982 were reviewed.

As a result of our review, the plans for the Price River Coal Crandall Canyon sediment pond relocation are approved provided the lower decant pipe outlet is also equipped with a baffled intake to prevent the discharge of floating debris and oil. This letter constitutes a construction permit for the sediment pond.

As stated before, we recommend that the inside slope be changed to at least 2 horizontal to 1 vertical. Although your consultant's analysis indicates a 1.5 safety factor, the 1 to 1 slope is not considered good engineering practice for a wastewater pond. It is also recommended that the bentonite liner thickness be increased to at least 6 inches. The sediment pond is to provide approximately 50,000 cubic feet of settling for disturbed areas surface runoff and 10,000 gpd of shaft drill water. The Hilfiker wire wall dike is to be over 10 feet wide with an inside slope as discussed above. The 6 inch decant pipe is to be constructed 7 feet above the pond bottom and the sediment level maintained to provide at least three feet of settling above the pond bottom.

Should the effluent not meet State or Federal standards, the company must provide the necessary additional treatment.

Sincerely,

UTAH WATER POLLUTION CONTROL COMMITTEE

Calvin K. Sudweeks
Executive Secretary

SRM:laf
cc: Oil, Gas and Mining
Southeastern Utah AOG
Southeastern Health Department
State Engineer - Dee Hansen

STATE OF UTAH
OFFICE OF THE STATE PLANNING COORDINATOR

SCOTT M. MATHESON,
GOVERNOR

MARTHE F. DYNER,
STATE PLANNING COORDINATOR

September 24, 1982

Price River Coal Company
P.O. Box 629
Helper, UT 84526

Dear Gentlemen:

SUBJECT: NPDES Permit Renewal # UT-0023086- Price River Coal Company
State Application Identifier #UT820824-050

The Resource Development Coordinating Committee of the Utah State Clearinghouse has reviewed this proposal and no opposition to the renewal of this permit has been found.

Thank you for the opportunity to review and comment on this document. Please address any questions regarding this correspondence to Hunter Weiler at 801-533-4970.

Sincerely,

Marthe F. Dyner

Marthe F. Dyner
State Planning Coordinator

/dr

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

November 8, 1982

R. L. Wiley
Environmental Engineer
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

RE: Modification to Topsoil
Removal Plan for
Crandell Canyon Leachfield

Dear Mr. Wiley:

This letter is to confirm the Division's position, as stated in our phone conversation of October 19, 1982, on the change in your proposed methods of topsoil removal from the Crandell Canyon Leachfield site.

Approval is hereby granted for the methods of topsoil removal and replacement as outlined in your letter dated November 1, 1982.

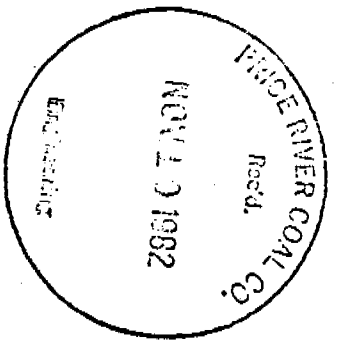
If you have any further questions please feel free to call.

Sincerely,

EVERETT HOOPER
RECLAMATION SOILS SPECIALIST

EH/lm

cc: Jim Smith, DOGM
Tom Tetting, DOGM



cc [illegible]

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

November 15, 1982

CERTIFIED MAIL NO. 3968249
Return Receipt Requested

Mr. Ronald W. Daniels
Deputy Director
Utah Department of Natural Resources
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, Utah 84114

Dear Sir:

Price River Coal Company hereby requests permission to delete subsidence monitoring under UMC 784.20 for the following reasons:

1. There are no structures within the area of subsidence.

2. No renewable resources will be materially damaged.

3. No second mining will take place within an approved angle of draw (currently 45° as approved by the U.S.G.S. under the 211 Mining and Reclamation Plan) near sensitive areas. This would prevent subsidence from damaging any sensitive structures such as water tanks, highways, rivers, or railroads. No pipelines are located within the area of subsidence.

4. Due to the extremely mountainous topography, the monitoring results have little, if any, practical value.

5. Data collected to date should be sufficient (3 years monitoring data).

If you have any questions, we would be happy to discuss them with you.

Very truly yours,

K B Hutchinson

K. B. Hutchinson
Chief Engineer

KBH:ga

cc: Gordon Cook, PRCC
[redacted]
L. Adair, PRCC
A. Muse, PRCC
B. McKean, MMS, SLC

Scott M. Matheson
Governor

James O. Mason, M.D., Dr.P.H.
Executive Director
801-533-6111

STATE OF UTAH
DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
150 West North Temple, P.O. Box 2500, Salt Lake City, Utah 84110-2500

Marv H. Maxell, Ph.D., Acting Director
Room 474 801-533-6121

533-6146
November 17, 1982

Mr. Steven Durham, Regional Administrator
Environmental Protection Agency
Region VIII (8E)
1860 Lincoln Street, Suite 103
Denver, CO 80295

RE: NPDES Permit Certification
Permit No. UT-0023086
Price River Coal Company

ATTENTION: Pat Godsil, Chief
Compliance Branch
Water Management Division

Dear Mr. Durham:

The State has reviewed the above referenced draft permit and public notice dated August 30, 1982 and Price River Coal Company letters of September 27, October 28 and November 9, 1982. It is hereby certified that the proposed conditions to be imposed for said permit should result in compliance with applicable State water quality standards provided:

1. The total dissolved solids limitation is increased to no more than 2000 mg/l, 1 ton of salt per day and 350 tons of salt per year. A monthly report should be submitted for months with mine water discharges.

2. There are no chemicals added to the discharge of raw water from the water treatment plant. Monitoring and reporting is not required for discharge of raw water which contains less suspended solids than the intake water.

It is further certified that to the best of our knowledge no other applicable effluent limitation or other limitation under Section 208e, 301, 302, 303, 306 and 307 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 466 et. seq.) presently exist.

Sincerely,

UTAH WATER POLLUTION CONTROL COMMITTEE

Calvin K. Sudweeks
Executive Secretary

SRM:laf
cc: Price River Coal Company
Southeastern District Health Dept.
Southeastern Utah AOG
1379

Scott M. Matheson
Governor

James O. Mason, M.D., Dr.P.H.
Executive Director
801-533-6111

DIVISIONS
Community Health Services
Environmental Health
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STATE OF UTAH
DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
150 West North Temple, P.O. Box 2500, Salt Lake City, Utah 84110-2500

Marv H. Maxell, Ph.D., Acting Director
Room 474 801-533-6121

533-6146
November 22, 1982

R.L. Wiley
Price River Coal Company
P.O. Box 629
Helper, UT 84526

RE: Mine Water Discharge

Dear Mr. Wiley:

The Utah Bureau of Water Pollution Control has reviewed the November 9, 1982 mine water discharge information submitted by Price River Coal Company. Information on the reduced mining activity, mine water quality data, sump location and the typical pump setup diagram were reviewed.

As a result of our review this letter constitutes an approval for Price River Coal Company to discharge approximately 0.12 MGD of mine water to the Price River below the intake of the water treatment plants.

This mine water is to be settled in underground sumps prior to discharge. Intakes to the pumps are to be at least 1 ft below the water surface and three ft. above the bottom. When practical the mine water must be used for mining equipment, dust control and preparation plant process water.

If the system fails to meet State or Federal Standards, additional treatment must be provided.

Sincerely,

UTAH WATER POLLUTION CONTROL COMMITTEE

Calvin K. Sudweeks
Executive Secretary

SRM:laf
cc: Division of Oil, Gas & Mining
Southeastern District Health Dept.
Southeastern Utah AOG
1381

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80295-0699

NOV 26 1982

Ref: 8WM-C

Mr. Robert L. Wiley
Environmental Engineer
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

Re: New Discharge Point Under NPDES
Permit No. UT-0023086

Dear Mr. Wiley:

In your letter dated November 9, 1982 to Steven R. McNeal you requested a new discharge point. The map that was included with the November 9, 1982 letter located the new discharge point. The information that you submitted was utilized to place this new discharge point, Outfall 020, on your existing area map. This change was made on November 22, 1982 and will be considered a Revised Area Map submitted pursuant to Part III, A.1 of your permit. You are hereby authorized to discharge from Outfall 020, shown on the November 22, 1982 Revised Area Map, subject to the limitations contained in Part I, A., of your permit.

On November 17, 1982 the State of Utah certified your renewal permit. The total dissolved solids limitations that were certified by Utah were 2,000 mg/l, one (1) ton per day and 350 tons per year. These limits will be included in the new permit. Utah further certified that as long as no chemicals were added to the raw waste discharged from the water treatment plant that they would not require monitoring or reporting. Therefore, Effluent Limitations for Outfall 001 contained on page 2 of the draft permit will be deleted from the final permit.

If you have any questions, please contact Rob Walline at telephone (303) 837-4901.

Sincerely yours,

Patrick J. Godsil
Chief, Compliance Branch
Water Management Division

cc: State of Utah

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

December 7, 1982

Mr. Rob Wiley
Price River Coal Company
P.O. Box 629
Helper, Ut 84526

RE: Apparent Completeness Review
Price River Complex
ACT/007/004
Carbon County, Utah

Dear Rob:

Transmitted herewith is a copy of the joint OSM/DOGM review of Price River Coal Company's response to the ACR. As you will note, several items are still deficient and must be submitted before the Division can complete its technical analysis.

Please review the enclosed document, noting any problems or areas of concern. Then, at your earliest convenience the Division would like to set up a meeting in Salt Lake with OSM, the consultants, and Price River Coal Company to discuss the review and the deficiencies.

Should you have any questions, please don't hesitate to call me or Tom Tetting of my staff.

Sincerely,

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

TNT/LMK/tck
enclosure

cc: Bennett Young, OSM
Tom Tetting, DOGM
Lynn Kunzler, DOGM
Joe Lyons, DOGM
Everett Hooper, DOGM
Pamela Grubaugh-Littig, DOGM

APPARENT COMPLETENESS REVIEW

Price River Coal Company
Price River Complex
ACT/007/004, Carbon County, Utah

771.23 Permit Applications: General

Nowhere in the application is it clearly stated for which mines this application applies, and which mines are excluded.

The applicant must provide a map showing where underground coal mining activities occurred both prior to and after August 3, 1977. Mining prior to and after May 3, 1978; as well as prior to the approval of the regulatory program, and after the estimated date of issuance of a permit by the Division must also be shown.

UMC 782.13 Identification of Interests

Complete.

UMC 782.14 Compliance Information

Complete.

UMC 782.15 Right of Entry and Operation

complete.

UMC 782.16 Relationship to Areas Unsuitable for Mining

Complete.

UMC 782.17 Permit Term

See comments under UMC 771.23.

UMC 782.18 Personal Liability and Property

Complete.

UMC 782.20 Public Office for Filing

Complete.

UMC 782.21 Newspaper Advertisement

Complete.

UMC 783.13 Hydrology/Geology Information

See comments under UMC 783.14, 783.15 and 783.16.

UMC 783.14 Geology Description

The applicant must provide analyses for pyrite content of the coal as well as the stratum immediately above and below the coal. The information provided in Tables 6-1, 6-2 and 6-3 does not include pyrite.

Table 6-1 must include analyses of all nine target coal seams rather than the six presented.

UMC 783.15 Ground Water Information

Inadequacies in the description of the hydrogeologic system present at the Price River Mine Complex were a major topic of concern in the April 1981 ACR. To date, these inadequacies have not been rectified. It is still unclear exactly how the mining sequence and surface disturbances proposed for the Price River Mine Complex relate to the ground water system present in the area. The applicant needs to provide a more detailed description of the hydrogeology of the area, as requested initially in the original ACR. For example, piezometric contour maps have not been provided for the subsurface waterbearing zone(s) eluded to in the text of the mine plan. The three geologic cross-sections presented in Chapter VI of the application denote the presence of subsurface water, yet it is unclear, without a piezometric surface map, what the flow direction(s) and hydraulic gradient(s) are for the waterbearing zones identified. The applicant should also provide, at a minimum, in addition to the piezometric surface map:

1. A specific description of the recharge and discharge areas for the waterbearing zones identified. Of related concern is the potential for hydraulic communication between the bedrock ground water and the alluvial ground water located along the principal drainages in the study area. It is conceivable that the alluvium could be a principal point of discharge for the deeper bedrock zones. If this potential for discharge to the alluvium is found to be present, it could have further importance in terms of assessing impacts to potential alluvial valley floors located along the principal drainages.

2. A detailed description, including appropriate references, of the methodologies employed to determine hydraulic conductivities of the bedrock zones. At present, all that is known is that the applicant conducted "packer" tests, without any further detail on how the tests were employed. A statement regarding the accuracy of the measurements (10^{-5} to 10^{-7} cm/sec) should also be provided.

3. A quantification of transmissivity values for the waterbearing zones present. Aquifer yield is a function of both saturated thickness and hydraulic conductivity. At present, an attempt has been made to estimate only hydraulic conductivity.

4. The elevations of the tops of the waterbearing zones present.

The applicant states on page 1-3 of the introduction to the permit application that ". . . water accumulations in abandoned mine workings are substantial." This indicates that regulatory requests for additional ground water information are justified, and that a more accurate projection of possible mine ground water inflows by the applicant is necessary. This is important from an operational standpoint (e.g., how much mine water may be intercepted) as well as from an abandonment standpoint (e.g., will water enter the mine workings and subsequently degrade in quality). Also, if mine inflow were to occur following abandonment, the timing of ground water discharges would be affected downgradient of the mine, and hence, a change in the water balance would be realized. In light of the fact that "substantial" accumulations of water have accumulated in abandoned mines in the area, the applicant must provide a more quantitative evaluation of potential ground water impacts resulting from their mining sequence.

The applicant should identify the locations of the mine workings which have experienced the "substantial" mine inflow described above.

The applicant should provide a detailed identification, including a map, of known ground water users in the area. If ground water users are not identified, the applicant should clearly show the radius about the permit area utilized in the inventory.

The applicant provided a Water Quality Summary by Vaughn Hansen Associates as Appendix 7-A. Attachment 1 of that summary, which apparently discusses hydrologic evaluations of the Blackhawk Formation, was not included in the permit application. Please provide this document.

The hydrogeologic characteristics of the coal seams has not been discussed by the applicant. It is stated that the coal contains a relatively high moisture content. It is conceivable that the coal seams in the area serve as waterbearing zones, worthy of further characterization.

The applicant, on page 371, refers to a summary of hydrologic test results as being contained in Exhibit 6-12. No Exhibit 6-12 was found in the permit application. On page 372, it is stated that further monitoring is on-going. What is the nature of these further efforts? What is the timing and schedule for completion?

Ground Water Monitoring. The applicant has presented the results of past ground water monitoring activities at the site which have taken place, under various programs, since 1977. It is apparent that the program has evolved during the time period 1977 to September 1981 (the latest date for which data were submitted) with the addition of some monitoring stations and the deletion of others. It is unclear which stations will be utilized for long-term, future monitoring at the site. The applicant should explicitly identify which of the stations will be utilized for future activities.

The analytical parameter list has also gone through a number of modifications during the 1977 to 1981 period. The applicant should provide a statement confirming which set of parameters will be utilized for future monitoring activities, since the data provided to date show that several lists have been utilized in the past.

Table 7-1 on page 370 of the permit application identifies ground water monitoring stations, which the text of the application says are located on Figure 7-1. Four wells from Table 7-1, B-40, B-41, B-42 and B-43 are not located on Figure 7-1. Please identify the locations of these stations.

The water quality summary provided by Vaughn Hansen Associates (Appendix 7-A) does not identify depth to water (and hence, piezometric level) in the monitor wells at the time of sample collection. Is this information available? Such information is crucial to the applicant's contention on page 372 of the application that water levels have not been affected in the Blackhawk Formation by previous mining activities.

Also, the ground water summary presented in Appendix 7-A identified "flow (cfs)" as a measurement parameter for the wells. How was this parameter determined? Is it the extraction rate used for sample collection?

UMC 783.16 Surface Water Information

The applicant should provide a description of the design and construction of the surface water monitoring stations, including the type of flow gauges in use.

The applicant should identify the watershed areas for all the principal drainages which are located in the mine plan area. For example, the drainage areas for the Price River (above the downstream limit of the mine complex), Willow Creek, Hardscrabble Canyon, Sowbelly Gulch, Spring Canyon, Bear Canyon, Crandall Canyon, Sulfur Canyon Creek and Fork Creek should be provided.

At a minimum, long-term mean annual yield for Willow Creek, Spring Canyon Creek and the Price River (the three perennial streams in the study area) should be provided. If such information is available for the nonperennial tributory drainages also, it should be provided.

The applicant needs to provide a discussion of NPDES discharges to the surface water resources in the area. What is the result of past NPDES monitoring activities conducted to date?

UMC 783.18 Climatological Information

Complete.

UMC 783.19 Vegetation Information

Complete.

UMC 783.20 Fish and Wildlife Information

Complete.

UMC 783.21 Soils Resources Information

Complete

UMC 783.22 Land-Use Information

The applicant has not provided a map which illustrates existing land-uses within the proposed permit area.

The applicant must describe previous mining activities on-site with respect to the criteria outlined in parts 783.22(b)(1) through (5) of this section of the regulations. Present references to the items required under this section are brief, general background statements which don't adequately address all five criteria in this section.

The applicant must describe any land-use classifications of the permit area which exist under local law.

UMC 783.24 Maps: General

Nowhere in the application is it concisely stated for which mines and associated surface disturbances this application applies. It appears that the current permit area includes mines 3 and 5 and existing surface disturbances, as well as the Castle Gate preparation plant and associated refuse pile. If this is so, Exhibit 3-20, showing mining in the Panther Mine area, should be revised to show the correct dates when mining will occur.

The applicant must provide a map showing all sub-areas where it is anticipated that additional permits will be sought.

A map showing the location and use of all buildings in the permit area as well as those within 1,000 feet of the permit area must be included.

UMC 783.25 Cross-sections, Maps and Plans

The applicant should specify that the mines identified on Exhibit 3-1 constitute all of the active and inactive mine openings within the mine plan area and adjacent areas. It should be indicated just what kind of closing (type) or useage has been employed by the operation.

Projections on cross-sections A-A' in the exhibit are too vast for practical use. For example, MC-53 is projected 5,100 feet from the north and MC-132 is projected 5,200 feet from the south, thus resulting in a shift of nearly two miles. Several holes appear to be more relevant to the nature of cross-sectional depiction (e.g., MC-170, MC-73, MC-77, MC-100, MC-61). What is the justification for the particular pattern of observation points referenced?

Cross-sectional slope measurements are lacking for areas critical to the mine plan, e.g., Schoolhouse Canyon-Castlegate Prep Plant area, Hardscrabble and Sowbelly canyons and Willow Creek. These should be developed in a representative fashion for areas that may be considered as reasonable examples of the disturbed area (e.g., the distance along the line between the Price River and the drainage ditch above Schoolhouse Canyon; portal areas in the canyons through refuse piles; across access roads; etc.).

UMC 783.27 Prime Farmlands

Complete.

UMC 784.11 Operating Plan

The location and areal extent of the topsoil storage area in Gravel Canyon must be shown on a map along with the surface water control structures. Reference the date of submittal if these have already been provided.

UMC 784.12 Operating Plan: Existing Structures

Information for each of the existing structures utilized by PRCC must be provided as required by this part. In particular, the stability of any cuts and fills in the surface facilities areas must be identified; as well as areas where mine development waste, and shaft construction waste is, or has been, disposed of.

In the narrative description of the Willow Creek facilities (page 164, Section 3.6 of the permit application), the applicant discusses the failure potential for embankments, including piping and tension cracks. Some elaboration of this discussion is necessary: (1) which dike has failed, and was it repaired; and (2) have remedial measures been effective?

UMC 784.13 Reclamation Plan: General Requirements

The applicant must provide information on measures to be taken if temporary closure becomes necessary as required by UMC 817.131.

The applicant should define the boundaries of the proposed permit area (see UMC 771.23).

The amount of proposed bond must include the cost for grading of the refuse pile and reclamation of the pile, for the worst case situation, if the site is abandoned prior to complete pile construction. In addition, the closure costs for the portals must be estimated in more detail along with building removal costs. References are available which provide reasonable data to make a more detailed estimate.

The specific dates anticipated for reclamation of the disturbed areas must be noted for all disturbances in the permit area, for each major step of the reclamation process.

Plans and cross-sections must be submitted showing the existing and final surface configuration of all areas disturbed by mining. Cross-sections of the sites are the only way to ensure that the disturbed areas are being returned to the most stable configuration reasonably possible.

Specific plans should be provided showing how each portal and shaft will be closed to ensure that the design is adequate for each particular setting. Consideration of potential hydraulic heads on portal seals subsequent to closure must be taken into account.

The applicant has indicated that the sedimentation ponds are numbered acording to their NPDES permits. A list is given on page 48, Section 2.7 in the permit application that includes three NPDES permits. The narratives given in Chapter 3 and information located on Exhibits 3.2-1, 3.3-1, 3.4-1 and 3.6-1 indicates that there are at least eight existing sediment ponds, a minimum of three proposed ponds and numerous, undescribed structures called sedimentation basins. The applicant must: (1) explain why there are not more NPDES permits; (2) supply a more complete list of NPDES permits if possible; (3) provide a narrative of the requirements (monitoring and effluent limitations) attached to the NPDES permits for each discharge point; and (4) provide a thorough discussion of any violations of NPDES effluent limitation requirements that may have occurred at any exsiting pond (or basin) and the remedial measures that have been implemented or proposed to correct the violations.

The applicant's figures for disturbed areas that will be reclaimed do not match those that indicate the total amount of disturbance. This area should be clarified so a valid estimation of soil material required for reclamation can be made.

Recommendation

Due to the severe lack of soil material for reclamation, the applicant should consider some type of study to determine the feasibility of using soil material present at the areas that are prelaw disturbance

UMC 784.14 Reclamation Plan: Protection of Hydrologic Balance

The applicant must clearly indicate where all the sediment and sludge cleaned from every sediment pond or basin in the permit area is being disposed of.

On page 125 of the permit application, the narrative on Hardscrabble Canyon explains that coal wastes and fines have been dumped into the stream channel, but that remedial measures will not be continued at present due to the limited life of the facility. The applicant should provide data on the significance of this contamination, i.e., the changes in surface water quality that have occurred since the material was dumped in the stream.

Throughout Chapter 3 of the permit application, the applicant mentions that small area exemptions from sedimentation ponds are being requested. In order to evaluate these requests, the applicant must locate these areas on Exhibits 3.2-1, 3.3-1, 3.4-1 and 3.6-1. Additionally, acreages of the small area exemption requests should be provided in every case and the applicant should explain the alternative sediment controls that will be used in those areas.

The applicant has designed sedimentation ponds based on a sediment value derived initially from the Universal Soil Loss Equation (USLE) on pages 401-409, Chapter 7 of the permit application. Several questions arose during the review of this methodology:

1. On page 401, the applicant states that precipitation varies from 10 to 20 inches across the permit area. This fact is later used to support the contention that the sediment derivation for Crandall Canyon is a worst case analysis since that area receives the highest amount of rainfall. The applicant should discuss why Crandall Canyon was used as a worst case solely on the basis of precipitation since the R factor for the entire mine is 40 anyway and is not particularly affected by precipitation amount at the minesite according to Figure 1 of the permit application. In other words, could there be other areas of the mine that are yielding large sediment contributions to ponds based on parameters other than precipitation that are factored into the USLE?

2. According to the USLE calculations on page 405 presented as an example for arriving at the typical sediment contribution, .016 acre-feet per acre per year could be expected as a "worst case." According to UMC 817.46(1), annual sediment volumes calculated via the USLE or an equivalent methodology must be tripled to arrvie at the required pond sediment storage volume. In this case, that requirement would dictate a sediment storage volume of .048 acre feet (.016 acre feet/acre/year X 3 years). This would contradict the applicant's argument presented on page 409 of the permit application that the calculated sediment contribution is less than .035 acre-feet/acre. Therefore, the applicant should re-evaluate the use of .035 acre-feet/acre as a conservative estimate and supply supporting data for the chosen methodology.

The applicant has sized all the sediment ponds based on the storm runoff and the sediment contribution. These quantities are presented in tables in Chapter 3 of the permit application under the respective surface facilities areas. These tables are confusing. Better column headings are necessary (see example on following page). Estimates of sediment produced from vegetated areas is lacking in all pond calculations. If they drain to sediment ponds, erosion from these areas must be included in sediment capacity estimates.

The applicant must provide a clear explanation of structures scattered throughout the surface facilities that are referred to as sedimentation basins and for which no design data were supplied. What distinguishes a sedimentation basin from a sedimentation pond? According to UMC 700.5, a sedimentation pond is also an excavated depression, as well as a barrier or dam. The applicant should provide a good definition of sedimentation basins as utilized at this minesite and provide plans, cross-sections and calculations for each existing and proposed structure.

UMC 784.15 Reclamation Plan: Postmining Land-Use

The applicant must indicate what type of support activities will be required to achieve the proposed postmining land-use.

The applicant should evaluate the compatibility of the proposed land-use with any existing or proposed surface water plans, and with any applicable State and local land-use plans.

Comments submitted to the applicant by owners of the affected lands should be summarized by the applicant.

UMC 784.16 Reclamation Plan: Ponds and Banks

Potential effects of subsidence from underground mining on the embankment structure for the refuse pile settling pond must be evaluated.

Example Table 3.2-4(B)

Sub-basin	Area (acres)	10-year Storm Runoff Volume		25-year Storm Runoff Volume		Sediment Volume
		508 ft^3/ac of Vegetated Area	908 ft^3/ac of Disturbed Area	2,723 ft^3/ac of Vegetated Area	3,630 ft^3/ac of Disturbed area	0.035 ac-ft/ac
Disturbed	11.9	--	10,805	--	43,197	18,143
Vegetated	2.3	1,168	--	6,263	--	
TOTAL	14.2	11,973 ft^3		49,460 ft^3		18,143 ft^3

An inspection plan must be provided to meet the requirements of the design of the embankment structure for the refuse pile settling pond, and must be certified by a registered professional engineer.

A detailed geotechnical analysis must be provided which shows the stability of the refuse pile settling pond embankment structure. This analysis must incorporate consideration of the following factors: (1) an analysis of the effects of the water flowing through the embankment, the anticipated phreatic surface must be identified; (2) the stability of the foundation material and the potential for seepage through the foundation.

Maintenance requirements for the embankment structure at the refuse pile settling pond must be identified.

The applicant has assumed that discharge structures are not required for some ponds that can retain the sediment and runoff from a 25-year storm event. According to UMC 817.46(d), every sedimentation pond (which includes excavated depressions per UMC 700.5) must be provided with a "nonclogging dewatering device or a conduit spillway approved by the Division." The applicant must upgrade existing sedimentation ponds to conform with this part of Subchapter K, and provide discharge structures for all proposed sedimentation ponds. The submitted information should include: plans; cross-sections; calculations; and, methodology used to design the discharge structure (refer to UMC 817.46[g][i]).

The applicant has provided locations for the majority of sedimentation ponds on Exhibit 3.2-1 (Sowbelly Gulch), 3.3-1 (Hardscrabble Canyon), 3.4-1 (Castle Gate and Utah Fuels #1) and 3.6-1 (Willow Creek). There have not been any usable plans or cross-sections, however, save for a few insufficient cross-sections provided in Exhibit 3.2-2. An analysis of sediment pond adequacy requires that the following items be submitted for each existing and proposed sediment pond:

1. Outlines of the drainage areas to each pond shown on the above exhibits.

2. A plan view map for each pond or cross-sections through the entire structure to be used for calculating available storage; a cross-section of each embankment used to construct a sedimentation pond that is to-scale, showing the top width, height, side slopes and spillway locations; typical cross-sections or plan views of the principal and/or emergency spillways from which dimensions can be obtained; calculations showing that the emergency spillway is capable of adequately passing the runoff (keyed into peak flows in Table 7.5) from a 25-year, 24-hour storm event alone or in conjunction with the principal spillway; placement of erosion controls.

On Exhibit 3.4-1, the applicant shows proposed sedimentation ponds 27A and 27B. The explanation for these ponds is presented on page 146 of the permit application. The applicant should present a drainage area map that clearly shows how runoff formerly routed to ponds 011 and 012 will flow into these proposed ponds.

On page 116 of the permit application, the applicant explains that three sedimentation ponds in the Sowbelly Gulch area are connected via an 18-inch corrugated metal pipe. What purpose does this serve? The volume analysis for these ponds should be re-evaluated to show that each pond, or one at a lower elevation, is capable of providing runoff and sediment storage for the designated drainage areas.

The applicant should specify what the design of the refuse disposal site will be and which of the design suggestions that Golder Associates has made will be utilized in the design of the refuse pile. Assuming that the design of the refuse pile will follow all aspects of the design criteria suggested by Golder, the following information is still required.

1. An estimate of the quality of the water draining from the refuse material must be made to assess potential hydrologic impacts.

2. Details must be provided on the analysis utilized to determine the safety factors.

3. If portions of the alluvium/colluvium are removed to cover the refuse pile (page 4-5), will there be enough left to act as a drain (page 6-12) and will it remain sufficiently uncompacted after equipment has traversed it to allow water to percolate through it?

4. The applicant should provide for drainage of the pile during the initial stages of construction and then, subsequent to further testing, if drainage is not needed, delete the drain construction rather than the opposite as suggested on page 6-12. This way, costly reconstruction of the pile might be avoided.

5. The amount of time required to drain the refuse pile in order to ensure stability during construction should be incorporated into the construction requirements of the pile.

6. The applicant should ensure that the refuse material will be compacted to 95 percent of the maximum dry density.

7. An inspection program must be developed showing compliance with UMC 817.82.

8. A materials handling plan should be provided showing the volume of material to be removed, stockpiled and replaced to achieve the required four feet of cover and required topsoil during various stages of construction.

9. A survey of springs and seeps in the disposal site must be made.

10. The effect of subsidence on the stability of the pile must be evaluated (see related comments under UMC 784.20).

11. The applicant is required by UMC 817.81 to comply with UMC 817.71-.73. As such, the applicant is required to construct a sub-drainage system. A plan must be submitted showing compliance with this requirement.

12. All plans for the design of the refuse pile must be certified by a registered professional engineer.

13. A plan to ensure the mixing of fine and course refuse must be provided. Also, the applicant must specify if any of the thickener underflow be disposed of at the refuse pile site.

14. The application should include a plan specifying the maintenance schedule for sediment removal from sediment ponds.

UMC 784.17 Protection of Public Parks and Historic Places

See comments in Attachment A.

UMC 784.18 Public Roads

Complete.

UMC 784.19 Underground Development Waste

See comments under UMC 784.16.

UMC 784.20 Subsidence Control Plan

The applicant must provide justification that the Castle Gate Sandstone is capable of subsiding without cracking and as such will not cause surface cracking. An analysis should be provided relating subsidence in mined out areas to the percent of coal extracted in those areas. A relationship between coal extraction, seam depths, seam thicknesses and subsidence can be made which could be utilized to predict anticipated subsidence in longwall areas and areas where first mining will occur.

It appears that the subsidence control points utilized in subsidence monitoring are located over previous mining and within the angle of draw of adjacent mining. The applicant must provide data showing that all measurements were made form points unaffected by mining.

The table provided on subsidence data collected to date are mostly unreadable. A readable table must be provided.

UMC 784.22 Diversions

The applicant should locate the typical channel cross-sections for the Schoolhouse Canyon Refuse Pile diversion (Figure 5-3 of the Golder Report) on a plan view of the diversion, so that an evaluation of velocities in various segments of the channel is possible.

On page 5-4 of the Golder Report, a statement is made implying that some portions of the diversion might be constructed in unconsolidated material. This would be an unfavorable situation where the diversion makes a 90 degree swing to the northwest. Therefore, erosion controls must be placed at that juncture or the applicant should demonstrate that the bend in the diversion will be excavated in rock.

In Chapter 7, on Table 7.5, the applicant has presented peak flow calculations that could be used to size the existing and proposed ditches and culverts at the surface facilities areas. The applicant should confirm that these flows were indeed used for that purpose, then supply calculations showing that each diversion and culvert to be utilized during this permit term is capable of adequately passing its assigned peak flow. This could be handled via a table showing the Manning's Equation parameters utilized for each ditch design, its applicable Q-value and resulting velocity. A similar table could be used for each culvert, showing its required Q (again, from Table 7-5) and the designed pipe diameter. A typical cross-section for the ditches could be acceptable, providing that special cases were also provided with cross-sections. These calculations and cross-sections should be keyed into the appropriate plan view map (Exhibit 3.2-1, 3.3-1, 3.4-1 and 3.6-1).

Unless surface water monitoring data proves that these are ephemeral streams, longitudinal profiles should be provided for the larger stream channel diversions, such as Sowbelly Gulch showing pre-construction conditions (if available), existing conditions and proposed restoration.

UMC 784.23 Operations Plan: Maps and Plans

It does not appear that pond 011 has been shown on Exhibit 3.4-1 which depicts surface facilities for the Castle Gate area.

The applicant has made a statement that berms are constructed around the surface facilities at the mine (page 413, Chapter II) as an integral part of controlling runoff from disturbed areas. These berm locations should be shown on Exhibits 3.2-1, 3.3-1, 3.4-1 and 3.6-1 so that a realistic evaluation of surface water control can be made. It is not possible to look at the exhibits and determine where runoff is flowing unless these berm locations are clearly shown on the exhibits.

The small sumps mentioned on page 114 of the permit application should be shown on Exhibit 3.2-1.

The culverts proposed for the access road in the Sowbelly Gulch area mentioned on page 114 should be located on Exhibit 3.2-1. Associated plans and calculations should also be submitted.

The applicant should provide stationing on the plan view lines of sedimentation pond cross-sections shown on the surface facilities maps so that some correspondence can be made between those plan views and the cross-sections on Exhibit 3.2-2.

The area of land for which the performance bond will be posted must be identified.

Areas where underground development waste has been disposed of must be identified.

UMC 784.24 Transportation Facilities

Detailed descriptions and drawings have not been provided for conveyors and rail systems as required by this section.

UMC 784.25 Return of Coal Processing Waste

Not applicable.

UMc 784.26 Air Pollution Control Plan

Complete.

UMC 785.13 Experimental Practices

Not applicable.

UMC 785.17 Prime Farmlands

Complete.

UMc 785.19 Alluvial Valley Floors

Have been included in new response.

UMC 785.21 Coal Plant Not in Mining Plan Area

Not applicable.

UMc 785.22 In-Situ Processing

Not applicable.

UMC 785.11 Public Notice of Filing

Complete.

UMC 786.25 Permit Term

Complete.

UMC 800.11 Filing Bond

Complete.

UMC 800.12 Liability Insurance

Complete.

UMC 805.11 Determination of Bond

See comments under UMC 784.13.

A breakdown of how bonding cost was computed should be compiled to a single breakdown table itemizing areas of reclamation with manpower and machinery as well as materials required, rather than referencing scattered portions of the submittal.

UMC 805.13 Period of Liability

Complete.

UMC 806.11 Form of Bond

Complete.

UMC 806.14 Terms of Liability Insurance

Complete.

UMC 817.11 Signs and Markers

The applicant has provided signs and marker information for the Crandall Canyon site only. This information must be provided for all of the permit area and applicable mines.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80295

DEC 06 1982

Ref: 8WM-C

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Robert Wiley
Environmental Engineer
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

Dear Mr. Wiley:

Herewith enclosed is the NPDES permit for Price River Coal Company, UT-0023086. This permit shall become effective and issued thirty (30) days following your receipt of this letter unless, within thirty (30) days following the date of receipt, you submit a request for an evidentiary hearing in accordance with the provisions of 40 CFR Section 124.74. Such request must be addressed to:

Steven J. Durham (8A)
Regional Administrator
U.S. Environmental Protection Agency
Region VIII, Suite 103
1860 Lincoln Street
Denver, Colorado 80295

If you have any legal questions with regard to this matter, please contact the Regional Counsel's office at (303) 837-4813. Questions regarding monitoring requirements should be directed to Mr. Douglas Skie at (303) 837-4335.

Sincerely yours,

Max H. Dodson
Acting Director
Water Management Division

Enclosures

NPDES Discharge Permit
EPA Form 3320-1 for reporting
self-monitoring

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

December 9, 1982

Mr. Tom Tetting
Engineering Geologist
Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114

Re: Drainage Control Improvements at the Castle Gate Preparation Plant

Dear Mr. Tetting:

The following drainage control improvements will be installed to bring the preparation plant surface facility into compliance with permanent performance standards. The situation with the present drainage controls was outlined in PRCC's MRP revision on pp. 146-147.

A number of new drawings and designs are included to more fully explain our intentions. These should be reviewed in conjunction with Chapter III, Section 3.4, Exhibit 3.4-1 and Chapter VII, Section 7.4.

PROJECT OUTLINE

PHASE ONE: DIVERSION OF OVERLAND FLOW

Diversions will be installed to direct undisturbed area runoff around surface facilities thus reducing sediment pond capacity requirements. The areas to be diverted are the drainage basins designated as CG-6 and CG-7 at the mouth of Barn Canyon and portions of basins CG-5 and CG-4 near the mouth of School House Canyon.

Barn Canyon Diversions

Open ditch and berm type diversions have been installed along the south side of the Barn Canyon storage area and along the east side of the refuse pile access road in order to drain basins CG-6 and CG-7. The total area is about 16 acres (see Table 7.5, MRP). The ditches are designed for the ten year, 24-hour storm peak discharge. Nine cubic feet per second was used for ditch design for both CG-6 and CG-7, although this exceeds peak flow for both areas. These will be temporary (life of mine) diversions and will be seeded as soon as appropriate.

Both ditches terminate and flow into a culvert as shown on Exhibit 3.4-1 and attachments CGE-101 and CGE-102. Designs for inlet and outlet structures are shown on Attachment CGE-105. The pipe is designed to pass about 15 cfs, directing drainage north to the Barn Canyon channel. The pipe will empty into another open channel about 100' short of Barn Canyon.

Ditch and Culvert Design

Designs for structures is based on discussions found in Chapter VII, Section 7.4 of the MRP revision. Using the Manning equation with a design flow of 9 cfs, an average slope of 4% and a coefficient of roughness for bare soil of 0.035 the following typical cross-sectional ditch area will be attained:

Ditch for 9 cfs

$$Q = \frac{1.486}{n} \; AR^{2/3} \; S^{1/2}$$

where:

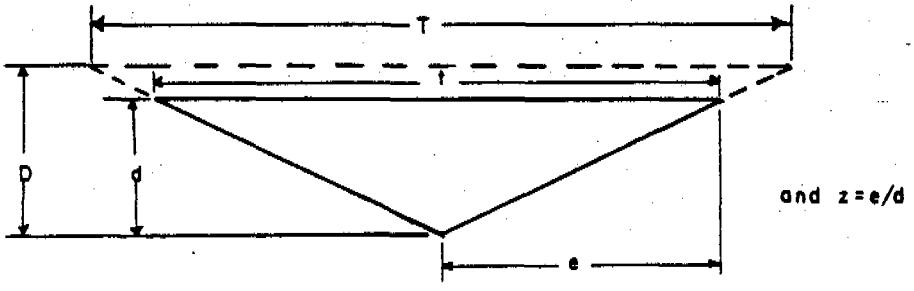
$n = 0.035$

$S = 0.04$

$A = zd^2$

$$R = \frac{zd}{2\sqrt{z^2 + 1}}$$

if a triangular cross section is used with the characteristics



and $z = e/d$

try:

$d = 1'$
$e = 2'$

then:

$z = 2'$
$t = 2dz = 4$

so:

$A = 2$
$R = 0.45$

then: $\left(\frac{1.486}{0.035}\right)(2)(0.45)^{2/3} \; (0.04)^{1/2} =$

$(42.46)(2)(0.59)(0.2) = \underline{\underline{10.02}}$ cfs

Culvert Sizing

Using 15 cfs peak flow and the highway department nomograph on page 416 of the MRP, a 24" cmp on a minimum 5% grade with 29" of headwater control is adequate.

School House Canyon Diversions

A ditch and berm has been installed along an old road grade diverting about 7.1 acres of drainage areas CG-4 and CG-5 into the spillway overflow channel of the refuse pile pond. The peak flow from the ten year, 24-hour storm is about 7.2 cfs. The ditch design used for the Barn Canyon diversions is adequate for this diversion.

Truck Dump Diversion and Culvert

A diversion along the east side of the truck dump and access road will be diverted through a 12" cmp as shown on Attachment CGE-104-1. This culvert will discharge into proposed pond 012A and carry the runoff from about one acre.

PHASE TWO: NEW POND CONSTRUCTION

Pond 011

It is proposed that we modify the existing filter backwash pond, adjacent to the old water treatment plant for utilization as a sedimentation pond. This pond has been in existence since about 1920. Modifications will include removing the backwash water line (which will be re-routed into the former secondary clarification tanks for recycling) and raising the inlet elevation of the pond discharge pipe. Attachment CGE-103 depicts this construction.

The water level will be raised 5.6 feet, yielding a maximum holding capacity of about 65,000 ft.^{3} at 9.6' depth.* The pond will catch runoff from the clean coal stacking areas, the north end of the coal processing area and the Barn Canyon storage area, comprising about 13.3 acres. Runoff characteristics and required capacities are as follows: **

Area (ac.)	Rain Fall 10-yr. storm (1.9")	Runoff 25-yr. storm (2.3")	Volume of Runoff (ft^3) 10-yr storm	Volume of Runoff (ft^3) 25-yr storm	Sediment Storage (ft^3) (.035 ac/ft per acre)	Required 10-yr Storm Retention	Pond Capacity (ft^3) 25-yr. Storm Retention
13.3	0.8"	1.0"	38,623	48,279	20,277	58,900	68,556

As can be seen, the proposed pond will not quite hold the twenty-five year, 24-hour storm runoff. A discharge structure will allow passage of the excess runoff.

* The depth of the existing pond is 4' where it can be measured from the bank. It is probably deeper in the center.

** See Chapter VII, Section 7.4 for bases of calculation.

Peak runoff from the twenty-five year, 24-hour event is calculated from the formula Q = CiA to be about 15 cfs. The 18" cmp riser with a minimum 3' of freeboard should easily allow this discharge rate. The discharge structure is also equipped with an emergency decant system.

The existing brushy vegetation within the proposed water storage area will be removed during construction.

See CGE-101 and CGE-102 for drainage areas and flow directions.

Existing pond 011 will be removed and drainage directed to the new structure.

Pond 012

The existing pond 012 is inadequate since it catches drainage from about 100 acres of undisturbed area, for which it was not designed, and has no suitable discharge structure. Two new ponds are proposed to alleviate this problem. The ponds will be interconnected to combine their capacities and located as shown on Attachment CGE-101. CGE-104-1, 104-2 and 104-3 show construction details.

The ponds, designated 012A and 012B, will collect runoff from about 20.7 acres of disturbed area (although, about 2 acres of this is undisturbed and vegetated). Runoff and retention capacities area as follows:

Area (ac.)	Rain Fall 10-yr. storm (1.9")	Runoff 25-yr. storm (2.3")	Volume of Runoff (ft^3) 10-yr storm	Volume of Runoff (ft^3) 25-yr storm	Sediment Storage (ft^3) (.035 ac/ft per acre)	Required 10-yr Storm Retention	Pond Capacity (ft^3) 25-yr. Storm Retention
20.7	0.8"	1.0"	60,113	75,141	31,559	91,672	106,700

The constructed capacities of pond 012A and 012B are:

012A: 88,160 ft^3

012B: 25,700 ft^3

Combined: 113,860 ft^3

The combined ponds will be capable of retaining without discharge the runoff from the twenty-five, 24-hour storm. Primary discharge and emergency decant structures are, however, provided. See CGE-106 for construction details.

Old pond 012 will be retained for the time. The 100+ acre drainage area will be diverted around it. It will continue to catch some runoff from around the scale area via the pipe to be installed by Utah Power and Light Company as part of their truck turnaround.

Construction Scheduling

Designs for drainage control improvements are submitted as partial compliance to NOV #82-4-14-1. The designs for these modifications have been under development since early 1982. The construction should take place during March and April 1983 baring weather complications. We will attempt to bid and finalize a construction contract during your review. We do not anticipate any design changes since we have made every effort to design within the requirements of performance standards and known DOGM policy. We should, however, closely co-ordinate your review and our bidding procedures so as not to "screw-up" the contracts with last minute changes that cause cost overruns.

Time constraints should allow for a lag of a few weeks after this submittal to begin bidding. I hope that this will allow for some initial review and comments relative to design criteria.

Sincerely,

PRICE RIVER COAL COMPANY

R. L. Wiley
Environmental Engineer

RLW:jp

Attachments 8

cc: K. B. Hutchinson
E. L. Haub
G. Cook
S. McNeal, Utah Dept. Health

PRICE-RIVER COAL COMPANY
ENGINEERING DEPARTMENT
HELPER, UTAH

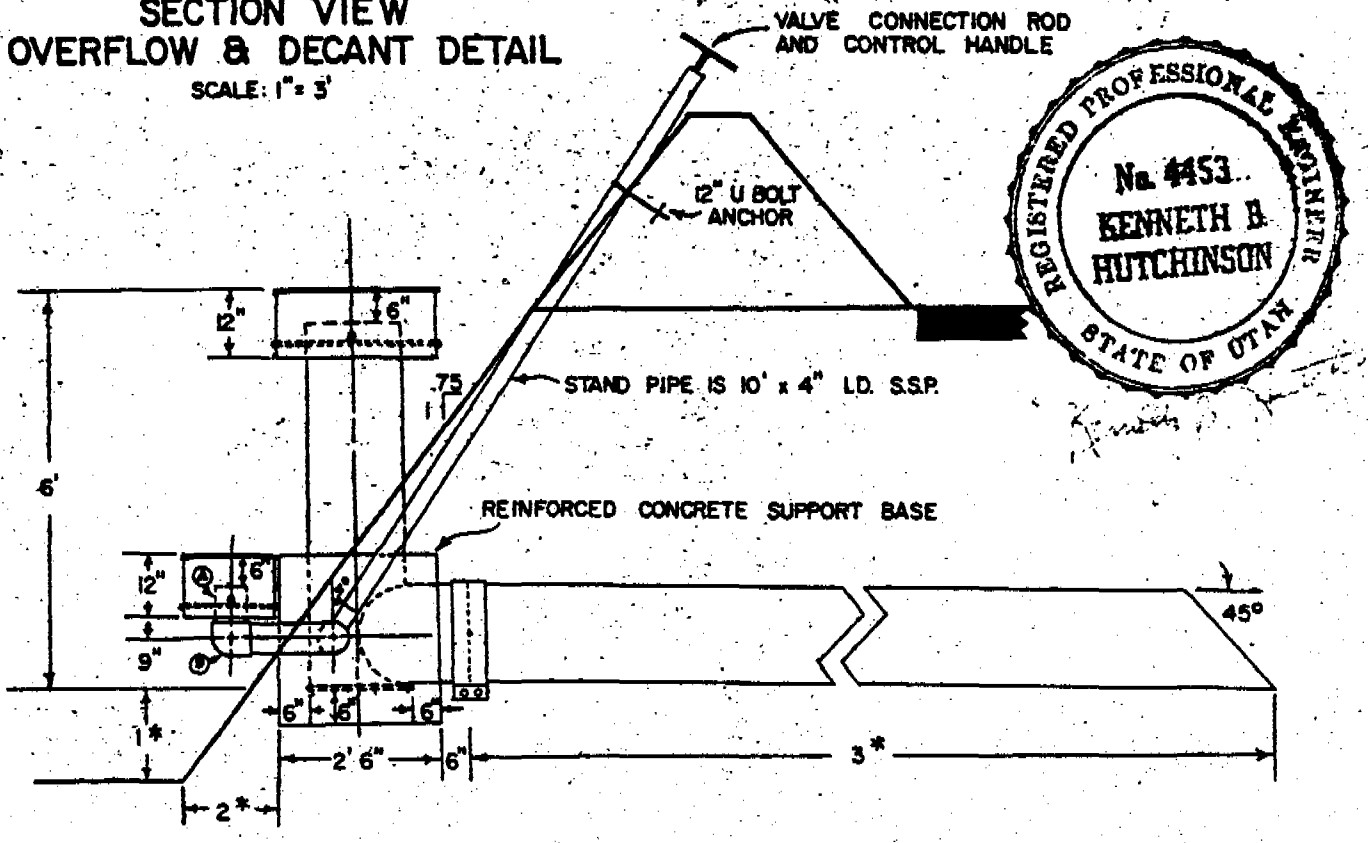
DRAWING NUMBER
A1-100

PROPOSED PONDS 012 A&B

CGE-106

SECTION VIEW
OVERFLOW & DECANT DETAIL

SCALE: 1" = 5'

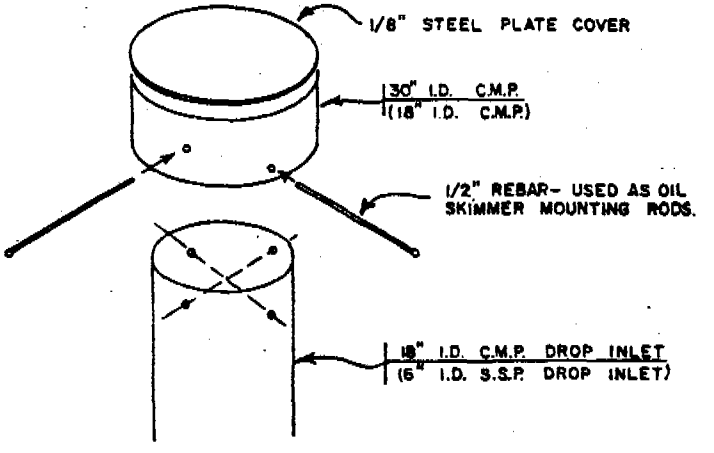


REGISTERED PROFESSIONAL ENGINEER
No. 4453
KENNETH B. HUTCHINSON
STATE OF UTAH

*NOTES:
DISCHARGE ASSEMBLY CONFIGURATIONS FOR BOTH PONDS ARE IDENTICAL WITH THESE EXCEPTIONS:

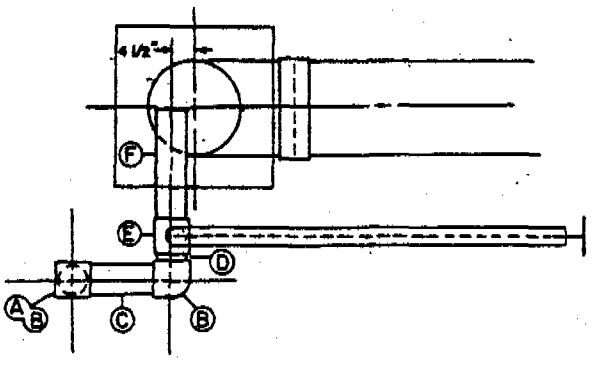
	POND A	POND B
1.	1'6"	6"
2.	1'6"	2'0"
3.	59' at 2% (0°51' ∠)	47' at 8.0% (4°35' ∠)
4.	35°	41°

TYPICAL OVERFLOW OIL SKIMMER DETAIL – N.T.S.
( ) - DENOTES DECANT DETAIL



PLAN VIEW
OVERFLOW & DECANT DETAIL

SCALE: 1" = 5'



BILL OF MATERIAL FOR DECANT SYSTEMS

NOTE: ALL FITTINGS ARE 6" I.D. STEEL PIPE

- Ⓐ - POND A: 8" L. / POND B: 18" L. — SHOWN ON BOTH PLAN AND SECTION VIEWS
- Ⓑ - 90° ELBOW (4 REQD.)
- Ⓒ - 12" L. (2 REQD.)
- Ⓓ - 2" L. (2 REQD.)
- Ⓔ - 6" BUTTERFLY VALVE ASSEMBLY (2 REQD.)
- Ⓕ - 18" L. (2 REQD.)

DRAWN J.U. 11-82 CHECKED RLW 12-6-82 APPROVED FOR SAFETY: APPROVED: RLW 12-6-82

REVISIONS

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

December 9, 1982

Steven R. McNeal, Public Health Engineer
Division of Water Quality
Utah Department of Health
150 West North Temple
Salt Lake City, Utah 84110

Re: New Sediment Ponds at Castle Gate Coal Preparation Facility

Dear Steve:

Please review for approval the enclosed pond plans. These proposed structures will replace existing ponds 011 and 012. We would expect to maintain the same effluent limitations and monitoring requirements.

We would hope to begin construction as soon as the winter breaks.

The designs should be self-explanatory and in compliance with Utah Department of Health requirements. Should you have any additional comments, please contact me.

Sincerely,

PRICE RIVER COAL COMPANY

R. L. Wiley
Environmental Engineer

RLW:jp

Enclosures

cc: K. B. Hutchinson
E. L. Haub
G. Cook
Tom Tetting - DOGM

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

December 14, 1982

Gordon Cook
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

RE: Request for Deletion
of Subsidence Monitoring
Price River Coal Company Complex
ACT/007/004
Carbon County, Utah

Dear Mr. Cook:

After due consultation with members of the Divison's staff and associated project review team it has become apparent that the request to delete subsidence monitoring on Price River's mine plan area is premature at this time. It is the Division's decision that should this request still be desired upon completion of the review of the entire mining and reclamation plan it should be resubmitted at that time. Perhaps, with good progress on both our parts this can be achieved prior to the upcoming 1983 season for performing additional surveys. However, until that time approaches the request cannot be considered any further.

Sincerely,

THOMAS N. TETTING
ENGINEERING GEOLOGIST

TNT/lm

cc: Rob Wiley, PRCC
Jim Smith, DOGM
Lynn Kunzler, DOGM

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

December 28, 1982

Mr. Robert L. Wiley
Price River Coal Company
P. O. Box 629
Helper, Utah 84526

RE: Mine Water Discharge at the
Castlegate Facilities
Price River Complex
ACT/007/004
Carbon County, Utah

Dear Mr. Wiley:

After reviewing the approval letters from the Utah Department of Health and the U. S. Environmental Protection Agency concerning the new mine water discharge outfall at the Castlegate Facilities, the Division hereby issues formal approval for the plans pursuant to UMC 817.50.

Providing the stipulations of these approval letters are adhered to and the applicable State and Federal standards are met, the Division does not foresee any complication resulting from this mine water discharge.

If, upon sampling of the effluent, additional treatment is required to meet the NPDES limitation, please submit plans for the proposed treatment to the Division for our review and approval.

Please contact me if you have further questions.

Sincerely,

Joe Lyons

JOE LYONS
RECLAMATION HYDROLOGIST

JL/btb

cc: OSM, Denver,
Joe Helfrich, DOGM
Dave Lof, DOGM

HAND DELIVERED
1-13-83

APPARENT COMPLETENESS REVIEW

Price River Coal Company
Price River Complex
ACT/007/004, Carbon County, Utah

and

Price River Coal Company

RESPONSE DOCUMENT

771.23 Permit Applications: General

Nowhere in the application is it clearly stated for which mines this application applies, and which mines are excluded.

See pages 3-7 for mine plan area location. See sections 3.1-1 through 3.1-7 for existing and proposed mines.

We have explained on pages 4 and 5 and section 1.1 that we intend to develop all mineable seams. Explanations on pages 70-89 clearly identify active and proposed portions of the opeartions. We are obviously permitting all active mines and surface operations. We are doing this within the unreasonable constraints of the five year permit period. We are also placing in the record all proposed surface additions during the life of the mine, in order to develop all coal seams. This method of presentation was recommended by OSM officials during a meeting in their offices on 5-19-82. The intent was to aid in re-permitting and provide a basis for submitting detailed modifications for additional surface facilities, as needed.

We are seeking a permit to develop all coal properties for which we have a legal right to mine. We wish a recognization by the regulatory authority of the extent of our coal reserves and the needed unity of their development. We have or are prepared to post bond for all existing, active surface areas and will post additional bond prior to disturbance of any new areas. The final permit should include our entire mine complex with restrictions on activity to those areas where we are currently operating.

The Price River Coal Complex is one, contiguous mining unit. All potential mines are included; none are excluded. How else can we truthfully propose our long-term mining plans within the limits of a five-year permit?

The applicant must provide a map showing where underground coal mining activities occurred both prior to and after August 3, 1977. Mining prior to and after May 3, 1978; as well as prior to the approval of the regulatory program, and after the estimated date of issuance of a permit by the Division must also be shown.

Exhibits 3-3 through 3-20 show all areas where underground mining activities occurred prior to 1977. Maps showing mining in the No. 3 and No. 5 Mines for the period between 8-3-77 and 5-3-78 will be prepared and submitted in a timely fashion. Information on mining related to periods associated with initial of final regulatory approval are unnecessary since we have neither requested nor obtained a small operators exemption (see UMC 771.23 (e)(2).

UMC 783.14 Geology Description

The applicant must provide analyses for pyrite content of the coal as well as the stratum immediately above and below the coal. The information provided in Tables 6-1, 6-2 and 6-3 does not include pyrite.

Table 6-1 must include analyses of all nine target coal seams rather than the six presented.

We have most of the pyrite content information but the roof and floor analyses would be difficult to obtain. Until we begin mining operations, sample collection from many seams would not be possible.

We can provide the information from the No. 3 and No. 5 Mines. It is suggested that since we will not likely begin mining in other seams during the obligatory five-year permit period, that it is feasible to obtain the required pyrite data later on...

It is well known and generally accepted that the extreme buffering capacity of the alkaline strata reduce the possibility for oxidation of pyrite and subsequent acid water or high iron discharge to near zero.

UMC 783.15 Ground Water Information

To be discussed.

UMC 783.16 Surface Water Information

The applicant should provide a description of the design and construction of the surface water monitoring stations, including the type of flow gauges in use.

There has been no construction involved. A sample has merely been obtained at designated points on stream channels. Flows have been measured using various hand held meters chosen by our water monitoring consultants; Vaughn Hansen Associates.

Does the request for this information fall under the criteria of identifying seasonal variation in such other information as the Division determines is relevant?

The applicant should identify the watershed areas for all the principal drainages which are located in the mine plan area. For example, the drainage areas for the Price River (above the downstream limit of the mine complex), Willow Creek, Hardscrabble Canyon, Sowbelly Gulch, Spring Canyon, Bear Canyon, Crandall Canyon, Sulfur Canyon Creek and Fork Creek should be provided.

At a minimum, long-term mean annual yield for Willow Creek, Spring Canyon Creek and the Price River (the three perennial streams in the study area) should be provided. If such information is available for the nonperennial tributory drainages also, it should be provided.

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 228 NORTH LA SALLE STREET, CHICAGO, ILLINOIS 60601 · AREA CODE 312 726-8434

WESTERN DIVISION MANAGER
LLOYD W. TAYLOR, JR.

PLEASE ADDRESS ALL CORRESPONDENCE TO
10775 EAST 51st AVE., DENVER, COLO. 80239
OFFICE TEL. (303) 373-4772

UTAH GEOLOGICAL AND MINERAL SURVEY
606 Black Hawk Way
Salt Lake City, Utah 84108

January 18, 1980

Sample identification by

Kind of sample reported to us	Coal	Utah Geological & Mineral Survey
Sample taken at	xxxxx	Sample No. 255 Core Hole No. MC-206 785.1' - 786.0'
Sample taken by	Utah Geological & Mineral Survey	Kenilworth (A.E.P.)
Date sampled	xxxxx	
Date received	12-14-79	

Analysis report no. 72-89275

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	3.27	xxxxx
% Ash	13.19	13.64
% Volatile	38.76	40.07
% Fixed Carbon	44.78	46.29
	100.00	100.00
Btu/lb.	11951	12355
% Sulfur	0.62	0.64

ULTIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	3.27	xxxxx
% Carbon	66.87	69.13
% Hydrogen	4.76	4.92
% Nitrogen	1.39	1.44
% Chlorine	0.11	0.11
% Sulfur	0.62	0.64
% Ash	13.19	13.64
% Oxygen (diff)	9.79	10.12
	100.00	100.00

SULFUR FORMS

	As Received	Dry Basis
% Pyritic Sulfur	0.02	0.02
% Sulfate Sulfur	0.00	0.00
% Organic Sulfur (Diff)	0.60	0.62
% Total Sulfur	0.62	0.64

FUSION TEMPERATURE OF ASH

	Reducing	Oxidizing
Initial Deformation	xxxxx °F	xxxxx °F
Softening (H = W)	xxxxx °F	xxxxx °F
Softening (H = ½W)	xxxxx °F	xxxxx °F
Fluid	xxxxx °F	xxxxx °F

HARDGROVE GRINDABILITY INDEX = xxxxx at xxxxx % Moisture

% EQUILIBRIUM MOISTURE = xxxxx

FREE SWELLING INDEX = xxxxx
GDP/md /vt

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

G. D. PALMER, Manager, Denver Laboratory

Original Copy Watermarked For Your Protection

Charter Member

Department of Energy

USGS

COAL-ANALYSIS REPORT USBM #697

UGS #79 MC-181

LAB NO. KB9050

ORGANIZATION: METHANE CONTROL & VENTILATION SE¼ SEC 28 T12S R9E
SAMPLE ID: MC&V,#697,COAL

CAN NO: -

OPR: AMERICAN ELECTRIC POWER CO. MINE: -
STATE: UT COUNTY: CARBON BED: CASTLEGATE "D"
TOWN: -

DATE OF SAMPLING: 10-24-78 DATE RECEIVED: 1-16-79 DATE OF REPORT: 1-30-79
COLLECTOR: A.D. SMITH

	COAL (AS RECD.)	COAL (MOIST FREE)	COAL (MOIST,ASH FREE)
PROXIMATE ANALYSIS			
MOISTURE	1.6	N/A	N/A
VOLATILE MATTER	40.2	40.9	42.7
FIXED CARBON	53.8	54.9	57.3
ASH	4.4	4.4	N/A
ULTIMATE ANALYSIS			
HYDROGEN	5.9	5.8	6.1
CARBON	76.9	78.1	81.7
NITROGEN	1.5	1.6	1.6
SULFUR	.5	.5	.5
OXYGEN (IND.)	10.8	9.6	10.0
ASH	4.4	4.4	N/A
HEATING VALUE(BTU/LB)	13749	13967	14617
SULFUR FORMS			
SULFATE	.00	.00	.00
PYRITIC	.03	.03	.03
ORGANIC	.46	.47	.49

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 228 NORTH LA SALLE STREET, CHICAGO, ILLINOIS 60601 · AREA CODE 312 726-8434

WESTERN DIVISION MANAGER
LLOYD W. TAYLOR, JR.

PLEASE ADDRESS ALL CORRESPONDENCE
10775 EAST 51st AVE., DENVER, COLO. 802
OFFICE TEL. (303) 373-4772

UTAH GEOLOGICAL AND MINERAL SURVEY
606 Black Hawk Way
Salt Lake City, Utah 84108

January 11, 1980

Sample identification by

Kind of sample reported to us	Coal	Utah Geological & Mineral Survey
Sample taken at	xxxxx	Sample No. 254 Core Hole No. MC-206
Sample taken by	Utah Geological & Mineral Survey	724.0' - 724.9'
Date sampled	xxxxx	C - Seam (A.E.P.)
Date received	12-14-79	

Analysis report no. 72-89274

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	2.62	xxxxx
% Ash	9.82	10.08
% Volatile	41.27	42.38
% Fixed Carbon	46.29	47.54
	100.00	100.00
Btu/lb.	12742	13085
% Sulfur	0.53	0.54

ULTIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	2.62	xxxxx
% Carbon	71.94	73.88
% Hydrogen	4.98	5.11
% Nitrogen	1.28	1.31
% Chlorine	0.03	0.03
% Sulfur	0.53	0.54
% Ash	9.82	10.08
% Oxygen (diff)	8.80	9.05
	100.00	100.00

SULFUR FORMS

	As Received	Dry Basis
% Pyritic Sulfur	0.02	0.02
% Sulfate Sulfur	0.00	0.00
% Organic Sulfur (Diff)	0.51	0.52
% Total Sulfur	0.53	0.54

FUSION TEMPERATURE OF ASH

	Reducing	Oxidizing
Initial Deformation	XXXXX °F	XXXXX °F
Softening (H=W)	XXXXX °F	XXXXX °F
Softening (H=½W)	XXXXX °F	XXXXX °F
Fluid	XXXXX °F	XXXXX °F

HARDGROVE GRINDABILITY INDEX = xxxxx at xxxxx % Moisture

% EQUILIBRIUM MOISTURE = xxxxx

FREE SWELLING INDEX = xxxxx
GDP/md/vt

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

G. D. PALMER, Manager, Denver Laboratory

Charter Member

COAL ANALYSIS REPORT

DEPARTMENT OF ENERGY
COAL ANALYSIS

LAB NO. K82402

ORGANIZATION: METHANE CONTROL & VENTILATION
SAMPLE ID: MC&V.,COAL, USBM#495
CAN NO: -

UGS
#85

OPERATOR: AMERICAN ELECTRIC POWER
STATE: UT COUNTY: CARBON
TOWN: -
MINE: -
BED: CASTLEGATE "B"

DATE OF SAMPLING: - DATE RECEIVED: 5-16-78 DATE OF REPORT: 6- 7-78
COLLECTOR: A. SMITH

	COAL (AS RECD.)	COAL (MOIST FREE)	COAL (MOIST, ASH FREE)
PROXIMATE ANALYSIS			
MOISTURE	4.0	N/A	N/A
VOLATILE MATTER	40.8	42.5	45.8
FIXED CARBON	48.3	50.3	54.2
ASH	6.9	7.2	N/A
ULTIMATE ANALYSIS			
HYDROGEN	5.1	4.8	5.2
CARBON	71.1	74.1	79.9
NITROGEN	1.4	1.4	1.6
SULFUR	.3	.4	.4
OXYGEN (IND)	15.1	12.0	12.9
ASH	6.9	7.2	N/A
HEATING VALUE(BTU/LB)	12441	12965	13972
SULFUR FORMS BY ATOMIC ABSORPTION			
SULFATE	.01	.01	.01
PYRITIC	.05	.05	.05
ORGANIC	.28	.29	.32

Department of Energy

COAL-ANALYSIS REPORT USBM #717
UGS #73 MC 172

LAB NO. K89070

ORGANIZATION: METHANE CONTROL & VENTILATION NE¼ SEC 28 T12S R9E
SAMPLE ID: MC&V.#717.COAL

CAN NO: -

OPR: AMERICAN ELECTRIC POWER CO. MINE: -
STATE: UT COUNTY: CARBON BED: CASTLEGATE "A"
TOWN: -

DATE OF SAMPLING: 10-27-78 DATE RECEIVED: 1-16-79 DATE OF REPORT: 2- 5-79
COLLECTOR: SMITH & HAYHURST

	COAL (AS RECD.)	COAL (MOIST FREE)	COAL (MOIST,ASH FREE)
PROXIMATE ANALYSIS			
MOISTURE	1.2	N/A	N/A
VOLATILE MATTER	45.0	45 5	48 2
FIXED CARBON	48.3	48 9	51 8
ASH	5 5	5 6	N/A
ULTIMATE ANALYSIS			
HYDROGEN	6 1	6 0	6 4
CARBON	76 1	77 1	81 6
NITROGEN	1.3	1 4	1 4
SULFUR	3	3	3
OXYGEN (IND)	10 7	9.7	10 3
ASH	5 5	5 6	N/A
HEATING VALUE(BTU/LB)	13761	13931	14751
SULFUR FORMS			
SULFATE	00	00	00
PYRITIC	04	04	04
ORGANIC	23	23	25

COAL-ANALYSIS REPORT USBM #698
UGS #82 MC-181

LAB NO. K89051

ORGANIZATION: METHANE CONTROL & VENTILATION SE4 SEC28 T12S R9E
SAMPLE ID: MC&V,#698,COAL

CAN NO: -

OPR: AMERICAN ELECTRIC POWER CO. MINE: -
STATE: UT COUNTY: CARBON BED: UPPER SUBSEAM 1
TOWN: -

DATE OF SAMPLING: 10-24-78 DATE RECEIVED: 1-16-79 DATE OF REPORT: 1-30-79
COLLECTOR: HAYHURST

	COAL (AS RECD.)	COAL (MOIST FREE)	COAL (MOIST,ASH FREE)
PROXIMATE ANALYSIS			
MOISTURE	1.2	N/A	N/A
VOLATILE MATTER	45.6	46.2	49.1
FIXED CARBON	47.3	47.8	50.9
ASH	5.9	6.0	N/A
ULTIMATE ANALYSIS			
HYDROGEN	6.2	6.1	6.5
CARBON	76.0	77.0	81.9
NITROGEN	1.3	1.3	1.4
SULFUR	.6	.6	.6
OXYGEN (IND.)	10.0	9.0	9.6
ASH	5.9	6.0	N/A
HEATING VALUE(BTU/LB)	13900	14075	14974
SULFUR FORMS			
SULFATE	.01	.01	.01
PYRITIC	.03	.03	.03
ORGANIC	.54	.55	.58

COAL-ANALYSIS REPORT USBM # 824
UGS #164

LAB NO. K91518

ORGANIZATION: METHANE CONTROL & VENTILATION SENE SEC 29 T12S R9E
SAMPLE ID: MC&V,824,UGS#164, COAL
CAN NO: - MC 204

OPR: AMERICAN ELECTRIC POWER
STATE: UT COUNTY: CARBON
TOWN: -
MINE: -
BED: SUBSEAM 2

DATE OF SAMPLING: 1-2-79 DATE RECEIVED: 3-27-79 DATE OF REPORT: 4-11-79
COLLECTOR: A. SMITH

	COAL (AS RECD.)	COAL (MOIST FREE)	COAL (MOIST,ASH FREE)
PROXIMATE ANALYSIS			
MOISTURE	1.6	N/A	N/A
VOLATILE MATTER	41.6	42.3	45.3
FIXED CARBON	50.2	51.0	54.7
ASH	6.6	6.7	N/A
ULTIMATE ANALYSIS			
HYDROGEN	5.6	5.5	5.9
CARBON	76.4	77.6	83.2
NITROGEN	1.4	1.4	1.5
SULFUR	.6	.7	.7
OXYGEN (INC.)	9.4	8.1	8.7
ASH	6.6	6.7	N/A
HEATING VALUE(BTU/LB)	13762	13990	14993
SULFUR FORMS			
SULFATE	.01	.01	.01
PYRITIC	.06	.06	.07
ORGANIC	.57	.58	.62

SAMPLE INTERVAL 2108.99 - 2109.99

As Recv'd Mmf 14,871

Department of Energy

COAL-ANALYSIS REPORT USBM #699

UGS #96 MC-188

LAB NO. K89052

NE¼ SEC 5 T13S R9E

ORGANIZATION: METHANE CONTROL & VENTILATION
SAMPLE ID: MC&V.#699.COAL

CHN NO: -

OPR: AMERICAN ELECTRIC POWER CO. MINE: -
STATE: UT COUNTY: CARBON BED: SUBSEAM #3
TOWN: -

DATE OF SAMPLING: 10-24-78 DATE RECEIVED: 1-16-79 DATE OF REPORT: 1-30-79
COLLECTOR: SMITH & GARDNER

AIR DRY LOSS 9	COAL (AS RECD.)	COAL (MOIST FREE)	COAL (MOIST,ASH FREE)
PROXIMATE ANALYSIS			
MOISTURE	2.0	N/A	N/A
VOLATILE MATTER	43.6	44.5	47.6
FIXED CARBON	48.0	49.0	52.4
ASH	6.4	6.5	N/A
ULTIMATE ANALYSIS			
HYDROGEN	5.9	5.8	6.2
CARBON	74.2	75.7	81.0
NITROGEN	1.6	1.6	1.7
SULFUR	.5	.5	.6
OXYGEN (IND.)	11.4	9.9	10.5
ASH	6.4	6.5	N/A
HEATING VALUE(BTU/LB)	13480	13750	14710
SULFUR FORMS			
SULFATE	.01	.00	.00
PYRITIC	.05	.05	.05
ORGANIC	.46	.47	.50

The watersheds and yields of Willow Creek, Price River and Spring Canyon are matters of public record, available at the State Division of Water Rights. Why should we address or commit to this information in our mine permit?

Spring Canyon is an intermittent stream.

The drainage areas for Hardscrabble Canyon, Sowbelly Gulch and Crandall Canyon are identified on Exhibit 7-1. Bear Canyon, Sulfur Canyon and Ford Creek have no significance to our proposed permit area or any drainage control structures.

The applicant needs to provide a discussion of NPDES discharges to the surface water resources in the area. What is the result of past NPDES monitoring activities conducted to date?

Mostly we have had no discharge. See comments under 784.13.

UMC 783.22 Land-Use Information

The applicant has not provided a map which illustrates existing land-uses within the proposed permit area.

This information is shown on several maps. Exhibit 3-22 shows all utility corridors, roads, rail lines, etc. Exhibit 4-2 shows the Price River Recreation Area - the only designated recreation lands. Exhibit 9-1 shows vegetation types which is closely related to land usage. Exhibit 10-1 shows known and potential usage by wildlife. Exhibit 9-1 also shows all disturbed areas used by both mining and other activities (residential, industrial...). Exhibit 3-1 shows all known existing mine portals. All lands support grazing.

We do not appreciate the need for another map.

The applicant must describe previous mining activities on-site with respect to the criteria outlined in parts 783.22(b) (1) through (5) of this section of the regulations. Present references to the items required under this ection are brief, general background statements which don't adequately address all five criteria in this section.

See Chapter V, Section 5.2.

The applicant must describe any land-use classifications of the permit area which exist under local law.

See Section 2.4-2. The Castle Gate and Willow Creek areas are also classed CE-2. Undisturbed lands on the east side of the property are CE-1.

UMC 783.24 Maps: General

Nowhere in the application is it concisely stated for which mines and associated surface disturbances this application applies. It appears that the current permit area includes mines 3 and 5 and existing surface disturbances, as well as the Castle Gate preparation plant and associated refuse pile. If this is so, Exhibit 3-20, showing mining in the Panther Mine area, should be revised to show the correct dates when mining will occur.

That which appears to be is...

Exhibit 3-20 will be updated.

The applicant must provide a map showing all sub-areas where it is anticipated that additional permits will be sought.

Exhibit 3-1A shows all existing and proposed facilities.

A map showing the location and use of all buildings in the permit area as well as those within 1,000 feet of the permit area must be included.

All buildings are shown on most maps. Facility maps show and name all buildings. The building names are indicative of usage such as: "Guard Shack", "Bathhouse", "UP&L Power Plant". Smaller scale maps (1" = 2,000') use standard map symbols which are solid squares for residences and empty squares for sheds and barns. Four structures do remain vague. Three of these are east of the mouth of Bear Canyon, designated "W.T." for water treatment plants. The remaining building in R9E, T. 13 S., in the south 1/2 of the SW 1/4 of Section 1, is the Utah Department of Transportation truck weigh station. This will be identified on Exhibit 3-22.

UMC 783.25 Cross-sections, Maps and Plans

The applicant should specify that the mines identified on Exhibit 3-1 constitute all of the active and inactive mine openings within the mine plan area and adjacent areas. It should be indicated just what kind of closing (type) or useage (sic) has been employed by the operation.

It is to specified that all known mines are shown on Exhibit 3-1.

We do not know the methods employed for permanent seals - we cannot get in. Temporary seals are mostly steel caging.

Cross-sectional slope measurements are lacking for areas critical to the mine plan, e.g., Schoolhouse Canyon-Castlegate Prep Plant area, Hardscrabble and Sowbelly canyons and Willow Creek. These should be developed in a representative fashion for areas that may be considered as reasonable examples of the disturbed area (e.g., the distance along the line between the Price River and the drainage ditch above Schoolhouse Canyon; portal areas in the canyons through refuse piles; across access roads; etc.).

We feel that the "existing land surface" is "adequately represented" by the use of contour maps.

Projections on cross-sections A-A' in the exhibit are too vast for practical use. For example, MC-53 is projected 5,100 feet from the north and MC-132 is projected 5,200 feet from the south, thus resulting in a shift of nearly two miles. Several holes appear to be more relevant to the nature of cross-sectional depiction (e.g., MC-170, MC-73, MC-77, MC-100, MC-61). What is the justification for the particular pattern of observation points referenced?

The cross-sections submitted are not intended for practical use but only to supply general information required by permitting regulations concerning geology.

There would be no practical use for another cross-section as recommended above from a mining standpoint. Correlation of test holes is difficult and not always precise. At least six different geologists or mining specialists have analyzed our test hole information and have generated slightly differing concepts for mining this very complex property. Does the regulatory agency wish to develop their own concept of a mining plan for this reserve?

UMC 784.11 Operating Plan

The location and areal extent of the topsoil storage area in Gravel Canyon must be shown on a map along with the surface water control structures. Reference the date of submittal if these have already been provided.

See Appendix 8A.

This information was submitted to the regulatory authority during the third week of May 1982 and approved as a modification on 6-7-82. All maps and plans were included.

UMC 784.12 Operating Plan: Existing Structures

Information for each of the existing structures utilized by PRCC must be provided as required by this part. In particular, the stability of any cuts and fills in the surface facilities areas must be identified; as well as areas where mine development waste, and shaft construction waste is, or has been, disposed of.

We can find no performance standards in subchapter K which relate to cuts and fills on pad areas. The construction of the fill in Crandall Canyon is well defined and approved in the Crandall Canyon modification. The refuse pile in Schoolhouse Canyon is discussed in other sections and additional information will be provided. An old refuse pile exists in Hardscrabble Canyon. It appears to have remained stable.

What is it that you want?

In the narrative description of the Willow Creek facilities (page 164, Section 3.6 of the permit application), the applicant discusses the failure potential for embankments, including piping and tension cracks. Some elaboration of this discussion is necessary: (1) which dike has failed, and was it repaired; and (2) have remedial measures been effective?

The descriptions referred to are only to explain the existing, pre-permitting condition of the site. We currently use only about 11 acres (shown on Exhibit 3.6-1) as a low use storage area. Should we proceed with 6 and 6A mine development we would propose some modifications to ensure the stability of the stream bank.

UMC 784.13 Reclamation Plan: General Requirements

The applicant must provide information on measures to be taken if temporary closure becomes necessary as required by UMC 817.131.

Should temporary closure become necessary we will comply with the requirements of 817.131. UMC 784.13 does not require a temporary closure plan prior to closure.

The applicant should define the boundaries of the proposed permit area (see UMC 771.23).

The boundaries of all areas are identified on Exhibits 3.2-1, 3.3-1, 3.4-1, 3.6-1 and 3.7-1.

The amount of proposed bond must include the cost for grading of the refuse pile and reclamation of the pile, for the worst case situation, if the site is abandoned prior to complete pile construction. In addition, the closure costs for the portals must be estimated in more detail along with building removal costs. References are available which provide reasonable data to make a more detailed estimate.

The grading cost in included on Table 3.4-4(A) and 3.4-4(B) and drawn from Section 8.4-2. Estimates are based on costs for a dozer and operator at 10 hours/acre.

Why do you assume the "worst case" is abandonment prior to completion? This would actually be most advantageous from a regulatory standpoint since there would be less area to reclaim.

Please make references available showing "reasonable data".

The specific dates anticipated for reclamation of the disturbed areas must be noted for all disturbances in the permit area, for each major step of the reclamation process.

The following chart provides anticipated dates for the various phases of reclamation. Exact timing may change due to availability of materials, market conditions or other factors beyond our control.

SITE OR FACILITY	BUILDING OR STRUCTURE REMOVAL	GRADING & BACKFILLING	RESOILING	RESEEDING	SHRUB OR TREE PLANTING
Sowbelly Gulch Substation and Portals	Spring 1985 Spring 2015	Summer 1985 Summer 2015	Summer 1985 Summer 2015	Fall 1985 Fall 2015	Early Spring 1986 Early Spring 2016
Hardscrabble Canyon Substation Portals #4 Access Road	Spring 1986 Spring 2016	Summer 1986 Summer 2016	Summer 1986 Summer 2016	Fall 1986 Fall 2016	Early Spring 1987 Early Spring 2017
Castle Gate Prep Plant	Winter * & Spring 2014	Summer 2014	Summer 2014	Fall 2014	Early Spring 2015
Crandall Canyon	Spring 2014	Summer 2014	Summer 2014	Fall 2014	Early Spring 2014
Willow Creek Storage Area	Spring 2014	Summer 2014	Summer 2014	Fall 2014	Early Spring 2014
Schoolhouse Canyon Refuse Pile	PROGRESSIVE STARTING IN SPRING OF 1984				
Utah Fuel #1	Spring 2014	Summer 2014	Summer 2014	Fall 2014	Early Spring 2015

* Depending on coal production and market conditions this facility may remain in operation until 2044.

Plans and cross-sections must be submitted showing the existing and final surface configuration of all areas disturbed by mining. Cross-sections of the sites are the only way to ensure that the disturbed areas are being returned to the most stable configuration reasonably possible.

We do not feel that cross-sections ensure stability but if this type of information is absolutely required we will attempt to supply it.

In general we do not intend to backfill any existing cuts since insufficient material remains with which to do so. We will backfill as part of portal sealing operations.

It should be considered that cross-sectioning of all sites will require 6-9 months.

A sketch of an MSHA approved seal has been submitted with the plan - double row of solid blocks hitched into the ribs, with mortar on the accessible side, gas surveillance tube; drain pipe for water if necessary. In cases where these are not practical (for instance in caving ground) tunnels will be sealed by dozing earth to fill the opening. Since past and current practice is to mine down-dip, the likelihood of a hydraulic head on any of the seals is extremely minute. Shaft seals at Crandall have been submitted and approved by the RA.

Specific plans should be provided showing how each portal and shaft will be closed to ensure that the design is adequate for each particular setting. Consideration of potential hydraulic heads on portal seals subsequent to closure must be taken into account.

The method of shaft sealing has been described and approved in the Crandall Canyon modification (p. 308). These are currently our only shafts.

The applicant has indicated that the sedimentation ponds are numbered acording (sic) to their NPDES permits. A list is given on page 48, Section 2.7 in the permit application that includes three NPDES permits. The narratives given in Chapter 3 and information located on Exhibits 3.2-1, 3.3-1, 3.4-1 and 3.6-1 indicates that there are at least eight existing sediment ponds, a minimum of three proposed ponds and numerous, undescribed structures called sedimentation basins. The applicant must: (1) explain why there are not more NPDES permits; (2) supply a more complete list of NPDES permits if possible; (3) provide a narrative of the requirements (monitoring and effluent limitations) attached to the NPDES permits for each discharge point; and (4) provide a thorough discussion of any violations of NPDES effluent limitation requirements that may have occurred at any existing pond (or basin) and the remedial measures that have been implemented or proposed to correct the violations

Originally, we had three NPDES permits. #UT-0023086 was for all sediment pond discharges.* Discharge points are ennumerated 001 through 019. Points 001 and 002 were never used and eliminated. Points 003, 004, 005 are for the ponds in Sowbelly Gulch. Points 006, 007, 008, 009 are for ponds in Hardscrabble Canyon. (Note: Pond 009 was never built - drain has been controlled by straw dikes.)

Point 010 is at Utah Fuel No. 1

Points 011 and 012 are for points at Castle Gate.

Point 013 is for a small topsoil sediment collection structure in Crandall Canyon.

---

* These are located points from which we could discharge. There has only been discharge from Point 014 intermittently during Crandall Canyon shaft construction.

Points 014, 015 and 016 are for points on the Crandall Canyon site.

Points 017, 018, and 019 are at Willow Creek.

#UT-0023141 was a single point discharge permit for the primary water intake pond for our water treatment plant at Castle Gate.

#UT-0023272 was for discharge from the new Peerless Mine should we ever need to de-water. There has been no discharge from this point to date and there may never be.

Our NPDES permits were modified during renewal (August 1982) to consolidate all permits into #UT-0023086. #UT-0023141 was deleted entirely. #UT-0023272 became point 002 on permit #UT-0023086. Recently point 020 has been added to discharge water from the No. 3 Mine during the slowdown.

Monitoring Requirements - UT-0023086

Sampling Frequency - 2/month or when flowing

Reporting - every 3 months

Effluent Limitations -

TSS - Daily Average - 25 mg/l; Weekly Average 35 mg/l; Daily Max. 70 mg/l

Total Iron - 2 mg/l

TDS - 2,000 mg/l or 1 ton/day

Oil and Grease - 10 mg/l

pH - 6.5 - 9.0

We have had no violations issued by EPA. We have had no discharge from any pond except 014. We have exceeded effluent limitations at or near point 014 on two occasions. The first when a water line cracked, which we reported and repaired the following day. The second was due to under sizing of original pond 014 caused by unanticipated operational flows during shaft construction. We rectified this by construction of a new pond.

The applicant's figures for disturbed areas that will be reclaimed do not match those that indicate the total amount of disturbance. This area should be clarified so a valid estimation of soil material required for reclamation can be made.

Site	Total Disturbed Area (Ac.)	Area to be Reclaimed (Ac.)	Explanation of Difference
Sowbelly Gulch #5 Mine Facilities	16	13.5	2.5 acres will remain as access road to up canyon grazing
Hardscrabble Canyon #3 Mine Facilities	28	24*	4 acres will remain as an access road
Castle Gate			
Refuse Pile	23	23	---
Plant Site	34	34	---
Gravel Canyon	3	3	---
Utah Fuel	1	1	---
Willow Creek **	11	11	---
Crandall Canyon	28	12	16 acres will remain as permanent access road
Total	144	121.5	

It requires about 807 yds^3/acre 6" thick to resoil.

807 X 121.5 = 98,050 yds^3 - This is the approximate quantity of topsoil required.

---

* On Table 3.3-4 we show all 28 acres as being reclaimed. Apparently we forgot to delete road acreage. We currently have about 20,000 yds^3 in two piles at Crandall Canyon and about 45,000 yds^3 in Gravel Canyon. We will possibly have to import the remaining 30,000 yds^3.

** This is for the current storage facility only. Should we develop 6 and 6A Mines the entire ± 28 acres would be included, bonded and reclaimed.

Recommendation

Due to the severe lack of soil material for reclamation, the applicant should consider some type of study to determine the feasibility of using soil material present at the areas that are prelaw disturbance.

We have considered this option.

UMC 784.14 Reclamation Plan: Protection of Hydrologic Balance

The applicant must clearly indicate where all the sediment and sludge cleaned from every sediment pond or basin in the permit area is being disposed of.

We have yet to clean most ponds. Sediment accumulation has been minimal. Cleaning has occurred for ponds at Utah Fuel #1 and Castle Gate. The following disposal sites are specified:

Site	Pond	Disposal Area
Sowbelly Gulch	003,004,005	North end of outside storage area*
Hardscrabble Canyon	006,007,008	Old refuse pile - "Goose Island"*
Utah Fuel #1	010	Schoolhouse Canyon refuse pile
Castle Gate	011,012	Schoolhouse Canyon refuse pile
Willow Creek	017,018,019	East end of storage area
Crandall Canyon	014,015	During construction: Incorporated into lower site fill
	014	After site completion: All drainage area paved. Sediments, if any will be hauled to Schoolhouse Canyon
	013	Top soil pile - whence it came

* Stockpiled pond sediments will be used as either substitute resoiling material (after tests) or for refuse pile covering materials.

On page 125 of the permit application, the narrative on Hardscrabble Canyon explains that coal wastes and fines have been dumped into the stream channel, but that remedial measures will not be continued at present due to the limited life of the facility. The applicant should provide data on the significance of this contamination, i.e., the changes in surface water quality that have occurred since the material was dumped in the stream.

We have no background data on water quality prior to disturbance by mining. Mining has occurred continuously in Hardscrabble Canyon since the 1880's. The stream channel is severly contaminated with coal fines from "Goose Island" to about 3 miles down canyon.

Presently, additional contributions of coal fines and sediments to the stream channels have been significantly reduced by construction of drainage controls.

. Cleanup of the stream channel within the permit area can only be achieved during reclamation by grading, resoiling and riprapping - covering the contaminated section. Excavation of contaminated materials is unrealistic. We have dug in some place 4-5 feet without finding uncontaminated soil. There would be no way of disposing of the massive quantity of contaminated soils.

Throughout Chapter 3 of the permit application, the applicant mentions that small area exemptions from sedimentation ponds are being requested. In order to evaluate these requests, the applicant must locate these areas on Exhibits 3.2-1, 3.3-1, 3.4-1 and 3.6-1. Additionally, acreages of the small area exemption requests should be provided in every case and the applicant should explain the alternative sediment controls that will be used in those areas.

Small area exemptions have been requested for only three portions of the permit area.

1. Southern end of Hardscrabble facilities. The area involved is thoroughly discussed on pages 132-133 of the MRP. The area is shown on Exhibit 3.3-1.

2. Clean coal stacking tube area at Castle Gate. This small area exemption request is withdrawn. pond improvements submitted on 12-12-82 allow direction of drainage to new pond 011.

3. Guard shack and scale area - Castle Gate. This S.A.E. request is also withdrawn. A portion of old pond 012 will remain to catch drainage from this area.

The applicant has designed sedimentation ponds based on a sediment value derived initially from the Universal Soil Loss Equation (USLE) on pages 401-409, Chapter 7 of the permit application. Several questions arose during the review of this methodology:

1. *On page 401, the applicant states that precipitation varies from 10 to 20 inches across the permit area. This fact is later used to support the contention that the sediment derivation for Crandall Canyon is a worst case analysis since that area receives the highest amount of rainfall. The applicant should discuss why Crandall Canyon was used as a worst case solely on the basis of precipitation since the R factor for the entire mine is 40 anyway and is not particularly affected by precipitation amount at the minesite according to Figure 1 of the permit application. In other words, could there be other areas of the mine that are yielding large sediment contributions to ponds based on parameters other than precipitation that are factored into the USLE?*

Perhaps you are right about the R factor - but no, we do not think that there are other significant parameters - we really are not clear as to whether this is a question or just a comment.

2. *According to the USLE calculations on page 405 presented as an example for arriving at the typical sediment contribution, .016 acre-feet per acre per year could be expected as a "worst case." According to UMC 817.46(1), annual sediment volumes calculated via the USLE or an equivalent methodology must be tripled to arrive at the required pond sediment storage volume. In this case, that requirement would dictate a sediment storage volume of .048 acre feet (.016 acre feet/acre/year X 3 years). This would contradict the applicant's argument presented on page 409 of the permit application that the calculated sediment contribution is less than .035 acre-feet/acre. Therefore, the applicant should re-evaluate the use of .035 acre-feet/acre as a conservative estimate and supply support data for the chosen methodology.*

If you will look at the verbage and calculations again - the sample .016 acre-feet/year (Example No. 2) is for a fabricated soil sample. This shows that even if we had a large proportion of fine particals we would still not need to use 0.1 acre-feet per disturbed acre. The actual soil characteristics in Sample No. 1 - mostly sandy soil - yield a lower sediment contribution for three years - 0.02 acre-feet/acre. Soil descriptions for surface materials on all sites appear to be primarily of sandy-cobbley composition (see Chapter VIII).

Additional samples at each site could be analyzed if it is thought necessary.

Minimal contribution has been demonstrated by the accumulations in our 3-5 year old sediment ponds. Again, measurements can be made of the actual accumulation as soon as the weather clears up.

It is noteworthy that a regulatory hydrologist used about 0.0029 acre-feet/acre for sediment storage in approving ponds in Sowbelly Canyon (see attached DOGM letter of 4-20-82).

The applicant has sized all the sediment ponds based on the storm runoff and the sediment contribution. These quantities are presented in tables in Chapter 3 of the permit application under the respective surface facilities areas. These tables are confusing. Better column headings are necessary (see example on following page). Estimates of sediment produced from vegetated areas is lacking in all pond calculations. If they drain to sediment ponds, erosion from these areas must be included in sediment capacity estimates.

It seems that 817.46(b) requires that sediment storage be considered for disturbed areas only. The concept that all areas be included is new to us.

The applicant must provide a clear explanation of structures scattered throughout the surface facilities that are referred to as sedimentation basins and for which no design data were supplied. What distinguishes a sedimentation basin from a sedimentation pond? According to UMC 700.5, a sedimentation pond is also an excavated depression, as well as a barrier or dam. The applicant should provide a good definition of sedimentation basins as utilized at this minesite and provide plans, cross-sections and calaculations for each existing and proposed structure.

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

April 20, 1982

Mr. Rob Wiley
Environmental Engineer
Price River Coal Company
P. O. Box 629
Helper, Utah 84526

RE: NOV #82-4-4-2, #2 of 2
Evaporation Cells at Sowbelly Canyon
ACT/007/004
Carbon County, Utah

Dear Rob:

Upon reviewing the April 8, 1982, submission detailing the rainfall runoff characteristics and required evaporation pond capacities for Sowbelly Canyon, the following items were emphasized.

Rather than review the total runoff occurrence in the Sowbelly Canyon disturbed area in relation to capacity requirements, the approximate runoff occurring from each sub-basin into each cell (003-004-005) was calculated. This is due to the fact of each cell serving separate drainage areas. The required holding capacity for the 25-year, 24-hour event and the excess storage capacity available was derived for each cell (see Attachment A).

An average curve number of 80 was utilized since the area is partially revegetated and unpaved. The required holding capacity was calculated for the 25-year, 24-hour storm with sediment storage. The excess capacity for storage was calculated. The 10-year, 24-hour required capacity was also calculated to provide that cells 004 and 005 can acually retain a 10-year, 24-hour event on top of the 25-year, 24-hour event. This, of course, means dewatering of cell 003 to the lower two will occur but at a rate and amount that may readily be assimilated in botn the lower cells.

ATTACHMENT A

Curve Number = 80

25-year, 24-hour Q = .67 incnes 10-year, 24-hour Q = .44 incnes

Cell	Capacity	Drainage Area Acres	25 yr-24 hr Required Storage Capacity	Sediment Storage	Total	Excess Capacity	10 yr-24 hr Required Storage Capacity
003	11253	4.0	9728	508	10236	1017	6389
004	40460	7.5	18241	953	19194	21266	11979
005	16766	2.5	6080	318	6398	10368	3993

(All values in cubic feet.)

The design for cells 003, 004 and 005 has proven to be sized in excess of that required for a sediment pond, UMC 817.42, in that the 25-year, 24-hour event plus a 10-year, 24-hour event can be contained at one time. The Division concurs with Price River Coal Company's request to call these evaporation cells. Considering the probability of a design storm occurrence and the fact that the average annual lake evaporation rate is 40 inches and pan evaporation 55 inches which by far exceeds the average annual precipitation of 18 inches, DOGM feels there is little likelihood for error in the assumption that the evaporation cells are adequate. In light of these findings, a discharge structure will not be required for any of these cells.

If you have any further concerns, please call me.

Sincerely,

Sally Kefer

SALLY KEFER
RECLAMATION HYDROLOGIST

cc: OSM
Dave Lof, DOGM

SK/btb

Sediment and water holding structures from which we may discharge within effluent limitations are designated as ponds. There are 16 ponds on the property. Some are excavated; some have constructed embankments. Volume and discharge capacity for most ponds has been provided. Some additional clarification and data are forthcoming, however, all ponds are designed within spatial limitations to comply with performance standards.

Other structures are used to contain or reduce flow and sediment going to the ponds. These are combinations of small excavated sumps and straw dikes. Such devices are used because they are easier to clean and maintain than ponds. These minor structures, installed by choice to reduce the more expensive pond maintenance costs, surely cannot fall under the requirements of the 817.46 performance standards.

UMC 784.15 Reclamation Plan: Postmining Land-Use

The applicant must indicate what type of support activities will be required to achieve the proposed postmining land-use.

What do you mean? . . .

The applicant should evaluate the compatibility of the proposed land-use with any existing or proposed surface water plans, and with any applicable State and local land-use plans.

The proposed land use is the same as the premining land use; undeveloped, light grazing. We have stated all we know on pages 42 and 324.

We do not know of any existing surface water plans. Why should be evaluate proposed plans of any kind?

Comments submitted to the applicant by owners of the affected lands should be summarized by the applicant.

We are the owners of record for all lands upon which we have surface facilities.

UMC 784.16 Reclamation Plan: Ponds and Banks

Potential effects of subsidence from underground mining on the embankment structure for the refuse pile settling pond must be evaluated.

We do not expect or plan any subsidence in the area of the refuse pile pond. No longwalls are shown for this area. We have previously stated (page 70) that only first mining will occur within a 45° angle of draw of all surface facilities, especially in Price Canyon.

An inspection plan must be provided to meet the requirements of the design of the embankment structure for the refuse pile settling pond, and must be certified by a registered professional engineer.

To be provided

A detailed geotechnical analysis must be provided which shows the stability of the refuse pile settling pond embankment structure. This analysis must incorporate consideration of the following factors: (1) an analysis of the effects of the water flowing through the embankment, the anticipated phreatic surface must be identified; (2) the stability of the foundation material and the potential for seepage through the foundation.

To be discussed and provided if necessary.

Maintenance requirements for the embankment structure at the refuse pile settling pond must be identified.

???

The applicant has assumed that discharge structures are not required for some ponds that can retain the sediment and runoff from a 25-year storm event. According to UMC 817.46(d), every sedimentation pond (which includes excavated depressions per UMC 700.5) must be provided with a "nonclogging dewatering device or a conduit spillway approved by the Division." The applicant must upgrade existing sedimentation ponds to conform with this part of Subchapter K, and provide discharge structures for all proposed sedimentation ponds. The submitted information should include: plans, cross-sections; calculations; and, methodology used to design the discharge structure (refer to UMC 817.46[g][i]).

The applicant has received specific approval based on pond sizing for containment and evaporation/infiltration of 25-year storm runoff with no discharge pipe needed. See attached letter - S. Kefer, 4-20-82.

The applicant has provided locations for the majority of sedimentation ponds on Exhibit 3.2-1 (Sowbelly Gulch), 3.3-1 (Hardscrabble Canyon), 3.4-1 (Gastle Gate and Utah Fuels #1) and 3.6-1 (Willow Creek). There have not been any usable plans or cross-sections, however, save for a few insufficient cross-sections provided in Exhibit 3.2-2. An analysis of sediment pond adequacy requires that the following items be submitted for each existing and proposed sediment pond:

1. *Outlines of the drainage areas to each pond shown on the above exhibits.*

2. *A plan view map for each pond or cross-sections through the entire structure to be used for calculating available storage; a cross-section of each embankment used to construct a sedimentation pond that is to-scale, showing the top width, height, side slopes and spillway locations; typical cross-sections or plan views of the principal and/or emergency spillways from which dimensions can be obtained; calculations showing that the emergency spillway is capable of adequately passing the runoff (keyed into peak flows in Table 7.5) from a 25-year, 24-hour storm event alone or in conjunction with the principal spillway; placement of erosion controls.*

To be discussed and provided.

On Exhibit 3.4-1, the applicant shows proposed sedimentation ponds 27A and 27B. The explanation for these ponds is presented on page 146 of the permit application. The applicant should present a drainage area map that clearly shows how runoff formerly routed to ponds 011 and 012 will flow into these proposed ponds.

See Castle Gate drainage modification submitted 12-12-82 to DOGM.

On page 116 of the permit application, the applicant explains that three sedimentation ponds in the Sowbelly Gulch area are connected via an 18-inch corrugated metal pipe. What purpose does this serve? The volume analysis for these ponds should be re-evaluated to show that each pond, or one at a lower elevation, is capable of providing runoff and sediment storage for the designated drainage areas.

See S. Kefer approval letter of 4-20-82 for the Sowbelly pond system.

The applicant should specify what the design of the refuse disposal site will be and which of the design suggestions that Golder Associates has made will be utilized in the design of the refuse pile. Assuming that the design of the refuse pile will follow all aspects of the design criteria suggested by Golder, the following information is still required.

1. *An estimate of the quality of the water draining from the refuse material must be made to assess potential hydrologic impacts.*

To be provided

2. *Details must be provided on the analysis utilized to determine the safety factors.*

- To be discussed and provided if necessary

3. *If portions of the alluvium/colluvium are removed to cover the refuse pile (page 4-5), will there be enough left to act as a drain (page 6-12) and will it remain sufficiently uncompacted after equipment has traversed it to allow water to percolate through it?*

The drain is installed. Most alluvium/colluvium is excessively rocky and inaccessible to store and use to resoil the pile. We plan to haul in resoiling material.

4. *The applicant should provide for drainage of the pile during the initial stages of construction and then, subsequent to further testing, if drainage is not needed, delete the drain construction rather than the opposite as suggested on pages 6-12. This way, costly reconstruction of the pile might be avoided.*

The subdrain was installed at the time of site development. Monitoring of the piezometers has indicated that the pile is free draining. Data will be provided.

5. *The amount of time required to drain the refuse pile in order to ensure stability during construction should be incorporated into the construction requirements of the pile.*

To be discussed.

6. *The applicant should ensure that the refuse material will be compacted to 95 percent of the maximum dry density.*

UMC 817.85 requires only 90% compaction. We will determine the compaction and provide results.

7. *An inspection program must be developed showing compliance with UMC 817.82.*

To be provided.

8. *A materials handling plan should be provided showing the volume of material to be removed, stockpiled and replaced to achieve the required four feet of cover and required topsoil during various stages of construction.*

Materials is not being removed as the pile is being constructed. Canyon walls are excessively rocky and steep for removal of pile covering materials. The materials available for reclamation are stored in Gravel Canyon or will be purchased (see Section 3.4-4).

9. *A survey of springs and seeps in the disposal site must be made.*

There are no seeps or springs in or near the disposal site.

10. *The effect of subsidence on the stability of the pile must be evaluated (see related comments under UMC 784.20).*

There will be no subsidence affecting the pile.

11. *The applicant is required by UMC 817.81 to comply with UMC 817.71 - .73. As such, the applicant is required to construct a sub-drainage system. A plan must be submitted showing compliance with this requirement.*

The drain is installed. Narrative and plans to be provided.

12. *All plans for the design of the refuse pile must be certified by a registered professional engineer.*

To be provided

13. *A plan to ensure the mixing of fine and course (sic) refuse must be provided. Also, the applicant must specify if any of the thickener underflow be disposed of at the refuse pile site.*

Adequate mixing has occurred. Mixing occurs on the output belt, in the storage bin and as a result of the dump and spread method of pile construction. Thickener underflow is included.

14. *The application should include a plan specifying the maintenance schedule for sediment removal from sediment ponds.*

Sediment is removed in accordance with UMC 817.46(h). Volume relationships will be determined by an instrument survey.

UMC 784.17 Protection of Public Parks and Historic Places

See comments in Attachment A.

Where is Attachment A?

UMC 784.20 Subsidence Control Plan

The applicant must provide justification that the Castle Gate Sandstone is capable of subsiding without cracking and as such will not cause surface cracking. An analysis should be provided relating subsidence in mined out areas to the percent of coal extracted in thos areas. A relationship between coal extraction, seam depths, seam thicknesses and subsidence can be made which could be utilized to predict anticipated subsidence in longwall areas and areas where first mining will occur.

To be discussed.

It appears that the subsidence control points utilized in subsidence monitoring are located over previous mining and within the angle of draw of adjacent mining. The applicant must provide data showing that all measurements were made from point unaffected by mining.

To be discussed.

The table provided on subsidence data collected to date are mostly unreadable. A readable table must be provided.

Attached

UMC 784.22 Diversions

The applicant should locate the typical channel cross-sections for the Schoolhouse Canyon Refuse Pile diversion (Figure 5-3 of the Golder Report) on a plan view of the diversion, so that an evaluation of velocities in various segments of the channel is possible.

To be provided.

NOTE: Su[redacted]ontrol Points from No. 5 Mine, "D" Seam, used as original co[redacted]nts for No. 3 Mine, Sub 3 Seam, are designed by a "-D" behind the number. [redacted]

SU[redacted]CE CONTROL

LOC[redacted] BEAR & CRANDALL CANYONS

MINE NO 3

[redacted]et 1 of 3

ORIGINAL PTS.

SEQUENCE NO. 11

INST. POINT	BACKSITE	BOOK	PAGE	DATE	STATION	NORTHING	EASTING	ELEVATION	INST. POINT	BACKSITE	BOOK	PAGE	DATE	STATION	NORTHING	EASTING	ELEVATION	DIFFERENCE NORTHING	DIFFERENCE EASTING	DIFFERENCE ELEVATI
CC #6	TR #2	59	46	6/30/78	NE Ref.Pt.	510299.614	2172041.368	7739.12	CC#6	TR#2	125	55	7/14/82	NE Ref.Pt.	510300.000	2172040.986	7740.16	.386	-.382	1.24
CC #6	TR #2	59	46	6/30/78	SE Ref.Pt.	510160.071	2172130.248	7788.86	CC#6	TR#2	125	54	7/14/82	SE Ref.Pt.	510160.605	2172130.075	7788.81	.534	-.173	-.05
CC #6	TR #2	59	47	6/30/78	NW Ref.Pt.	509676.731	2169644.884	7765.99	CC#6	TR#2	125	58	7/14/82	NW Ref.Pt.	509676.834	2169645.053	7765.61	.103	.169	-.38
CC #6	TR #2	59	47	6/30/78	SW Ref.Pt.	509506.930	2169615.023	7780.30	CC#6	TR#2	125	57	7/14/82	SW Ref.Pt.	509507.024	2169615.205	7780.95	.094	.182	.65
CC #6	TR #2	59	48	6/30/78	"I"	509977.727	2171426.259	7178.63	CC#6	TR#2	125	63	7/14/82	"I"	509977.746	2171425.541	7177.68	.019	-.718	-.95
CC #6	TR #2	76	3	8/15/78	"H"	509778.333	2170034.385	7288.38	CC#6	TR#2	125	66	7/14/82	"H"	509778.569	2170034.828	7289.09	.236	.443	.71
CC #6	TR #2	76	3	8/15/78	"J"	509928.010	2171234.918	7005.91												
CC #6	TR #2	59	46	6/30/78	No. 1	509167.658	2172017.423	7880.87	CC#6	TR#2	125	54	7/14/82	No. 1	509167.802	2172017.474	7880.60	.144	.051	-.27
CC #6	TR #2	59	46	6/30/78	No. 3	508629.942	2171337.611	7887.10	CC#6	TR#2	125	54	7/14/82	No. 3	508630.015	2171337.533	7886.71	.073	-.078	-.39
CC #6	TR #2	59	46	6/30/78	No. 4	508864.882	2170850.275	7809.29	CC#6	TR#2	125	55	7/14/82	No. 4	508864.910	2170850.476	7809.29	.028	.201	.00
CC #6	TR #2	59	47	6/30/78	No. 4A	511119.971	2172666.644	7585.49	CC#6	TR#2	125	55	7/14/82	No. 4A	511120.104	2172667.343	7585.35	.133	.699	-.14
CC #6	TR #2	59	47	6/30/78	No. 4G	510855.088	2171679.689	7534.55	CC#6	TR#2	125	57	7/14/82	No. 4G	510856.885	2171627.770	7532.72	1.797	-1.919	-1.83
CC #6	TR #2	76	3	8/15/78	No. 4K	510547.879	2170534.805	6900.12	CC#6	TR#2	125	62	7/14/82	No. 4-K	510547.812	2170535.082	6899.51	-.067	.277	-.61
CC #6	TR #2	59	48	6/30/78	No. 4P	510222.943	2169320.713	7767.68	CC#6	TR#2	125	60	7/14/82	No. 4-P	510222.262	2169320.760	7767.21	-.681	.047	-.47
CC #6	TR #2	59	46	6/30/78	No. 5	509164.707	2170459.797	7663.80	CC#6	TR#2	125	56	7/14/82	No. 5	509164.812	2170459.867	7663.44	.105	.070	-.36
BZ-93	TR #2	76	33	8/18/78	No. 5-D	510532.170	2164001.365	7889.30	BZ-93	TR#2	95	47	5/26/82	No. 5-D	510532.086	2164001.390	7889.24	-.084	.025	-.06
CC #6	TR #2	59	47	6/30/78	No. 6	509317.230	2170092.306	7702.09	CC#6	TR#2	125	56	7/14/82	No. 6	509317.294	2170092.432	7701.69	.064	.126	-.40
BZ-93	TR #2	76	33	8/18/78	No. 6-B	510359.645	2163079.204	7878.70	BZ-93	TR#2	95	47	5/26/82	No. 6-B	510359.718	2163079.103	7878.75	.073	-.101	.05
CC #6	TR #2	59	47	6/30/78	No. 7	509345.986	2169734.645	7797.09	CC#6	TR#2	125	57	7/14/82	No. 7	509346.174	2169734.726	7796.87	.188	.081	-.22
BZ-49A	BZ-49	76	31	8/17/78	No. 7-D	510234.476	2162148.057	8406.50	BZ-49A	BZ-49	95	43	5/25/82	No. 7-D	510234.402	2162147.962	8407.15	-.074	-.110	.65
CC #6	TR #2	59	48	6/30/78	No. 8	509961.898	2169594.824	7739.91	CC#6	TR#2	125	58	7/14/82	No. 8	509961.824	2169595.179	7739.64	.016	.355	-.27
BZ-49A	BZ-49	76	31	8/17/78	No. 8-D	512042.435	2159515.154	8069.05	BZ-49A	BZ-49	95	41	5/25/82	No. 8-D	512042.399	2159515.183	8069.11	-.036	.029	.06
CC #6	TR #2	59	48	6/30/78	No. 9	510260.238	2169484.939	7733.09	CC#6	TR#2	125	59	7/14/82	No. 9	510259.565	2169485.083	7732.74	-.673	.144	-.35
BZ-49A	BZ-49	76	32	8/17/78	No. 9-D	511279.325	2160818.490	8068.79	BZ-49A	BZ-49	95	43	5/25/82	No. 9-D	511279.301	2160818.513	8068.64	-.024	.023	-.15
BZ-93	TR #2	76	15	7/10/79	No. 10	512055.447	2168003.745	7236.28	BZ-93	TR#2	125	53	7/12/82	No. 10	512055.572	2168004.067	7236.05	.125	.322	-.23
BZ-49A	BZ-49	76	31	8/17/78	No. 10-D	511630.363	2161653.582	8468.74	BZ-49A	BZ-49	95	41	5/25/82	No. 10-D	511630.315	2161653.601	8468.51	-.048	.019	-.23
BZ-93	TR #2	76	5	11/9/78	No. 11	512563.776	2168576.504	6799.60	BZ-93	TR#2	125	53	7/12/82	No. 11	512564.283	2168576.320	6800.03	.507	-.184	.43
BZ-93	TR #2	76	33	8/18/78	No. 11-D	511111.178	2163921.589	7852.85	BZ-93	TR#2	95	46	5/26/82	No. 11-D	511111.074	2163921.447	7852.97	-.104	-.142	.12
BZ-93	TR #2	76	2	8/09/78	No. 12	513183.914	2167679.339	7462.25	BZ-93	TR#2	125	53	7/12/82	No. 12	513183.872	2167679.348	7462.27	-.042	.009	.02
BZ-93	TR #2	76	33	8/18/78	No. 12-D	511634.146	2163391.143	8170.70	BZ-93	TR#2	95	46	5/26/82	No. 12-D	511634.053	2163390.906	8170.61	-.093	-.237	-.09
CC #6	TR #2	59	44	8/29/78	No. 13	511312.324	2171142.289	6898.45	CC#6	TR#2	125	60	7/14/82	No. 13	511313.269	2171141.119	6896.50	.945	-1.170	-1.95
BZ-49A	BZ-49	76	31	8/17/78	No. 13-D	512099.144	2161834.735	8583.78	BZ-49A	BZ-49	95	42	5/25/82	No. 13-D	512098.782	2161835.292	8583.76	-.362	.557	-.02
CC #6	TR #2	59	44	6/29/78	No. 14	510695.473	2168826.619	7577.04	CC#6	TR#2	125	62	7/14/82	No. 14	510695.624	2168826.673	7576.74	.151	.054	-.30
BZ-49A	BZ-49	76	32	8/17/78	No. 14-D	512240.021	2160891.141	8135.91	BZ-49A	BZ-49	95	42	5/25/82	No. 14-D	512249.904	2160891.264	8135.76	-.117	.123	-.15
CC #6	TR #2	59	44	6/29/78	No. 15	512192.440	2171329.470	6704.21												
BZ-49A	BZ-49	76	32	8/17/78	No. 15-D	512551.700	2160052.109	8330.62	BZ-49A	BZ-49	95	42	5/25/82	No. 15-D	512551.767	2160052.547	8330.73	.067	.438	.11
CC #6	TR #2	59	44	6/29/78	No. 16	511184.128	2168396.444	7549.64	CC#6	TR#2	125	61	7/14/82	No. 16	511184.275	2168396.468	7549.47	.147	.024	-.17
CC #6	TR #2	59	44	6/29/78	No. 17	512907.371	2172528.095	6632.18	BZ-60	BZ-52	125	70	8/10/82	No. 17	512907.209	2172528.070	6631.92	-.162	-.025	-.26
BZ-93	BZ-93	95	10	6/19/80	No. 17-D	512054.754	2163041.921	8425.34	BZ-93	TR#2	95	46	5/26/82	No. 17-D	512054.462	2163041.993	8425.16	-.292	.072	-.18
CC #6	TR #2	59	45	6/29/78	No. 18	511549.208	2169808.836	6906.34	CC#6	TR#2	125	64	7/14/82	No. 18	511549.390	2169808.829	6906.29	.182	-.007	-.05
BZ-49A	BZ-49	95	15	6/24/80	AWC No. 18-D	512925.468	2161691.859	8593.99	BZ-49A	BZ-49	95	41	5/25/82	AWC No. 18D	512925.251	2161693.566	8593.95	-.217	-.293	-.04
CC #6	TR #2	59	45	6/29/78	No. 19	512428.204	2172693.357	6905.44	CC#6	TR#2	125	62	7/14/82	No. 19	512428.401	2172693.163	6905.47	.197	-.194	.03
BZ-49A	BZ-49	95	15	6/24/80	No. 19-D	510536.621	2160844.953	8029.67	BZ-49A	BZ-49	95	43	5/25/82	No. 19-D	510536.567	2160844.825	8029.72	-.054	-.128	.05
CC #6	TR #2	59	45	6/29/78	No. 20	510800.865	2170318.455	6906.91	CC#6	TR#2	125	66	7/14/82	No. 20	510800.931	2170318.670	6906.62	.066	.215	-.29
BZ-49A	BZ-49	95	44	5/25/82	No. 20-D	512880.885	2159798.402	8637.46	Original											
CC #6	TR #2	59	45	6/29/78	No. 21	513181.995	2173557.120	6823.57	BZ-60	BZ-52	125	70	8/10/82	No. 21	513181.230	2173556.786	6823.47	-.765	-.334	-.10
BZ-49A	BZ-49	95	44	5/25/82	No. 21-D	512859.603	2160930.044	8337.53	Original											
BZ-93	TR #2	76	1	8/09/78	No. 22	511509.507	2166882.834	7545.91	BZ-93	TR#2	125	52	7/12/82	No. 22	511509.489	2166883.223	7545.84	-.018	.389	-.07
BZ-49A	BZ-49	95	45	5/25/82	No. 22-D	513327.290	2160874.471	8568.62	Original											
BZ-93	TR #2	76	1	8/09/78	No. 23	512508.501	2166476.626	7452.88	BZ-93	TR#2	125	52	7/12/82	No. 23	512508.481	2166476.683	7452.66	-.020	.057	-.22
BZ-49A	BZ-49	95	45	5/25/82	No. 23-D	512638.625	2162089.709	8665.14	Original											
BZ-93	TR #2	76	1	8/09/78	No. 24	512409.538	2165128.806	7928.97	BZ-93	TR#2	125	51	7/12/82	No. 24	512409.417	2165128.962	7928.82	-.121	.156	-.10
BZ-93	TR #2	76	1	8/09/78	No. 25	512723.149	2165162.407	8024.63	BZ-93	TR#2	125	51	7/12/82	No. 25	512723.237	2165162.813	8024.51	.088	.406	-.12
BZ-93	BZ-93	76	25	7/19/79	No. 26	512819.647	2163170.438	8306.18	BZ-93A	BZ-93	141	1	7/12/82	No. 26	512819.422	2163170.475	8306.13	-.225	.037	-.05
BZ-93	BZ-93	76	25	7/19/79	No. 27	513162.365	2163467.422	8007.49	BZ-93A	BZ-93	141	2	7/12/82	No. 27	513162.215	2163467.419	8007.47	-.150	-.003	-.02
BZ-93	TR #2	94	20	6/21/80	No. 28	514160.220	2165194.476	7804.39	BZ-93	TR#2	125	52	7/12/82	No. 28	514160.032	2165194.610	7804.33	-.188	.134	-.06
BZ-93	TR #2	94	20	6/21/80	No. 29	513397.444	2165402.763	8111.01	BZ-93	TR#2	125	51	7/12/82	No. 29	513397.162	2165402.745	8110.97	-.282	-.018	-.04
BZ-93	TR #2	94	21	6/21/80	No. 30	513968.645	2165957.942	8198.06	BZ-93	TR#2	125	52	7/12/82	No. 30	513968.420	2165957.803	8198.09	-.225	-.139	.01
BZ-93	TR #2	94	22	6/21/80	No. 31	513190.762	2165969.383	7915.02	BZ-93	TR#2	125	52	7/12/82	No. 31	513190.731	2165969.231	7915.12	-.031	-.152	.10
BZ-93	BZ-93	94	5	9/16/79	No. 32	514093.108	2167626.019	7363.52												
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]												

...ints for No. 3 Mine, Sub 3 Seam, are designated by a "3" ...

LOCATION BEAR & GRANVILLE CANYONS

MINE NO 3

Sheet 1 of 3

ORIGINAL PTS

INST. POINT	BACKSITE	BOOK	PAGE	DATE	STATION	NORTHING	EASTING	ELEVATION
BZ-52	BZ-93	94	37	6/30/80	No. 34	512145.066	2169138.867	6744.44
TR #2	BZ-93	94	5	9/16/79	No. 35	512877.007	2169653.066	7506.68
BZ-93	TR #2	94	8	10/24/79	AVC No. 36	513647.466	2166977.782	7777.20
BZ-52	BZ-93	94	37	6/30/80	No. 37	512331.959	2170441.614	6823.83
BZ-52	BZ-93	94	37	6/30/80	No. 38	512890.795	2171315.549	6700.59
BZ-93A	BZ-92	125	35	11/6/81	No. 40	514062.457	2163216.880	7864.97
BZ-93A	BZ-92	125	26	5/28/81	No. 41	514094.760	2163627.781	7591.08
BZ-93A	BZ-92	94	48	11/5/80	AVC No. 42	515560.511	2164507.018	7015.02
BZ-93A	BZ-92	94	48	11/5/80	No. 43	515239.200	2165332.436	7601.34
BZ-61F	BZ-93B	94	69	5/05/81	No. 44	515059.441	2164828.032	7347.85
BZ-61F	BZ-93B	94	68	5/05/81	No. 45	514665.076	2165907.090	7947.65
BZ-61F	BZ-93B	94	68	5/05/81	No. 46	515494.751	2166158.788	7658.31
BZ-61F	BZ-93B	94	69	5/05/81	No. 47	515739.662	2165915.973	7390.12
BZ-61F	BZ-93B	94	70	5/05/81	No. 48	515890.516	2165135.346	7252.12
BZ-61F	BZ-93B	94	68	5/05/81	No. 49	516443.214	2164428.663	7081.27
BZ-61F	BZ-93B	94	69	5/05/81	No. 50	516637.733	2165898.445	7128.60
					No. 51			
					No. 52			
					No. 53			
					No. 54			
TR #3	BZ-93	125	48	6/04/82	No. 55	513808.230	2170504.042	7399.30
TR #3	BZ-93	125	49	6/04/82	No. 56	514040.283	2169919.142	7409.09
TR #3	BZ-93	125	47	6/04/82	No. 57	513970.004	2171041.638	7700.69
BZ-60	TRP #1	94	65	5/04/81	No. 58	513285.050	2171663.741	6762.82
CC #6	TR #2	125	44	11/17/81	No. 60	510478.201	2170276.261	7067.51
BZ-93	CC #6	125	10	5/13/81	No. 61	510987.381	2166376.127	7845.84
BZ-60	TRP #1	94	65	5/04/81	No. 62	513619.298	2173023.998	6423.28
TRP#1	BZ-60	94	61	4/16/81	No. 63	514009.478	2173021.644	6546.54
TRP#1	BZ-60	94	60	4/16/81	No. 64	514177.716	2173493.812	6406.63
TRP#1	BZ-60	94	60	4/16/81	No. 65	513933.965	2174217.635	6667.59
TRP#1	BZ-60	94	59	4/16/81	No. 66	513843.826	2174542.437	6852.90
TRP#1	BZ-60	94	60	4/16/81	No. 67	514630.660	2174047.586	6338.26
TRP#1	BZ-60	94	61	4/16 81	No. 68	515086.924	2173927.498	6565.79
TRP#1	BZ-60	94	59	4/16/81	No. 69	514531.930	2174766.518	6589.73
TRP#1	BZ-60	94	59	4/16/81	No. 70	515053.996	2174801.693	6360.22
TRP#1	BZ-60	94	59	4/16/81	No. 71	514209.583	2175228.005	6400.99
BZ-61F	BZ-93B	94	70	5/05/81	No. 72	516397.415	2165331.258	7097.46
CC #6	TR #2	125	19	5/19/81	No. 73	510572.589	2171770.523	7644.95
BZ-93	CC #6	125	8	5/13/81	No. 74	511724.503	2164790.528	8157.80
TR #3	BZ-93	125	47	6/04/82	No. 75	514088.944	2171462.871	7567.21
TR #3	BZ-93	125	47	6/04/82	No. 76	513748.884	2172070.303	7602.03
TR #3	BZ-93	125	48	6/04/82	No. 77	514528.527	2172448.026	7182.46
TR #3	BZ-93	125	48	6/04/82	No. 78	514673.752	2172632.178	7335.77
TRP#1	BZ-60	141	8	8/18/82	CL-Tank#79	514292.722	2173831.095	6390.33

SEQUENCE NO. 11

INST. POINT	BACKSITE	BOOK	PAGE	DATE	STATION	NORTHING	EASTING	ELEVATION
BZ-52	BZ-93	121	68	8/10/82	No. 34	512145.451	2169139.547	6744.57
BZ-93	TR#2	125	53	7/12/82	AVC No. 36	513647.208	2166977.763	7777.33
BZ-52	BZ-93	125	68	8/10/82	No. 37	512332.283	2170444.267	6823.78
BZ-52	BZ-93	125	69	8/10/82	No. 38	512891.126	2171316.036	6700.67
BZ-93A	BZ-93	141	2	7/17/82	No. 40	514062.356	2163216.701	7864.99
BZ-93A	BZ-93	141	2	7/17/82	No. 41	514094.790	2163627.523	7591.09
BZ-93A	BZ-93	141	3	7/17/82	AVC No. 42	515560.213	2164507.101	7015.01
BZ-93A	BZ-93	141	1	7/17/82	No. 43	515239.222	2165331.965	7601.36
BZ-93A	BZ-93	141	1	7/12/82	No. 44	515059.827	2164827.940	7349.27
BZ-61F	BZ-93B	141	3	7/12/82	No. 45	514665.146	2165907.142	7947.55
BZ-61F	BZ-93B	141	4	7/12/82	No. 46	515494.826	2166158.939	7658.33
BZ-61F	BZ-93B	141	4	7/12/82	No. 47	515739.688	2165915.950	7390.28
BZ-61F	BZ-93B	141	4	7/17/82	No. 48	515890.518	2165135.378	7252.13
BZ-61F	BZ-93B	141	3	7/17/82	No. 49	516443.492	2164428.892	7081.17
BZ-61F	BZ-93B	141	5	7/17/82	No. 50	516637.870	2165898.401	7128.60
Original								
Original								
Original								
BZ-60	BZ-52	125	69	8/10/82	No. 58	513284.986	2171663.777	6762.81
CC#6	TR#2	125	66	7/14/82	No. 60	510478.325	2170276.369	7067.57
BZ-93	TR#2	125	51	7/12/82	No. 61	510987.339	2166376.040	7845.91
BZ-60	BZ-52	125	70	8/10/82	No. 62	513619.402	2173024.101	6423.28
TRP#1	BZ-60	141	8	8/18/82	No. 63	514009.624	2173021.618	6546.47
TRP#1	BZ-60	141	7	8/18/82	No. 64	514177.715	2173493.874	6406.63
TRP#1	BZ-60	141	7	8/18/82	No. 65	513934.126	2174217.724	6667.61
TRP#1	BZ-60	141	6	8/18/82	No. 66	513843.895	2174542.432	6852.89
Unable to see because of trees								
TRP#1	BZ-60	141	6	8/18/82	No. 68	515086.657	2173927.738	6565.99
TRP#1	BZ-60	141	6	8/18/82	No. 69	514531.966	2174766.467	6589.72
TRP#1	BZ-60	141	8	8/18/82	No. 70	515054.015	2174801.711	6360.19
TRP#1	BZ-60	141	7	8/18/82	No. 71	514209.529	2175227.938	6400.99
BZ-61F	BZ-93B	141	5	7/17/82	No. 72	516397.413	2165331.281	7097.43
CC#6	TR#2	125	56	7/14/82	No. 73	510572.671	2171770.498	7644.95
BZ-93	TR#2	125	51	7/12/82	No. 74	511724.636	2164790.452	8157.86
Original								
Original								
Original								
Original								
Original								

DIFFERENCE

NORTHING	EASTING	ELEVATION
.385	.680	.13
-.258	-.019	.13
.324	.653	-.05
.331	.487	.08
-.101	-.179	.07
.030	-.258	.01
-.298	.083	-.01
.022	-.471	.02
.386	-.092	1.42
.070	.052	-.10
.075	.151	.02
.026	-.023	.16
.002	.032	.01
.278	.229	-.10
.137	-.044	.00
-.064	.036	-.01
0.124	0.108	.06
-.042	-.087	.07
.104	.103	.00
.146	-.026	-.07
-.001	.062	.00
.161	.089	.02
.069	-.005	-.01
-.267	.240	.20
.036	-.051	-.01
.019	.018	-.03
-.054	-.067	.00
-.002	.023	-.03
.082	-.025	.00
.133	-.076	.06

LOC. BEAR & CRANDALL CANYONS MINE NO. 3

ORIGINAL PTS

INST. POINT	BACKSITE	BOOK	PAGE	DATE	STATION	NORTHING	EASTING	ELEVATION
CC#6	TR#2	125	4	5/07/81	USBM#C-12	511586.747	2172201.036	7022.36
CC#6	TR#2	125	3	5/07/81	USBM#C-14	511538.637	2172008.152	6948.29
CC#6	TR#2	125	5	5/07/81	USBM#C-15	511493.491	2171918.555	7039.39
CC#6	TR#2	125	6	5/07/81	USBM#C-17	511434.967	2171721.281	7221.33
CC#6	TR#2	125	21	5/19/81	USBM#C-19	511422.519	2171552.793	7261.41
CC#6	TR#2	94	72	5/07/81	USBM#C-20	511415.420	2171466.581	7219.14
CC#6	TR#2	94	73	5/07/81	USBM#C-21	511392.223	2171344.032	7065.33
CC#6	TR#2	125	1	5/07/81	USBM#C-25	511261.467	2170944.317	6780.23
CC#6	TR#2	125	2	5/07/81	USBM#C-27	511211.716	2170750.647	6728.16
CC#6	TR#2	125	2	5/07/81	USBM#C-29	511161.561	2170562.036	6803.27
CC#6	TR#2	125	3	5/07/81	USBM#C-31	511107.838	2170365.573	6953.07
CC#6	TR#2	125	20	5/19/81	USBM#C-40	510896.082	2169514.541	7300.76
CC#6	TR#2	125	20	5/19/81	USBM#C-43	510801.294	2169266.420	7350.29
CC#6	TR#2	125	2	5/07/81	USBM#D-15	512088.491	2171767.370	6781.07
CC#6	TR#2	125	1	5/07/81	USBM#D-17	512039.678	2171570.550	6898.84
CC#6	TR#2	94	73	5/07/81	USBM#D-19	511989.488	2171378.905	6847.00
CC#6	TR#2	94	72	5/07/81	USBM#D-21	511942.511	2171183.909	6809.25
CC#6	TR#2	94	72	5/07/81	USBM#D-22	511916.871	2171082.055	6784.74
BZ-52	BZ-93	94	64	5/04/81	USBM#D-23	511901.372	2170979.020	6769.82
BZ-52	BZ-93	94	64	5/04/81	USBM#D-24	511866.576	2170911.963	6727.34
BZ-52	BZ-93	94	63	5/04/81	USBM#D-26A	511823.793	2170741.689	6647.04
BZ-60	TRP#1	94	66	5/04/81	USBM#E-10	512792.492	2172104.544	6590.25
BZ-52	BZ-93	94	63	5/04/81	USBM#E-23	512464.586	2170841.642	6701.56
BZ-52	BZ-93	94	62	5/04/81	USBM#E-34	512189.815	2169775.959	6753.72

SEQUENCE NO. 11

INST. POINT	BACKSITE	BOOK	PAGE	DATE	STATION	NORTHING	EASTING	ELEVATION
CC#6	TR#2	125	61	7/14/82	USBM #C-12	511586.820	2172200.979	7022.89
CC#6	TR#2	125	60	7/14/82	USBM #C-15	511493.596	2171918.461	7039.36
CC#6	TR#2	125	59	7/14/82	USBM #C-17	511435.030	2171721.199	7221.35
CC#6	TR#2	125	59	7/14/82	USBM #C-21	511392.332	2171344.072	7065.37
CC#6	TR#2	125	61	7/14/82	USBM #C-25	511261.557	2170944.353	6780.28
CC#6	TR#2	125	65	7/14/82	USBM #C-29	511161.907	2170562.286	6802.18
CC#6	TR#2	125	63	7/14/82	USBM #C-40	510896.044	2169514.592	7300.77
CC#6	TR#2	125	62	7/14/82	USBM #C-43	510801.247	2169226.437	7350.34
CC#6	TR#2	125	63	7/14/82	USBM #D-15	512088.749	2171767.501	6780.67
CC#6	TR#2	125	64	7/14/82	USBM #D-17	512039.732	2171570.531	6898.74
CC#6	TR#2	125	64	7/14/82	USBM #D-21	511942.580	2171183.841	6809.22
CC#6	TR#2	125	65	7/14/82	USBM #D-23	511901.875	2170979.228	6769.56
CC#6	TR#2	125	65	7/14/82	USBM #926A	511824.223	2170741.899	6646.90
BZ-60	BZ-52	125	69	8/10/82	USBM #E-10	512792.627	2172104.640	6590.20
BZ-52	BZ-93	125	68	8/10/82	USBM #E-23	512464.823	2170841.867	6701.36
BZ-52	BZ-93	125	68	8/10/82	USBM #E-34	512190.144	2169776.266	6751.55

DIFFERENCE

NORTHING	EASTING	ELEVATION
.073	-.057	.01
.105	-.094	-.01
.063	-.082	.02
.109	.040	.04
.090	.036	.05
.346	.250	-1.09
-.038	.051	.01
-.047	.009	.05
.258	.131	-.40
.054	-.019	-.10
.069	-.068	-.01
.503	.208	-.26
.430	.210	-.14
.135	.096	-.05
.237	.225	-.20
.329	.307	-.12

control points for No. 5 Mine, "0" Seam, pre-designated by a "-3" behind the number.

LOCATION: Sowbelly Gulch

SEQUENCE NO. 8

ORIGINAL PTS									SEQUENCE NO. 8									DIFFERENCE		
INST. POINT	BACKSITE	BOOK	PAGE	DATE	STATION	NORTHING	EASTING	ELEVATION	INST. POINT	BACKSITE	BOOK	PAGE	DATE	STATION	NORTHING	EASTING	ELEVATION	NORTHING	EASTING	ELEVATI
BZ-44	BZ-43	76	34	8/28/78	No. 1	509324.557	2160320.816	7406.49												
BZ-49A	BZ-49	76	32	8/17/78	No. 2	509707.949	2161326.856	7907.01	BZ-93A	BZ-93	95	44	5/25/82	No. 2	509708.030	2161326.969	7907.04	.081	.113	.01
BZ-93	TR-2	76	34	8/18/78	No. 3	509513.394	2162648.448	8010.19	BZ-93	TR#2	95	48	5/26/82	No. 3	509513.518	2162648.426	8009.98	.124	-.022	-.21
BZ-93	TR-2	76	34	8/18/78	No. 4	509827.185	2163950.079	7758.53	BZ-93	TR#2	95	47	5/26/82	No. 4	509827.211	2163950.109	7758.57	.026	.030	.04
BZ-93	TR-2	76	33	8/18/78	No. 5	510532.170	2164001.365	7889.30	BZ-93	TR#2	95	47	5/26/82	No. 5	510532.086	2164001.390	7889.24	-.084	.025	-.06
BZ-93	TR-2	76	33	8/18/78	No. 6	510359.645	2163079.204	7878.70	BZ-93	TR#2	95	47	5/26/82	No. 6	510359.718	2163079.103	7878.75	.073	-.101	.05
BZ-49A	BZ-49	76	31	8/17/78	No. 7	510234.476	2162148.057	8406.50	BZ-49A	BZ-49	95	43	5/25/82	No. 7	510234.402	2162147.947	8407.15	-.074	-.110	.65
BZ-49A	BZ-49	76	31	8/17/78	No. 8	512042.435	2159515.154	8069.05	BZ-49A	BZ-49	95	41	5/25/82	No. 8	512042.399	2159515.183	8069.11	-.036	.029	.06
BZ-49A	BZ-49	76	32	8/17/78	No. 9	511279.325	2160818.490	8068.79	BZ-49A	BZ-49	95	43	5/25/82	No. 9	511279.301	2160818.513	8068.64	-.024	.023	-.15
BZ-49A	BZ-49	76	31	8/17/78	No. 10	511630.363	2161653.582	8468.74	BZ-49A	BZ-49	95	41	5/25/82	No. 10	511630.115	2161653.601	8468.51	-.248	.019	-.23
BZ-93	TR-2	76	33	8/18/78	No. 11	511111.178	2163921.589	7852.85	BZ-93	TR#2	95	46	5/26/82	No. 11	511111.074	2163921.447	7852.97	-.104	-.142	.12
BZ-93	TR-2	76	33	8/18/78	No. 12	511634.146	2163391.143	8170.70	BZ-93	TR#2	95	46	5/26/82	No. 12	511634.053	2163390.906	8170.61	-.093	-.237	-.09
BZ-49A	BZ-49	76	31	8/17/78	No. 13	512099.344	2161834.735	8583.78	BZ-49A	BZ-49	95	42	5/25/82	No. 13	512098.782	2161835.292	8583.76	-.362	.557	-.02
BZ-49A	BZ-49	76	32	8/17/78	No. 14	512250.021	2160891.141	8135.91	BZ-49A	BZ-49	95	42	5/25/82	No. 14	512249.904	2160891.264	8135.76	-.117	.123	-.15
BZ-49A	BZ-49	76	32	8/17/78	No. 15	512551.700	2160052.109	8330.62	BZ-49A	BZ-49	95	42	5/25/82	No. 15	512551.767	2160052.547	8330.73	.067	.438	.11
BZ-93	BZ-43	95	10	6/20/80	No. 17 *	512054.754	2163041.921	8425.34	BZ-93	TR#2	95	46	5/26/82	No. 17	512054.462	2163041.993	8425.16	-.292	.072	-.18
BZ-49A	BZ-49	95	15	6/24/80	LWC No. 18	512925.468	2161693.859	8593.99	BZ-49A	BZ-49	95	41	5/25/82	LWC No. 18	512925.251	2161693.566	8593.95	-.217	-.293	-.04
BZ-49A	BZ-49	95	15	6/24/80	No. 19	510536.621	2160844.953	8029.67	BZ-49A	BZ-49	95	43	5/25/82	No. 19	510536.567	2160844.825	8029.72	-.054	-.128	.05
BZ-49A	BZ-49	95	44	6/25/82	No. 20 #	512880.885	2159798.402	8637.46	Original											
BZ-49A	BZ-49	95	44	6/25/82	No. 21 #	512859.603	2160930.044	8337.53	Original											
BZ-49A	BZ-49	95	45	6/25/82	No. 22 #	513327.290	2160874.471	8568.62	Original											
BZ-49A	BZ-49	95	45	6/25/82	No. 23 #	512638.625	2162089.709	8665.14	Original											
BZ-93	TR-2	76	1	8/09/78	No. 24-3	512409.538	2165128.806	7928.97	BZ-93	TR#2	125	51	7/12/82	No. 24-3	512409.417	2165128.962	7928.87	-.121	.156	-.10
BZ-93	TR-2	76	1	8/09/78	No. 25-3	512723.149	2165162.407	8024.63	BZ-93	TR#2	125	51	7/12/82	No. 25-3	512723.237	2165162.813	8024.51	.088	.406	-.12
BZ-93A	BZ-92	76	25	7/19/79	No. 26-3	512819.647	2163170.438	8306.18	BZ-93A	BZ-93	141	1	7/17/82	No. 26-3	512819.422	2163170.475	8306.13	-.225	.037	-.05
BZ-93A	BZ-92	76	25	7/19/79	No. 27-3	513162.365	2163467.422	8007.49	BZ-93A	BZ-93	141	2	7/17/82	No. 27-3	513162.215	2163467.419	8007.47	-.150	-.003	-.02
BZ-93	TR-2	94	20	6/23/80	No. 28-3	514160.220	2165194.476	7804.44	BZ-93	TR#2	125	52	7/12/82	No. 28-3	514160.032	2165194.610	7804.33	-.188	.134	-.11
BZ-93	TR-2	94	20	6/23/80	No. 29-3	513397.444	2165402.763	8111.01	BZ-93	TR#2	125	51	7/12/82	No. 29-3	513397.162	2165402.745	8110.97	-.282	-.018	-.04
BZ-93	TR-2	95	46	6/26/82	No. 30	511485.195	2162327.624	8314.16	Original											
BZ-93	TR-2	95	47	6/26/82	No. 31	510850.477	2162625.296	8089.11	Original											
BZ-93	TR-2	95	48	6/26/82	No. 32	510102.611	2162500.579	8172.56	Original											
BZ-93A	BZ-92	125	35	11/5/81	No. 40-3	514062.457	2163216.880	7864.97	BZ-93A	BZ-93	141	2	7/17/82	No. 40-3	514062.356	2163216.701	7864.99	-.101	-.179	.02
BZ-93A	BZ-92	125	26	6/28/81	No. 41-3	514094.760	2163627.781	7591.08	BZ-93A	BZ-93	141	2	7/17/82	No. 41-3	514094.790	2163627.523	7591.09	.030	-.258	.01
BZ-93A	BZ-92	94	48	11/5/80	No. 42-3	515560.511	2164507.018	7015.02	BZ-93A	BZ-93	141	3	7/17/82	LWC No. 42-3	515560.213	2164507.101	7015.01	-.298	.083	-.01
BZ-93A	BZ-92	94	48	11/5/80	No. 43-3	515239.200	2165332.436	7601.34	BZ-93A	BZ-93	141	1	7/17/82	No. 43-3	515239.222	2165331.965	7601.36	.022	-.471	.02
BZ-61A	BZ-93A	94	69	5/5/81	No. 44-3	515059.441	2164828.032	7347.85	BZ-93A	BZ-93	141	1	7/17/82	No. 44-3	515059.827	2164827.940	7349.27	.386	-.092	1.42
BZ-93	CC #6	125	8	6/13/81	No. 74-3	511724.503	2164790.528	8157.80	BZ-93	TR#2	125	51	7/12/82	No. 74-3	511724.636	2164790.452	8157.86	.133	-.076	.06

SUBSI[illegible] CONTROL

LOCATION Schoolhouse Refuse #1211-UT-09-0027 MINE NO for 43 & 45

ORIGINAL PTS								SEQUENCE NO. 4								DIFFERENCE		
SCANNER	BOOK	PAGE	DATE	STATION	NORTHING	EASTING	ELEVATION	INST POINT	BACKSIGHT	BOOK	PAGE	DATE	STATION	NORTHING	EASTING	ELEVATION	NORTHING	EASTING	ELEVAT
SCC #1	111	3	5/16/80	No. 1	511,369.033	2,178901.782	6249.98	SCP #1	BC-1	111	13	6/22/82	No. 1	511368.944	2178901.555	6249.89	-0.089	-0.227	-0.09
SCC #1	111	3	5/16/80	No. 2	511,388.444	2,178872.843	6249.79	SCP #1	BC-1	111	13	6/22/82	No. 2	511388.381	2178872.591	6249.26	-0.063	-0.252	-0.53
SCC #1	111	3	5/16/80	No. 3	511,410.043	2,178830.563	6250.04	SCP #1	BC-1	111	14	6/22/82	No. 3	511409.705	2178830.574	6249.98	-0.338	0.011	-0.06
SCC #1	111	3	5/16/80	No. 4	511,432.648	2,178789.315	6252.20	SCP #1	BC-1	Buried by Dozer									
SCC #1	111	4	5/16/80	No. 5	511,456.408	2,178967.766	6297.84	SCP #1	BC-1	Buried by Dozer									
SCC #1	111	4	5/16/80	No. 6	511,483.047	2,178937.745	6296.77	SCP #1	BC-1	111	12	6/22/82	No. 6	511482.974	2178937.526	6296.35	-0.073	-0.219	-0.32
SCC #1	111	4	5/16/80	No. 7	511,508.390	2,178889.160	6295.76	SCP #1	BC-1	111	12	6/22/82	No. 7	511508.261	2178888.960	6295.32	-0.129	-0.400	-0.44
SCC #1	111	4	5/16/80	No. 8	511,539.613	2,178843.744	6296.94	SCP #1	BC-1	Buried by Dozer									
SCC #1	111	3	5/16/80	No. 9-Pipe	511,408.616	2,178840.706	6253.22	SCP #1	BC-1	111	13	6/22/82	No. 9	511408.242	2178840.582	6252.62	-0.374	-0.124	-0.60
SCC #1	111	4	5/16/80	No.10-Pipe	511,414.531	2,178830.752	6254.18	SCP #1	BC-1	111	14	6/22/82	No. 10	511414.176	2178830.836	6254.03	-0.355	0.084	-0.15
SCC #1	111	4	5/16/80	No.11-Pipe	511,419.211	2,178821.941	6253.63	SCP #1	BC-1	111	14	6/22/82	No. 11	511418.875	2178821.905	6253.28	-0.336	-0.036	-0.35
SCC #1	111	5	5/16/80	No.12-Pipe	511,468.748	2,178948.643	6296.06	SCP #1	BC-1	111	13	6/22/82	No. 12	511468.559	2178948.444	6295.86	-0.189	-0.199	-0.20
SCC #1	111	5	5/16/80	No.13-Pipe	511,492.487	2,178910.464	6295.99	SCP #1	BC-1	111	12	6/22/82	No. 13	511492.521	2178910.137	6295.51	0.034	-0.327	-0.48
SCC #1	111	5	5/16/80	No.14-Pipe	511,517.604	2,178868.176	6294.70	SCP #1	BC-1	111	12	6/22/82	No. 14	511517.635	2178867.915	6294.16	0.031	-0.261	-0.54
						(Shot on Ground)													Ave. 0.

On page 5-4 of the Golder Report, a statement is made implying that some portions of the diversion might be constructed in unconsolidated material. This would be an unfavorable situation where the diversion makes a 90 degree swing to the northwest. Therefore, erosion controls must be placed at that juncture or the applicant should demonstrate that the bend in the diversion will be excavated in rock.

The diversion was installed in 1978. Cuts were primarily in rock. The bend has been heavily riprapped and has shown no signs of excessive erosion.

In Chapter 7, on Table 7.5, the applicant has presented peak flow calculations that could be used to size the existing and proposed ditches and culverts at the surface facilities areas. The applicant should confirm that these flows were indeed used for that purpose, then supply calculations showing that each diversion and culvert to be utilized during this permit term is capable of adequately passing its assigned peak flow. This could be handled via a table showing the Manning's Equation parameters utilized for each ditch design, its applicable Q-value and resulting velocity. A similar table could be used for each culvert, showing its required Q (again, from Table 7-5) and the designed pipe diameter. A typical cross-section for the ditches could be acceptable, providing that special cases were also provided with cross-sections. These calculations and cross-sections should be keyed into the appropriate plan view map (Exhibit 3.2-1, 3.3-1, 3.4-1 and 3.6-1).

To be discussed and provided.

Unless surface water monitoring data proves that these are ephemeral streams, longitudinal profiles should be provided for the larger stream channel diversions, such as Sowbelly Gulch showing pre-construction conditions (if avilable), existing conditions and proposed restoration.

The only perennial streams in the MPA are Price River and Willow Creek. Spring Canyon is intermittent. All others are ephemeral.

UMC 784.23 Operations Plan: Maps and Plans

It does not appear that pond O11 has been shown on Exhibit 3.4-1 which depicts surface facilities for the Castle Gate area.

Sorry . . . See plans attached to drainage modification proposal submitted on 12-12-82 for Castle Gate.

The applicant has made a statement that berms are constructed around the surface facilities at the mine (page 413, Chapter II) as an integral part of controlling runoff from disturbed areas. These berm locations should be shown on Exhibits 3.2-1, 3.3-1, 3.4-1 and 3.6-1 so that a realistic evaluation of surface water control can be made. It is not possible to look at the exhibits and determine where runoff is flowing unless these berm locations are clearly shown on the exhibits.

To be provided

The small sumps mentioned on page 114 of the permit application should be shown on Exhibit 3.2-1.

To be provided

The culverts proposed for the access road in the Sowbelly Gulch area mentioned on page 114 should be located on Exhibit 3.2-1. Associated plans and calculations should also be submitted.

To be provided.

The applicant should provide stationing on the plan view lines of sedimentation pond cross-sections shown on the surface facilities maps so that some correspondence can be made between those plan views and the cross-sections on Exhibit 3.2-2.

To be provided.

The area of land for which the performance bond will be posted must be identified.

There is currently posted $850,000 for performance bond. The total present disturbance is about 144 acres. See comments under 783.14 for disturbed area and area to be reclaimed.

Areas where underground development waste has been disposed of must be identified.

See approved Crandall Canyon plan.

Other disposals of waste were pre-SMCRA, random and are not currently active.

UMC 784.24 Transportation Facilities

Detailed descriptions and drawings have not been provided for conveyors and rail systems as required by this section.

Conveyors to be discussed. We have no rail systems.

UMC 805.11 Determination of Bond

See comments under UMC 784.13.

A breakdown of how bonding cost was computed should be compiled to a single breakdown table itemizing areas of reclamation with manpower and machinery as well as materials required, rather than referencing scattered portions of the submittal.

Why?. . .Bonding breakdowns are not scattered but placed within the most applicable sections.

Manpower is considered in all machinery usage cost..a dozer cannot operate itself. All materials are considered.

UMC 817-11 Signs and Markers

The applicant has provided signs and marker information for the Crandall Canyon site only. This information must be provided for all of the permit area and applicable mines.

To be discussed and provided.

UMC 817.43 Hydrologic Balance

The applicant must address the outlet structure for the Schoolhouse Canyon diversion. A stilling basin at the outlet of the diversion is depected on Exhibit 3.4-1, but not mentioned in the MRP. The applicant should submit information regarding erosion at the outlet of the diversion since its construction. The applicant should submit evidence that this diversion will not increase the potential for landslides at the outlet. Alteration of the Barn Canyon channel and associated flow routing structures within the PRCC preparation plant area should be addressed in regards to the additional runoff contributed to this drainage by the diversion. Design adequacy for these structures must be demonstrated.

To be provided.

ATTACHMENT A
CULTURAL RESOURCES

Gordon & Kranzush, Inc.
2920 Pearl Street • Boulder, Colorado 80301 • (303) 443-4490
Cultural Resource Services

Phase I Review - Cultural Resources

RE: 783.12(b)

Description of Existing Environment

"Chapter V - Historical and Cultural Resources" consists of a compilation of the reports of cultural resources investigations conducted within the mine plan area from 1975 through 1980. The reports consist of findings from exploration site and access road surveys (Walker 1975; Berge 1977; Harper and Sisson 1978), water well locations (Howell 1979), and an access road, power line, and mining facilities (Sargent 1980). A "non-intensive inventory" (Hauck 1979) was conducted in the Ford Ridge vicinity, and three historic sites were evaluated in terms of National Register eligibility (Christensen 1980). The Sargent report was also revised (Lindsay 1980) and this report is included in Chapter V, Appendix E of the mine plan documentation. The narrative descriptions of the inventories and the maps of survey areas in the Chapter V appendices are of such poor quality that the locations and extent of previous survey are difficult to impossible to determine.

The 1980 historic site evaluations were completed in response to an Apparent Completeness Review conducted by the Office of Surface Mining (May 29, 1981). At that time, the applicant was requested to provide:

1) Copies of the inventory reports for investigations conducted within the permit area.

2) Historical evaluations and National Register eligibility assessments for towns, mine workings, etc. within the permit area.

3) Inventory reports for all potential and proposed areas of ground surface disturbance.

4) The inventory report for the Crandall Canyon area (presumed to be the Lindsay [1980] report).

5) Assurance that the Willow Creek Cemetery will not be directly or indirectly affected and that no disturbance will occur within 100 feet of that cemetery.

6) An agreement to consult with the Utah Division of State History and the regulatory authority to determine the extent of inventory necessary to assess the effects of subsidence resulting from underground mining.

The applicant's responses to these requests (5/20/82 - 8/9/82) are evaluated in terms of their ability to satisfy the major deficiencies cited in the 5/29/81 Apparent Completeness Review, below.

1) Copies of the pertinent inventory reports have been included as appendices to Chapter 5.

2) The applicant has supplied National Register eligibility assessments for 42CB215, 216 and 217 (Chapter V, Appendix E), as well as a list of the historic mine workings within the permit area (Chapter V, pp. 329-332). The Utah Division of State History was contacted to supply background information on these developments, but had not responded as of August 1982.

The applicant states that OSM Archaeologist Foster Kirby informed them that no further work in regard to this issue would be required.. This reviewer has been unable to reach Kirby for verification of this claim. If this is a correct representation of OSM's requirements on this subject, the response to the request should be considered ADEQUATE.

3) The applicant states that with regard to proposed facilities, the Utah Division of State History has been provided with a map delineating all proposed disturbance zones and has been requestd to provide background data (Chapter V, page 329).

In light of the fact that neither the locations of proposed disturbance nor the locations of areas that have been inventoried for cultural resources is apparent from the Price River Coal Company Mining and Reclamation Plan, the applicant is requested to submit a map depicting existing and proposed areas of ground surface disturbance as well as the locations of previously inventoried areas. The quality of the map reproductions contained in Chapter V is so poor that it is virtually impossible to determine the locations or extent of previous inventories. The scale of the map should be sufficient (preferably 1:24,000) to allow accurate depictions of the sizes, locations and shapes of development zones and previous survey areas.

The applicant should be advised that any necessary cultural resources inventory of proposed disturbance areas will be required by stipulation if/when the Mining and Reclamation Plan is approved.

4) The report of historic evaluations of 42CB215, 216 and 217 appears as Appendix E of Chapter V. This report sufficiently documents recommendations that these sites be considered ineligible for nomination to the National Register of Historic Places and, despite the fact that one or more pages of the report have been omitted, should be considered

ADEQUATE for Determinations of Eligibility. However, the applicant should be requested to provide the permit number(s) under which this investigation was completed and the curation facility in which the collected artifacts are stored.

The revised Crandall Canyon survey report (Lindsay 1980) is also contained in Appendix E. In regard to this report, the applicant is requested to provide answers to the following questions:

A) In the original report (Sargent 1980) it is stated that approximately 160 definable acres plus 3 miles of 50-60 foot powerline corridor were examined (BLM Form 8100-3). In the revised report, it is claimed that 240 acres plus linear rights-of-way were examined (Lindsay 1980:1). The sizes, shapes and locations of the survey areas should be verified, and this information should be included in the map requested in (3) above.

B) Since the inventory was conducted partially on federal land, the study is subject to the requirements of a Professional Services Antiquities Permit issued by the Department of the Interior. The number of the DOI-PSAP held by the Division of State History at the time of fieldwork (or evidence that a temporary permit had been granted) should be supplied.

5) The applicant has stated that it has "an informal agreement for continuing maintenance of and access to the Willow Creek Cemetery" (Chapter V, page 328), that disturbance has occurred within 100 feet of the cemetery boundaries, and that the applicant currently owns the surface upon which the cemetery is located.

Chapter III, Section 3.6 of the Mine Plan goes into great detail to establish Price River Coal Company's valid existing rights to the area in an attempt to demonstrate that the area cannot be classified as unsuitable for mining.

The claim of valid existing rights to the cemetery should be thoroughly reviewed by OSM before a decision is made regarding the unsuitability of the Willow Creek Cemetery for mining. Such an evaluation is beyond the expertise of a cultural resource professional.

This reviewer's opinion is that the Willow Creek Cemetary is of local historical significance, even though cemeteries are normally excluded from listing on the National Register under "Criteria Considerations" of 36 CFR 60.6. Under criterion (d) of the considerations, a cemetery may be eligible for nomination to the National Register if it derives its significance from "association with historic events". In light of the fact that coal mining was the economic basis for

historic development of Carbon County, and since the cemetery represents an historic event (mining disaster in 1924) which surely had a profound effect (the death of 172 miners) upon the community, my opinion is that the cemetery plus a 100 foot buffer zone should be designated unsuitable for mining. It is recommended that an opinion regarding the significance of the cemetery be requested from the State Historic Preservation Officer in support of OSM's final decision on the matter.

Should the area fail to meet unsuitability criteria due to Price River Coal Company's valid existing rights, the "informal agreement" regarding cemetery maintenance should be formalized and included as a stipulaiton to OSM's acceptance of the permit application. The applicant should be informed that disturbance of cemeteries is usually subject to stringent county and/or state regulations, and it is suggested that Carbon County be allowed to comment on the proposed undertakings within the Willow Creek Cemetery area.

6) The possible effects of subsidence have not been discussed in the Mining and Reclamation Plan. The inventory reports included in Chapter V suggest that much of the permit area is too rugged and steep to have a high archaeological site potential. However, steep canyons and rugged terrain frequently contain rock shelters and rock art sites, both of which are considered sensitive to the effects of subsidence. Since none of the inventory reports discuss the cultural background of the region (in terms of cultural occupations/periods and associated site types), and since limited inventory has been performed, it is difficult to evaluate the potential for sensitive sites in any meaningful way. The applicant is therefore requested to supply an evaluation of the possible effects of subsidence upon sensitive sites (e.g., rock shelters, rock art, standing structures, etc.). A discussion of the cultural background of the region should be incorporated into this assessment.

OSM generally prefers that the applicant conduct a 10% sample inventory of the permit area in order to realistically assess the potential effects of subsidence. If the applicant feels that this type of investigation is unnecessary, the opinion should be justified using data concerning existing and anticipated site locations and frequencies.

Completeness and Adequacy of Inventory Reports

The inventory reports contained within Chapter V of the Mining and Reclamation Plan were reviewed for completeness using OSM's cultural resource inventory outline. Major deficiencies (e.g., maps, discussion of cultural background, lack of inventory in areas for which disturbance is proposed,

etc.) have been outlined above. Submittal of the requested information will allow OSM to evaluate the need for additional surface inventory. The current mine plan documentation in combination with the requested information should allow for approval, possibly with stipulations regarding additional surface inventory and protection of the Willow Creek Cemetery, and will allow OSM to be in compliance with all the applicable cultural resources legislation.

Minor deficiencies in the submitted inventory reports are numerous (e.g., permit numbers and expiration dates, abstract and title page requirements, etc.). It is recommended that OSM supply the applicant with its "Standards for Reporting Cultural Resource Inventories" to guide the preparation of cultural resources reports in the future, and emphasize that there are certain report requirements even in instances where no cultural resources are recorded.

References Cited

Berge, Dale L.
1977 (Letter) Report of Examination of 41 Drill Sites. Unpublished ms. submitted to American Electric Power Service Corporation. Brigham Young University, Provo, Utah.

Christensen, D.
1980 Documentation and Recommendation for Determination of Eligibility to the National Register of Three Archaeological Sites in Crandall Canyon, Carbon County, Utah. Unpublished ms. prepared for Price River Coal Company, the Utah State Historical Society and the Office of Surface Mining. Utah Archaeological Research Corporation, Spanish Fork, Utah.

Harper, B. and E.B. Sisson
1978 An Archaeological and Historical Survey of Twelve Drill Sites and Access Roads in the Price Canyon Region of Carbon County, Utah. Unpublished ms. submitted to American Electric Power Service Corporation. University of Utah, Salt Lake City, Utah.

Hauck, F.R.
1979 BLM Form 8100-3: Non-intensive cultural resource evaluations in the Ford Ridge Locality of Carbon County, Utah. Unpublished ms. submitted to American Electric Power Company. Archeological-Environmental Research Corporation, Salt Lake City, Utah.

Howell, W.
1979 BLM Form 8100-3: Negative report of the cultural resource inventory of proposed reserve well, water well and access roads. Unpublished ms. submitted to the American Electric Power Service Corporation. Archeological-Environmental Research Corporation, Salt Lake City, Utah.

Lindsay, L.W. 1980 A Revision of an Archaeological Survey in Crandall Canyon, Carbon County, Utah. Antiquities Section, Utah Division of State History.

Sargent, Kay 1980 Memorandum regarding survey of Crandall Canyon, Utah Division of State History.

Walker, J. Terry 1975 Archaeological Survey Report on Fourteen Proposed Drill Sites Near Ford Ridge, Utah. Unpublished ms. submitted to Braztah Corporation. Brigham Young University, Provo, Utah.

PRICE RIVER COAL COMPANY

P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

January 31, 1983

PROVIDED/SATISFIED EITHER 1-13 OR 1-31

PROVIDED 4-1

CERTIFIED RECEIPT REQUESTED
Certified No. 562126

Mr. Tom Tetting
Engineering Geologist
Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114

Re: Results of Conference Held on 1-13-83 Between the R.A. and PRCC Mine Plan ACR

Dear Mr. Tetting:

So that positive communication can continue I have attempted to summarize the agreements reached during the 1-13-83 meeting on PRCC's ACR.

Please review the attached pages to ascertain that our understanding of the meeting results are similar.

We will be prepared to reopen any discussions during your proposed 2-15-83 site visit.

Please forward a copy to Bennet Young.

Sincerely,

PRICE RIVER COAL COMPANY

R. L. Wiley
Environmental Engineer

RLW:jp

Attachments

RESULTS AND AGREEMENTS OF ACR REVIEW MEETING WITH DOGM, OSM AND OSM's CONSULTANT, FRED C. HART ASSOCIATES ON JANUARY 13, 1983

771.23 - PERMIT - GENERAL

1. R.A.* agrees to look at Chapter 3 again, consider longer term permit and generally discuss permit format among the various entities.

2. PRCC agrees to indicate on maps: Mining prior to 8-3-77 and mining between 8-3-77 and 5-3-78 for No. 3 and No. 5 Mines.

Note: Old works are shown on Exhibits 3-1 through 3-20. Surface disturbance prior to 1977 is shown on 9-1.

783.14 - GEOLOGY DESCRIPTION

R.A. agrees to consider PRCC's suggestion to provide requested roof and floor data prior to or during seam development.

PRCC agrees to provide roof and floor data as soon as tests can be made for No. 3 and No. 5 Mines.

PRCC also agrees to provide discussion of seam similarity.

783.15 - GROUND WATER

PRCC agrees to assimilate and submit existing and empirical data on mine water regime and probable ground water impacts of mining rather than to develop a piezometric contour map.

Vaughn Hansen, PRCC's consultant, will correlate and collate data and complete work in 4-6 months.

783.16 - SURFACE WATER

Comments No. 1, 2 and 3 will be addressed by PRCC's consultant, Vaughn Hansen.
Comment No. 4 OK.

783.22 - LAND USE

1. R.A. agrees with response.
2. R.A. will review Chapter V, Section S.2
3. Response OK.

---

* R.A. = Regulatory authority, which for this discussion includes OSM, DOGM and Hart Associates.

783.24 - MAPS - GENERAL

1. Relates to 771.28 - No. 1 - further clarification to be provided by R.A.

2. Existing information. . . OK

3. Existing information. . . OK

Note: PRCC agrees to provide map showing surface to be used and probable underground activity for ensuing 5-year period.

783.25 - CROSS-SECTIONS, MAPS, PLANS

1. Response OK.

2. PRCC agrees to provide critical cross-sections on stream channels and backfilled sites (portals) stressing channel reconstruction and estimation quantity of material to be handled. Supplies W/ Baseline Info.

Note: Field work cannot be started until snow melt - 2-3 months.

3. Geologic cross-sections to be further discussed during and after review at PRCC offices of other test hole data by T. Tetting.

784.11 - OPERATING PLAN

Response OK.

784.12 - EXISTING STRUCTURES

1. PRCC agrees to discuss existing cut and fill areas on various sites stressing stability. Hurch

2. PRCC agrees to more clearly designate areas of present use and past mining.

784.13 - RECLAMATION PLAN - GENERAL

1. PRCC agrees to copy 817.131 and commit to requirements.

2. PRCC agrees to provide map highlighting mining for next five years.

3. PRCC agrees to rehash bonding and cost figures and combine data on one chart.

4. Response OK.

5. PRCC agrees to provide channel cross-sections for existing and proposed configuration.

6. Portal Seals - PRCC agrees to provide additional discussion based on water flow and quality characteristics.

784.13 - RECLAMATION PLAN - GENERAL (continued)

7. NPDES Permits - Response OK

8. Disturbed area figures - Response OK.

784.14 - RECLAMATION PLAN - HYDROLOGIC BALANCE

1. Response OK.

2. Response OK.

3. Response OK.

4. Sediment load determinations - (1 & 2) deleted - response accepted.

5. Chart clarification - meeting will be held with J. Lyons to clarify.

6. Drainage control structures - PRCC agrees to provide cross-sections and calculations for each pond.

STIPULATION REQUIREMENT

784.15 - RECLAMATION PLAN - POST MINING LAND USE

1. PRCC agrees to restrict grazing during 10-year post reclamation maintenance period.

2. Response OK.

3. Response OK.

784.16 - RECLAMATION PLAN - PONDS AND BANKS

1. Deleted

2. PRCC agrees to assimilate records and provide summation.

3. PRCC agrees to summarize construction data and provide safety factor.

4. Pond Maintenance - Comment deleted - Refer to pages 413, 414 in Chapter 7

5. Discharge structures - R.A. agrees to re-evaluate comment.

6. PRCC agrees to provide plans and cross-sections for all ponds and delineate drainage areas.

7. Response OK.

8. Response OK.

784.16 - RECLAMATION PLAN - PONDS AND BANKS (continued)

9. (1) Sample will be taken from refuse pile piezometer when possible.

(2) PRCC agrees to provide analyses of safety factor.

(3) Response to be considered by R.A.

(4) Response OK.

(5) To be provided by PRCC.

(6) To be provided by PRCC.

(7) To be provided by PRCC.

(8) Response to be considered by R.A.

(9) The area has been surveyed in the spring and no seeps or springs were noted to exist within the disposal area.

~~(10) Deleted~~

(11) Discussion of drain installation was provided on 1-13-83.

(12) To be provided

(13) Thickener underflow is included on the output belt to the storage bin.

PRCC agrees to provide summary of analyses of particle size in refuse.

~~(14) Comment deleted~~ See Chapter 7, p. 413, MRP.

784.17 - PARKS AND HISTORIC PLACES

State history was contacted in May 1982. OSM's Foster Kirby will contact PRCC and advise if needed.

784.20 - SUBSIDENCE

1. Additional discussion and references to be provided.

2. PRCC agrees to provide additional discussion.

3. Provided on 1-13-83.

Note: Some discussion at meeting on the need to obtain sign-off from BLM on subsidence - letter of 10-17-79 from BLM is included here.

784.22 - DIVERSIONS

1. & 2. Narrative of construction to be provided by PRCC.

3. To be provided by PRCC.

784.23 - OPERATIONS PLAN: MAPS AND PLANS

1. Response OK.

2. & 3. PRCC agrees to show items on maps.

4. To be provided.

5. Cross-sections submitted are shown for Ponds 003 through 008.

6. Response OK.

7. PRCC agrees to provide additional discussion of underground disposal of development waste.

784.25 - TRANSPORTATION FACILITIES

No rails exist.

R.A. specifies concerns about conveyors are related to air quality protection. R.A. is referred to Chapter 11 for discussions on air quality protection and to Mike Beilling and Monte Keller at UDH for specific comments. Phone 801-533-6108.

805.11 - BONDING

PRCC agrees to recapitulate bonding breakdown and provide discussion of methods.

817.11 - SIGNS AND MARKERS

Such signs are in place. PRCC will provide discussion.

817.43 - HYDROLOGIC BALANCE

PRCC agrees to provide further discussion after site visit by J. Lyons.

817.97 - FISH AND WILDLIFE

R.A. agrees that no plan is required. R.A. is referred to attached letter from Utah Division of Wildlife Resources of 8-6-82 and page 710, MRP.

Note: Additional information to be submitted will be provided as generated by PRCC. Submittal will occur over the next 4-6 months. A summary and complete package of submittal will be compiled and provided with the final completeness item.

United States Department of the Interior
OFFICE OF SURFACE MINING
Reclamation and Enforcement
BROOKS TOWERS
1020 15TH STREET
DENVER, COLORADO 80202

February 8, 1983

Memorandum

To: Mr. Thomas N. Tetting, Engineering Geologist, State of Utah

From Bennett Young, Geologist/Project Leader

Subject; Mutual conversation on February 1, 1983 regarding Price River Coal Company (PRCC) response to ACR comments.

The schedule regarding answering the critical areas on the apparent completness review (ACR) for PRCC's Mining and Reclamation plan is as follows:

		DUE DATE
1)	Ground Water Hydrology ACR concerns provided by Vaughn Hansen Associates	NLT June 1, 1983
2)	Surface water control and waste pile stability concerns	NLT April 15, 1983
3)	All other miscellaneous unanswered ACR concerns answered	NLT April 15, 1983

If the above is not what we agreed upon please let me know, also Tom, it must be emphasized to PRCC that we need prompt compliance with the schedule to retain our contractor. Debbie Richardson and Connie Kimball have been negotiating with their former employer to finish up this TA and other work, and strict deliverable dates seem to be paramount for them to retain this contract. Ms. Richardson and Ms. Kimball as of yet have not received their go-ahead to start the TA stage of the review. I was promised by Steve Albert, of Hart's Washington, D.C. (WDC) office that we would be informed NLT than February 15, 1983 regarding the starting of the TA. I plan on holding him to that committment. Albert suggested that the remainder of the work on PRCC Technical Analysis be handled out of their WDC office and I said that was not acceptable due to the time delays and uncertainity of the quality of the product. His suggestion is contrary to OSM's original concept in awarding the contract. I said that either Ms. Richardson and Ms. Kimball get the go ahead or the TA would be completed inhouse by Utah or OSM or a conbination of both.

I assume you are in agreement on this. Foster Kirby, OSM archeologist, will review all archeological material presented in the MRP along with the "Attachment A" as prepared by Hart Associates to see if further information is required. He committed to having this completed before our meeting on February 15, 1983.

If you have any concerns or questions please call me at (303) 837-5656.

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

February 14, 1983

Mr. Bennett Young
Office of Surface Mining
Brooks Towers
1020 15th Street
Denver, CO 80202

RE: Price River Coal Company
Complex MRP Review
ACT/007/004 #2
Carbon County, Utah

Dear Mr. Young:

The Division is in receipt of your memo dated February 8, 1983 in which you have itemized the contents of our conversation on February 1st and related the concerns of the O.S.M. and contracted consultant. This letter is a confirmation of the basic intent of the schedule presented. Conversations with the operator have elicited a similar commitment for meeting the deadlines as proposed.

A difficulty remains however, as several items to which the operator has the responsibility of responding may prove unattainable depending solely on the climatic factor. Specific items involving surveys or measurements on the property may need to await the disappearance of snow. These items, I have been assured, will be attended to at the earliest convenience and I feel while under the observance of the Division's diligent Inspection and Enforcement staff, will be taken care of promptly.

The working relationship the State has had with the company is an exemplary one. I trust that the consultants will not be incovenienced by any delays.

Sincerely,

THOMAS N. TETTING
ENGINEERING GEOLOGIST

TNT/lm

cc: Rob Wiley, PRCC w/OSM attachment
Lynn Kunzler, DOGM w/OSM attachment
Dave Lof, DOGM w/ OSM attachment

Enclosure

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

Lead. 3-10-83
Gilliley

March 10, 1983

~~REGISTERED RETURN RECEIPT REQUESTED~~
HAND DELIVERED 3-10-83 jkl

Mr. R.L. Wiley
Environmental Engineer
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

RE: Approval of Modification to Interim Permit for Drainage Control Plans at Castlegate Preparation Plant
ACT/007/004 #4
Carbon County, Utah

Dear Mr. Wiley:

The Division has completed its review of the proposed modifications to the drainage control system at the Castlegate facilities. The plans for this modification; along with your submittals of 1-13-83, 2-7-83 and 3-9-83, meet with the permanent performance standards for sediment control measures and sedimentation ponds (UMC 817.45 and UMC 817.46).

Division approval for these plans is hereby granted with the following points emphasized:

(A) Price River Coal Company is responsible for revegetation for the truck turnaround at the truck scales as well as diversion of undisturbed drainage around old sediment pond 012.

(B) Drainage from the area northwest of the substation, the area enclosed by the fence around the water treatment plant (18), the area south of Barn Canyon Creek directly beneath the coal conveyor from the sample building (15) to the coal stacking tube (19) and the primary water intake pond (25) are exempt from passage through sedimentation pond 011 (Building numbers in parentheses are referenced on map CGE-101 of the plans submitted 12-13-82). All berms and straw bales controlling runoff from beneath the conveyor belts and adjacent area (northwest of building 15) must be properly maintained. Drainage from the road adjacent to the water intake pond is not included in the design of pond 011 and must not be routed to this pond.

Please contact me if you have any questions relative to this approval.

Sincerely,

Joe Lyons

JOE LYONS
RECLAMATION HYDROLOGIST

JL/mn

cc: James W. Smith, Jr., DOGM
Joe Helfrich, DOGM
Dave Lof, DOGM
Tom Tetting, DOGM
Bennett Young, OSM (Denver)

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

March 17, 1983

Mr. Tom Tetting, Engineer Geologist
Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114

Re: Rock Slide in Crandall Canyon - Compliance with UMC 817.99

Dear Mr. Tetting:

As required by UMC 817.99 I am reporting the occurrence of a landslide that affected a portion of PRCC mine area.

Sometime during the evening of 3-13-83 or the early morning of 3-14-83 a rock slide occurred in Crandall Canyon which caused damage to the access road and deposited about 300 yds^3 of material on the road, filling both the northern ditch and the southern shoulder with boulders ranging in size from 6" to 10' in diameter. Some boulders rolled all the way to the stream channel, taking out 2 or 3 fir and pine trees. The attached map shows the location of the slide.

There does not appear to be a continuing safety hazard associated with this slide area. There also does not appear to be any ongoing environmental problems with the slide or materials.

The cause of the slide was not related to road construction as the displaced material came from an undisturbed cliff about 150 feet above any construction areas.

Rock removed from the road will be placed, permanently, on the 30' X 60' road shoulder across from the slide. Smaller fragments will be scavenged for rip-rap at a later date.

Very truly yours,

PRICE RIVER COAL COMPANY

R. L. Wiley
Environmental Engineer

RLW:jp

Attachments

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

March 21, 1983

Mr. Tom Tetting, Engineering Geologist
Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114

Re: Request for Consideration of A Life of Mine Permit

Dear Mr. Tetting:

Price River Coal Company requests that your agency review the pending mining and reclamation plan with consideration for your issuance of a life of mine permit. Various sections of the existing acts and regulations allow the granting of permits for periods in excess of five years (Chapter 10 of Title 40, Utah Annotated Code, 1953, Amended 1979, 40-10-9(2), Utah Coal Mining and Reclamation Permanent Program Regulations, Revised 9-82, UMC 782.17, UMC 786.25, et al; Public Law 95-87, 8-3-77, Section 506(b) and regulations promulgated thereunder). Review of the pertinent requirements suggests that the significant factors to be considered for the issuance of a permit in excess of five years are the submittal by the permittee of "full and complete" information in the application for a longer specified period and a showing by the permittee that the availability of financing for the operation is tied to a term longer than five years.

There are few, if any, clear guidelines in the acts, the regulations or the legislative history which provide an interpretation of the two concepts relating to a long-term permit. The regulatory agency should develop guidelines that reflect the intent of the laws in a reasonable manner with consideration for the realities of underground mining operations. The vast majority of underground mining operations are capital intensive at the onset, slow to produce a return and long term in operation. The legislative history of the permit term regulations indicates that a five-year permit period was considered to be a reasonable term, although the basis for the reasonability of the term is not substantiated. It is here suggested that the five-year operation of a mine could only be considered reasonable if strip mining operations and their operating histories were used as a basis for the judgement. Strip mines generally require a relatively small capital investment for start up based on minimal construction and rapid development that provide a quick return on expenditures.

This company feels that the issuance of a long-term permit is justifiable based on a reasonable interpretation of UMC 786.25 requirements. We have provided information in our mine plan which shows development and extraction of all minable coal seams within the entire controlled reserve using the best mining technology currently available. These plans have been developed over a period from in 1972 to 1977. We are now operating and will continue to operate within this conceptual framework which projects activity to occur for 28 to 81 years depending, or course, on market conditions and other limiting factors (see Table 3.1-1, p. 64, MRP). We have already expended a significant capital investment based on the belief, prior to the advent of P.L. 95-87, that the long-term mining plans could be carried out to completion. We are now a little past the midpoint of our development plans. Additional capital must be obtained. Its availability to us

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is directly related to our ability to demonstrate to financial institutions that Price River Coal is a viable business venture with real potential to carry through the plans upon which further investments will be based.

In an attempt to satisfy the requirements for a long-term permit we will demonstrate the "full and complete" nature of the information presented in our mining and reclamation plan and the relationship of obtaining financing to a long-term plan.

I. FULL AND COMPLETE ISSUE

We feel that the full and complete requirement is satisfied for the entire mine area by the inclusion of the following information:

1. Plans for the development and extraction of the entire controlled reserve.

   A. Plans are included as Exhibits 3-1 through 3-21 showing all mining with differentiation of mining method. Chapter three describes the mining plans and projected start up dates, development periods, additional facilities and duration of activity.

   B. Plans and designs of existing surface facilities which will operate throughout the life of the mine.

      1) The Castle Gate preparation plant was designed and installed to process coal from all mines and could remain in operation through the year 2066.

      2) The approved Crandall Canyon shaft facility will service the No. 3 Mine for 34 years and the No. 5 Mine for 48 years.

      3) The portals, fans and electrical equipment in Hardscrabble Canyon and Sowbelly Gulch will remain in use for 34 and 48 years respectively.

      4) The Willow Creek facility is projected as a long-term storage area to be used as such until plans can be finalized and capital obtained for the opening of the #6 and #6A Mines. We have maintained constant ventilation in the old mines on the site (Castle Gate #2) since 1972 so that the re-opening potential will not be lost.

2. Resource Baseline Information is included for the entire mine area.

   A. Geologic and coal reserve information is discussed in Chapter 6.

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B. Archaeologic, historic and cultural resource investigations have covered a large portion of the area over which mining will occur. Investigations have revealed that such resources are not in existence (see Chapter 5 and Exhibit 5-1). Utah state history has been provided with a map (Exhibit 3-1A) showing the location of all proposed surface facilities and their advice requested on additional surveys. OSM's Foster Kirby has recommended that additional surveys not be commenced for future developments until we are prepared to begin designing the proposed facilities.

C. Chapter 10 describes use by wildlife of the entire mine area, discusses habitat and sets forth a wildlife impact mitigation plan. Although each proposed surface facility will require some site specific population surveys, such surveys are not relevant if done too far in advance of intended use of an area.

D. Vegetation resources have been analyzed and mapped for the entire area (Chapter 9, Exhibit 9-1). Reference areas have been established which include most (if not all) plant associations. New facilities would require some survey work to tie them to one or more of these. A reclamation plan has been developed to include all possible site situations.

E. Hydrologic information, both in the present MRP and to be expanded as a result of ACR comments is applicable to the entire reserve.

F. All plans in all chapters for the protection of or mitigation of impacts on resources and compliance with performance standards apply to all existing and future surface facilities.

3. Rights to mine and access to reserves is assured for an extended period.

A. All existing facilities are on fee or fee surface lands.

B. All existing and renewable coal leases are for a 20-year period and confer rights to access through surface facilities.

C. The development and extraction plans for the entire coal reserve were reviewed (as again presented in the MRP application) and approved by the Minerals Management Service in April, 1977. Such approval recognized the need for all proposed surface facilities (with stipulations for submittal of details prior to intended commencement).

D. No restrictions to mining have been placed upon the mine area as a result of the completion of the Central Utah EIS with the exception of maintaining a 30^{0} to 45^{0} angle of draw for longwall mining along Price Canyon and Willow Creek.

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E. Local zoning and planning frameworks do not preclude continued mine development.

In conclusion, PRCC's interpretation of "full and complete" is primarily related to the coal extraction plan, the area wide applicability of existing environmental resource data and long-term legal rights to mine. We feel that these items are addressed to the "full and complete" extent that would allow for the issuance of a life of mine permit. Additional information needed for proposed surface facilities is of a relatively minor nature when compared to the development of the overall mining plan. Such items as necessary (similar to the Crandall Canyon package) would, of course, have to be developed and reviewed well ahead of anticipated startup dates for each facility. We would not presume that a long-term permit would confer automatic approval of proposed facilities without review. We would intend to provide bond for all existing surface facilities and supply additional bond for new areas. We are concerned that a short term permit would greatly inhibit or perhaps prevent orderly development of our coal reserve. We will briefly restate the intended sequence of events.

Orderly development plans for the western and central portions of the reserve, include the preparation plant and the existing mines (No. 3 and No. 5). When the Crandall Canyon facilities are completed, surface facilities at the No. 3 and No. 5 Mines will be phased out and the personnel and equipment will then be based at Crandall.

Robinson Gulch facilities would include a small change house and a truck loadout. Coal would be hauled by truck to the Castle Gate preparation plant. These facilities would be used to mine the 'B' and 'A' Seams of coal on the western end of the reserves. Since this mining is a considerable distance from the Crandall Canyon fans, ventilation shafts will be required at Robinson Gulch and Rains Canyon. The Price Canyon shafts and slope will provide needed ventilation and an alternate conveyor haulage route to the Castle Gate preparation plant.

Plans for the eastern portion of the reserves contemplate refurbishing and using portions of the existing portals and entries of the Castle Gate No. 2 Mine, which is currently kept ventilated by a fan located in Willow Creek Canyon. This entails the use of the Willow Creek site for surface facilities (change house, warehouse, offices, etc.) and belt haulage to the Castle Gate preparation plant.

Concurrently with the opening of the Castle Gate portal, the Panther Canyon and Cordingly Canyon and Deadman Canyon, portals could be opened and the coal trucked to the Castle Gate preparation plant. The Dry Canyon and Mathis Canyon shafts and the Kenilworth tunnels would be used for ventilation with a minor amount of coal trucked from the Kenilworth tunnels to expedite ventilation connections to the Castle Gate portals.

It should be pointed out that the Mathis Canyon shafts are shown on property not now owned by PRCC. If negotiation for this property does not materialize, the underground plans could easily be changed to go around it. Since it appears to

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be in the best interest of all concerned that PRCC obtain and mine this coal, it has been shown that a ventilation shaft should be constructed in this location to preclude a major modification to the mining plan when the property is acquired.

II. THE RELATIONSHIP OF OBTAINING FINANCING TO A LONG-TERM PERMIT PERIOD

There are two aspects from which the relationship of obtaining financing to a long-term permit period should be viewed.

1. Financing obtained and committed prior to the requirement for a SMCRA permit based on the intended long-term nature of the operation.

   During the period 1971 through 1974, McCulloch Oil Company purchased several operating small mines, a few mines which had suspended operations, some abandoned mines, and large tonnages of raw coal reserves. This was done with a view of putting them all together in one mining operation to mine and sell coal on the commercial market.

   In 1975, it became apparent to McCulloch that they were unable to finance such a venture alone. They were able to interest American Electric Power (a large holding company with power plants in seven midwestern states) in signing a long-term contract to purchase coal, with McCulloch to furnish management and operations (through the McCulloch-owned subsidiary Braztah Corporation). AEP signed the agreement to procure low-sulphur coal for blending with the high-sulphur coals in the midwest and thus meet the clean air standards at that time.

   Subsequent to the above events, AEP financed a diamond drilling program, and constructed a cleaning plant on the property. In 1976-1977, AEP purchased the reserves from McCulloch and took over the management and operation of the property in December, 1979; creating Price River Coal as the operator.

   Planning for the operation has always envisioned approximately 7,000,000 raw tons annual production. The original plan was to use the total tonnage for blending - however, due to the change in laws (i.e. scrubbers), it is no longer feasible to use this amount in the AEP system, and it is now contemplated that some 2,000,000 tons will be consumed within the system and the remainder will be sold on the commercial market.

   With the foregoing historical background in mind, the following outline of events is presented:

   A. Various properties acquired and placed into a single operating unit:

      1) Operating mines
      2) Mines which had suspended operations
      3) Abandoned mines
      4) Inplace, undeveloped reserves

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B. Diamond drilling program to delineate reserves.

C. Conceptual plan for entire reserve

D. Constraints on conceptual plan:

(1) Geological
(2) Multi-seam operation
(3) Past mining
(4) Ventilation

(a) Velocity
(b) Mine resistance
(c) Power costs

(5) Transportation

(a) Coal
(b) Men and materials
(c) Time and productivity

(6) Government rules and regulations

E. Finalized general plan submitted in accordance with the above, and approved by the U.S.G.S. as the "211" Mining and Reclamation Plan. This plan showing conceptual mining layout for the life of the mine, was approved subject to certain stipulations - submit subsidence plan, ground water monitoring, etc., and that future shaft and surface installations were not approved, but would only be approved on a site specific basis.

F. Preparation plant constructed to serve life of mine:

(1) Removes top rock contaminating coal due to longwall method of mining.

(2) Raises BTU content of product

(3) Lowers transportation costs.

G. Crandall Canyon shafts and surface facility for the life of the mine was approved and construction commenced.

H. Detailed sectional plans, within the above framework, prepared and used for actual mining.

Capital expenditure to date on the property is approximately $232,000,000.

As can be seen, a significant investment has already been made on this property. Price River Coal Company's source of financing has committed some $230,000,000 over a ten-year period. The availability of these funds was based on the intended long-term operation. In effect, the action required in UMC 786.25(a)(2) took place prior to the existence of the regulation.

2. Financing yet to be obtained - an additional $160,000,000 will be needed to open operations on the east side (Willow Creek No. 6 and No. 6A Mines). Obtaining the required capital will necessitate a strong assurance by Price River Coal Company that the same long-term mining plans can be carried through.

The following discussion demonstrates the unreasonability of a five-year permit period.

Regulation UMC 786.25 Permit Terms (a)(2) while being very explicit has not addressed the problems encountered in the logistics of this type of situation. In any financial program of this magnitude the final step to be taken will be to have the lending institution sign on the dotted line. This, of course, will occur only after extensive investigation and satisfaction reached that all licensing and permitting has occurred. With this in mind we have attached three exhibits identified as Alternative A, B and C respectively.

Alternative A - This alternative details the cost of production and net income (loss) based on an assumed selling price of $32/ton. As can be seen, there is a clear and inverse relationship between the level of production and cost per ton. In the situation we are displaying, we have assumed that the incremental capital cost of financing this project is to be financed by means of a lease arrangement with a lending institution. As can clearly be seen, the cost of production does not reach a level low enough to create a net income based on the assumed selling price per ton. As can be seen, the cost of production reacts inversely to production but at maximum capacity, the cost has not yet reached break-even.

Obviously this is not an acceptable alternative for financing this type of project. By the time maximum or optimum production is achieved a period exceeding 10 years has expired.

It should be kept in mind that in excess of $230,000,000 has already been advanced by American Electric Power as financing of this ongoing project which has been in a development state for 10 years. This in conjunction with the time table set forth in Alternative A, clearly indicates a period approaching 20 years with no profitability.

Alternative B - This alternative while identical to Alternative A in all other concepts is different in the assumption used for the additional capital investment financing. Alternative B assumes a 30-year payback on all incremental capital investments. Using a 30-year payback (to a lending institution) would yield a net profit in year six. This combined with the 10 years the project has been in existence would indicate approximately 16 years of development until a profit is realized.

Alternative C - This alternative while identical to Alternatives A and B in all other concepts, assumes a five-year payback assuming a five-year mining permit would encourage a lending institution to loan the

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required capital investment only on the premise payback occurs within five years. As can clearly be seen, this alternative does not achieve break-even level. The ten years detailed on Alternative C combined with the ten years previously developed would indicate no profit would be realized after twenty years, far in excess of the years that a five-year mining permit would allow.

CONCLUSION

The foregoing discussions have attempted to show that the issuance of a life of mine permit is reasonable and possible within the constraints of UMC 786.25, et al. A long-term permit will also be a practical solution to the problems that would arise with the issuance of a five-year permit, i.e., difficulty or impossibility to obtain financing and inability on the part of Price River Coal Company to proceed with orderly (therefore cost effective) development.

The mine plan would require some updating. A five-year period might be a workable time block for re-evaluation by both the mine operator and the regulatory agency. Certain programs will need to be expanded as development progresses such as ground and surface water monitoring. Specific information on construction and operation of the other surface facilities will need to be amended to the permit. The long-term life of mine permit should eliminate confusion about Price River Coal Company's intent and long-term mine plans.

We have legal rights to a large coal reserve. We have a complete plan to obtain the best possible extraction ratio. We feel that the need for coal will increase and over the next 80 years we will provide 250,000,000 tons of it.

Very truly yours,

PRICE RIVER COAL COMPANY

R. L. Wiley
Environmental Engineer

RLW:jp

Attachments

PRICE RIVER COAL COMPANY
Total Company
Years 1 through 10

Alternative A

OPERATING COSTS

	YEAR								
	1	2	3	4	5	6	7	8	9
OPERATING COSTS									
Labor & Benefits	$19.76	$13.82	$13.41	$13.40	$14.21	$14.06	$12.63	$11.41	$11.11
UMW Tonnage Benefits	1.42	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43
Materials & Repairs	10.74	6.46	5.80	5.68	6.74	7.06	6.58	6.41	6.35
Power	1.68	1.07	1.06	.93	.92	1.16	1.04	.95	.93
Insurance & Taxes	1.05	.57	.54	.44	.36	.40	.32	.47	.47
Federal Assessments	.65	.65	.65	.65	.66	.66	.66	.67	.67
Royalties	.15	.15	.15	.15	.15	.15	.15	.15	.15
Trucking	.86	.65	.43	.39	.31	.24	.19	.16	.15
Equipments Leases	.41	2.00	2.60	3.17	3.62	5.09	5.19	4.28	4.16
Black Lung	.42	.31	.30	.29	.28	.27	.23	.21	.20
Depletion	.20	.20	.20	.20	.20	.20	.20	.20	.20
Depreciation	4.38	2.38	2.87	3.20	2.73	2.67	2.19	1.84	1.81
Other Amortization	1.70	1.45	1.45	1.32	1.05	.81	.63	1.08	1.07
Other Costs	2.47	1.12	1.10	.93	.82	.69	.58	.52	.49
Total	$45.89	$32.26	$31.99	$32.18	$33.48	$34.89	$32.02	$29.78	$29.19
Transfers to Construction	-	-	-	(2.84)	(2.75)	(3.87)	(.30)	-	-
Interest on Debt	9.93	4.80	5.20	4.58	3.59	3.30	2.60	4.08	3.96
Total	$55.82	$37.06	$37.19	$33.92	$34.32	$34.32	$34.32	$33.86	$33.15
Assumed Selling Price	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00
Net Income (loss) before income taxes	$(23.82)	$(5.06)	$(5.19)	$(1.92)	$(2.32)	$(2.32)	$(2.32)	$(1.86)	$(1.15)

Years 10 through the life of the mines (mining plan) would be constant.

Equipment leases assumes the following values at original cost to be leased from non-affiliated sources;

	Western	Eastern	Total
Year 1	$ 7,368		$ 7,368
Year 2	19,466		19,466
Year 3	577	$ 3,892	4,469
Year 4		9,847	9,847
Year 5		12,115	12,115
Year 6		32,340	32,340
Year 7		21,054	21,054
Total	$27,411	$79,248	$106,659

(amounts in thousands)

Transfers to construction includes AFUDC (Allowance for Funds Used During Construction)
Interest includes existing interest on existing capital expenditures plus additio
capit ing the life of the plan.

Alternative B

PRICE RIVER COAL COMPANY
Total Company
Years 1 through 10
OPERATING COSTS

	YEAR								
	1	2	3	4	5	6	7	8	9
OPERATING COSTS									
Labor & Benefits	$19.76	$13.82	$13.41	$13.40	$14.21	$14.06	$12.63	$11.41	$11.11
UMW Tonnage Benefits	1.42	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43
Materials & Repairs	10.74	6.46	5.80	5.68	6.74	7.06	6.58	6.41	6.35
Power	1.68	1.07	1.06	.93	.92	1.16	1.04	.95	.93
Insurance & Taxes	1.05	.57	.54	.44	.36	.40	.32	.47	.47
Federal Assessments	.65	.65	.65	.65	.66	.66	.66	.67	.67
Royalties	.15	.15	.15	.15	.15	.15	.15	.15	.15
Trucking	.86	.65	.43	.39	.31	.24	.19	.16	.15
Black Lung	.42	.31	.30	.29	.28	.27	.23	.21	.20
Depletion	.20	.20	.20	.20	.20	.20	.20	.20	.20
Depreciation	4.38	2.38	2.87	3.20	2.73	2.67	2.19	1.84	1.81
Other Costs	2.47	1.12	1.10	.93	.82	.69	.58	.52	.49
Other Amortization	1.70	1.45	1.45	1.32	1.05	.81	.63	1.08	1.07
Total	$45.48	$30.26	$29.39	$29.01	$29.86	$29.80	$26.83	$25.50	$25.03
Transfers to Construction	-	-	-	(2.84)	(2.76)	(3.87)	(.30)	-	-
Interest on Debt	9.93	4.80	5.20	4.58	3.59	3.30	2.60	4.08	3.96
Other Capital Investment	.95	1.71	1.98	2.11	2.17	2.69	2.64	2.18	2.11
Total	$56.36	$36.77	$36.57	$32.86	$32.87	$31.92	$31.77	$31.76	$31.10
Assumed Selling Price	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00
Net Income (loss) before income taxes	$(24.36)	$(4.77)	$(4.57)	$(.86)	$(.87)	$ .08	$ .23	$ .24	$ .90

Years 10 through the life of the mines (mining plan) would be constant.

Other Capital Investment assumes the following values at original cost purchased from a non-affiliated source, the expense portion above (Other Capital Investment) includes interest expense and original cost amortization over a 30 year period.

	Western	Eastern	Total
Year 1	$ 7,368		$ 7,368
Year 2	19,466		19,466
Year 3	577	$ 3,892	4,469
Year 4		9,847	9,847
Year 5		12,115	12,115
Year 6		32,340	32,340
Year 7		21,054	21,054
Total	$27,411	$79,248	$106,659

(amounts in thousands)

Transfers to construction includes AFUDC (Allowance For Funds Used During Construction)
Interest on Debt includes existing interest on existing capital expenditures plus additional expenditures in addition to the expenditures detailed above.

PRICE RIVER COAL COMPANY
Total Company
Years 1 through 10
OPERATING COSTS

Alternative C

OPERATING COSTS	YEAR 1	2	3	4	5	6	7	8	9
Labor & Benefits	$19.76	$13.82	$13.41	$13.40	$14.21	$14.06	$12.63	$11.41	$11.11
UMW Tonnage Benefits	1.42	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43
Materials & Repairs	10.74	6.46	5.80	5.68	6.74	7.06	6.58	6.41	6.35
Power	1.68	1.07	1.06	.93	.92	1.16	1.04	.95	.93
Insurance & Taxes	1.05	.57	.54	.44	.36	.36	.32	.47	.47
Federal Assessments	.65	.65	.65	.65	.66	.66	.66	.67	.67
Royalties	.15	.15	.15	.15	.15	.15	.15	.15	.15
Trucking	.86	.65	.43	.39	.31	.24	.19	.16	.15
Black Lung	.42	.31	.30	.29	.28	.27	.23	.21	.20
Depletion	.20	.20	.20	.20	.20	.20	.20	.20	.20
Depreciation	4.38	2.38	2.87	3.20	2.73	2.67	2.19	1.84	1.81
Other Costs	2.47	1.12	1.10	.93	.82	.69	.58	.52	.49
Other Amortization	1.70	1.45	1.45	1.32	1.05	.81	.63	1.08	1.07
Total	$45.48	$30.26	$29.39	$29.01	$29.86	$29.80	$26.83	$25.50	$25.03
Transfers to Construction	-	-	-	(2.84)	(2.75)	(3.87)	(.30)	-	-
Interest on Debt	9.93	4.80	5.20	4.58	3.59	3.30	2.60	4.08	3.96
Other Capital Investment	1.46	2.63	3.03	3.23	3.34	4.13	4.05	3.34	3.24
Total	$56.87	$37.69	$37.62	$33.98	$34.05	$33.36	$33.18	$32.92	$32.23
Assumed Selling Price	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00
Net Income (loss) before income taxes	$(24.87)	$(5.69)	$(5.62)	$(1.98)	$(2.05)	$(1.36)	$(1.18)	$(.92)	$(.23)

Years 10 through the life of the mines (mining plan) would be constant.

Other Capital Investment assumes the following values at orignal cost purchased from a non-affiliated source, the expense portion (Other Capital Investment) includes interest expense and original cost amortization over a 5 year period.

	Western	Eastern	Total
Year 1	$ 7,368		$ 7,368
Year 2	19,466		19,466
Year 3	577	$ 3,892	4,469
Year 4		9,847	9,847
Year 5		12,115	12,115
Year 6		32,340	32,340
Year 7		21,054	21,054
Total	$27,411	$79,248	$106,659

(amounts in thousands)

Transfers to Construction includes AFUDC (Allowance For Funds Used During Construction)
Interest on Debt includes existing interest on existing capital expenditures plus additional expenditures in addition to the expenditures detailed above.

BLACKHAWK COAL COMPANY

INVESTMENT

FEBRUARY, 1983

	JANUARY ACTUAL	FEBRUARY INPUT	FEBRUARY ESTIMATED
COMMERCIAL MINES			
CONTRACT SETTLEMENT	$ 15,000,000	$	$ 15,000,000
LAND	954,818		954,818
RIGHTS - COAL	16,154,241		16,154,241
- WATER	481,464		481,464
DEPRECIABLE ASSETS	45,979,245		45,979,245
REORGANIZATION DEFERRAL	7,297,751		7,297,751
DEVELOPMENT			
AFUDC	$ 22,191,479	$	$ 22,191,479
EXCESS COST OF COAL	23,920,416		23,920,416
OTHER	24,749,555		24,749,555
TOTAL DEVELOPMENT	70,861,450		70,861,450
TOTAL COMMERCIAL MINES	$156,728,969	$	$156,728,969
DEVELOPMENT MINES			
LAND	$ 307,609	$	$ 307,609
RIGHTS - COAL	37,612,303		37,612,303
DEPRECIABLE ASSETS	32,935		32,935
DEVELOPMENT			
AFUDC	$ 5,824,665	$	$ 5,824,665
OTHER	7,356,942		7,356,942
TOTAL DEVELOPMENT	$ 13,181,607	$	$ 13,181,607
TOTAL DEVELOPMENT MINES	$ 51,134,454	$	$ 51,134,454
C.W.I.P.			
CRANDALL CANYON			
DEPRECIABLE ASSETS	$ 4,717,162	$ 117,876	$ 4,835,038
AFUDC	2,065,375	216,111	2,281,486
OTHER	16,966,857	342,409	17,309,266
TOTAL	$ 23,749,394	$ 676,396	$ 24,425,790
OTHER C.W.I.P.			
DEPRECIABLE ASSETS	$	$	$
OTHER			
TOTAL	$	$	$
TOTAL C.W.I.P.	$ 23,749,394	$ 676,396	$ 24,425,790
TOTAL MINES			
CONTRACT SETTLEMENT (1)	$ 15,000,000	$	$ 15,000,000
LAND	1,262,427		1,262,427
RIGHTS - COAL	53,766,544		53,766,544
- WATER	481,464		481,464
DEPRECIABLE ASSETS (3)	50,729,342	117,876	50,847,218
REORGANIZATION DEFERRAL	7,297,751		7,297,751
DEVELOPMENT			
AFUDC	$ 30,081,519	$ 216,111	$ 30,297,630
EXCESS COST OF COAL (2)	23,920,416		23,920,416
OTHER	49,073,354	342,409	49,415,763
TOTAL DEVELOPMENT	$103,075,289	$ 558,520	$103,633,809
TOTAL MINES	$231,612,817	$ 676,396	$232,289,213

(1) This amount not included in the computations of R.O.I., per G. R. Knorr's letter of 12/26/79.

(2) Amounts to be considered as TX-4, taxable deductions.

(3) The following asset dollars are expressed as net dollars on this sheet and the Cost Control Report:

	ORIGINAL COST	ACCUM. DEPR.	NET
#87024-01	$ 88,391	$ 19,473	$ 68,918
#87003-09	61,186	11,976	49,210

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

1 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

March 22, 1983

Mr. Allen Klein
Office of Surface Mining
Brooks Towers
1020 15th Street
Denver, CO 80202

RE: Permit Terms Longer than
Five Years
Price River Coal Co. Complex
ACT/007/004
Folder No. 6
Carbon County, Utah

Dear Mr. Klein:

A member of your staff has asked the question of this Division relative to coal mining and reclamation permit terms longer than five years.

It is the position of this Division that all permits issued pursuant to 40-10-1 et. seq. shall be issued for a term not to exceed five years; but if the applicant demonstrates that a specified longer term is reasonably needed to allow the applicant to obtain necessary financing for equipment and the opening of the operation, and if the application is full and complete for the longer term, the Division may grant a permit for a longer term. A longer term could include a permit for the life of the mine.

Please contact me if you have any questions on this position.

Sincerely,

for
RONALD W. DANIELS
DEPUTY DIRECTOR

RWD/lm

cc: Jim Smith, DOGM
Tom Tetting, DOGM

Scott M. Matheson
Governor

James O. Mason, M.D., Dr.P.H.
Executive Director
801-533-6111

DIVISIONS
Community Health Services
Environmental Health
Family Health Services
Health Care Financing

OFFICES
Administrative Services
Community Health Nursing
Management Planning
Medical Examiner
State Health Laboratory

STATE OF UTAH
DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
150 West North Temple, P.O. Box 2500, Salt Lake City, Utah 84110-2500

Mary H. Maxell, Ph.D., Acting Director
Room 474 801-533-6121

533-6146
March 22, 1983

Mr. Robert L. Wiley
Environmental Engineer
Price River Coal Company
P.O. Box 629
Helper, UT 84526

RE: Construction Permit
Castlegate Preparation Plant
Sediment Ponds

Dear Mr. Wiley:

We have reviewed the plans and information for the Price River Coal Castlegate preparation plant sediment ponds. Drawings CGE 101 through CGE 104-3, A1-100 and information submitted December 10, 1982, February 9 and March 7, 1983 were reviewed.

As a result of our review, the plans for the Price River Coal preparation plant sediment ponds 11, 12A, 12B are approved. This letter constitues a construction permit for the sediment ponds.

The inside dike slope of pond 12B is to be constructed with a slope of 3 horizontal to 1 vertical. As stated before, we recommend that where practical the inside slopes on the excavated pond portions should be at least 2 horizontal to 1 vertical. Pond 11 is to provide 65,000 cubic feet and ponds 12A and 12B 113,000 cubic feet for containing the 25 year storm event. The sediment level in pond 11 is to be maintained to provide at least three feet of settling between the sediment level and the lowest decant opening. At least two feet of settling is to be maintained in pond 12B. Each pond is to have a baffled outlet to prevent the discharge of floating debris and oil.

Should the effluent not meet State or Federal standards, the company must provide the necessary additional treatment.

Sincerely,

UTAH WATER POLLUTION CONTROL COMMITTEE

Calvin K. Sudweeks
Executive Secretary

SRM:laf
cc: Oil, Gas & Mining
Southeastern Health Dept.
Southeastern Utah AOG
1593

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

March 23, 1983

Mr. Robert Wiley
Environmental Engineer
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

RE: Rock Slide Report in Crandall Canyon and Life of Mine Permit Request for PRCC Complex
ACT/007/004
Carbon County, Utah
Folder No. 3

Dear Mr. Wiley:

Thank you for submitting information to the Division in compliance with UMC 817.99. Your phone call and immediate attention on the morning of March 14, 1983 (the date of the slide occurrence) was also appreciated. An inspection of the area was made on Wednesday, March 16, 1983 by Dave Lof from the Division. The site is as you have indicated in your letter. No problems were found with the handling of the slide debris. One comment is offered; should the debris be located on a newly constructed (filled) shoulder of the road, the additional weight may initiate minor damage i.e. cracking of the new pavement. I'm sure you must already be aware of this concern but it is offered for posterity's sake nevertheless.

Your letter of March 21, 1983 regarding the request for consideration of a life of mine permit has been reviewed. Mel Schilling at the Denver Office of Surface Mining (OSM) office was briefly informed of the general nature of its contents in preparation for your intended meeting on March 24, 1983. Ron Daniels, Deputy Director of the Division is preparing a position statement for you concerning the matter. I will not be able to attend the meeting as Mr. James Smith did not think it necessary for the State to be present. I trust you will find OSM receptive to the idea, anyway. If I may be of further service please call on me at any time.

Sincerely yours,

THOMAS N. TETTING
ENGINEERING GEOLOGIST

TNT/gb

cc: Dave Lof, DOGM
Lynn Kunzler, DOGM
Bennett Young, OSM Denver

Enclosures (2)

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

April 5, 1983

Mr. Tom Tetting
Engineering Geologist
Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, UT 84114

Re: Submittal of Items Required by ACR

Dear Tom:

Price River Coal Company is now submitting a number of the items of additional information as required by the ACR. Please review the attached list and check off these items on the ACR.

Other additional items will be provided as quickly as possible. The following should be available shortly:

--UNDER 784.14

Chemical analysis of roof and floor data and discussion of seam similarity.

This information is not yet available. Samples submitted for testing during the first week of March, 1983, have not completed testing procedures.

--UNDER 783.15 AND 783.16

Ground and surface water information.

Vaughn Hansen Associates began actively working on these items on 3-21-83 and hope to provide a satisfactory report by 6-1-83.

--UNDER 783.25 AND 784.13

1. Stream channel and backfill area cross sections.

   Only now is the snow beginning to melt so as to allow necessary field work. About 2 weeks will be needed for surveying and 4 weeks for drafting.

2. Geologic Cross Sections

   Work has been under way on these since 2-21-83. They are extremely time consuming and may require an additional 3-4 weeks work.

--UNDER 784.12

Discussions of existing cut and fill sites and designation of present versus past surface effects of mining.

Snow has prevented necessary field work. These items can now proceed and will require about 4 weeks to complete.

--UNDER 784.14 AND 784.16

1. Rework and clarify pond sizing calculations.

   These are now complete but would be best attached to pond plans and cross sections.

2. Pond plans and cross sections.

   About 2 weeks of survey work and 4 weeks of drafting time is needed.

--UNDER 784.20

Discussion of subsidence, monitoring and installation of monitoring points.

This information is being assembled. An additional 2-3 weeks will be needed to assemble references.

--UNDER 784.22

Diversions.

Information relating to drainage control configuration and sizing to flow characteristics will require some field work. About 6 weeks are needed for surveying and drafting now that snow is disappearing.

--UNDER 805.11

Bonding.

Additional bonding calculations for removal of power lines is being developed. This should be available in 2-3 weeks.

--UNDER 817.43

Hydrologic balance - Outlet for School House Canyon diversion

This was discussed with Joe Lyons during his February visit. Drainage characteristics are still being evaluated. A plan will be developed by June 1, 1983.

--UNDER 771.23 AND 783.24

Permit Area - Permit Term.

Further in-house discussion is needed as well as some additional communication with the R.A. to decide on the usefulness of existing information versus the development of additional information as related to the concepts of permit area, permit term and right of successive renewal.

We will continue to work with you to provide all necessary information for mine plan review and approval. Please keep in close contact with us.

Sincerely,

PRICE RIVER COAL COMPANY

R. L. Wiley
Environmental Engineer

RW:jp

Enclosures

cc: Ben Young, OSM
Fred Hart Associates

ITEMS OF PRCC ACR TO BE SUPPLIED BY 4-15-83

1. Maps showing mining for No. 3 and No. 5 Mines before 8-3-77 and between 8-3-77 and 5-3-78.

2. Recapitulation and combined summation of reclamation costs and bonding estimates.

3. Commitment statement for UMS 817.131.

4. Portal seals, drawings and costs (included in bonding information).

5. Discussion of installation of sub-drain for School House refuse pile and refuse pile pond with past piezometric monitoring data.

6. Discussion of refuse pile drainage, stability and engineers certification of construction plans.

7. Development and implementation of refuse pile inspection plan.

8. Discussion of disposal and disposition of underground development waste.

9. Discussion of signs and markers.

10. Provide map showing locations of reas for past surveys for cultural, historic and archaeological resources. Also a listing (if available) of permit numbers held by the State of Utah and A.R.C.

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

April 6, 1983

Mr. Bennet H. Young, Project Leader
Mine Plan Review Branch
Brooks Towers, 1020 15th Street
Denver, CO 80202

Re: Meeting held in your offices on 3-24-83 concerning permit area, permit term and rights of successive renewal

Dear Mr. Young:

I would like to try to restate the interpretations provided by your office during the 3-24-83 meeting so as to establish a definite direction for further submittal of permitting information. I was given to understand that the following statements represent the operative interpretation of the permitting procedures and requirements:

1. The mine plan or mineral extraction plan will be reviewed by the BLM for the entire area covered by or related to federal leases. BLM would address the adequacy of recovery and technological feasibility and provide their findings to OSM.

2. OSM would review the mining and reclamation plan and issue a permit for both surface and underground operation.

3. The permit would include only areas for which "full and complete" information exists.

   A. Full and complete information is that quantity of data which allows OSM to evaluate all environmental impacts.

   B. No SMCRA permit could be obtained for any area on a conceptual basis.

   C. The horizontal and vertical extent of the permit in relation to underground mining would be defined by the accessible coal reserve from an approvable (full and complete) surface facility without need for the opening of a new facility for which details are not yet available.

4. The term of the permit or the frequency of the review period would be five years with a right of successive renewal for a period defined by the time needed to extract the coal through a facility for which complete information exists.

   A. "Facility" means all surface activities including access for men and materials, utilities, coal transport (hauling and belt lines), processing and refuse disposal.

PRICE RIVER COAL COMPANY
P.O. BOX 629 - 801 - 472-3411 OFFICE
HELPER, UTAH 84526

5. Certain sites or activities outside of the permit area and not directly related to permitted mining would be recognized as part of the permit area, i.e. existing access roads, continued ventilation of inactive mines; keeping the options for future re-development open.

6. New sites and associated mining reserves would be addressed as new permit applications and when fully approved, incorporated into the existing permit.

Should any of the foregoing statements not accurately represent the messages conveyed by members of the OSM permitting staff during the 3-24-83 meeting, please clarify the current permitting policy, in writing, as soon as possible. Time is short and we do not wish to delay the permitting process. If within two weeks of your receipt of this letter we do not receive notification we will assume that we have a full understanding of your present requirements and proceed to assemble the necessary information to define the permit area and permit term.

Thank you for your help and cooperation in these very complex matters.

Very truly yours,

PRICE RIVER COAL COMPANY

R. L. Wiley
Environmental Engineer

RLW:jp

cc: Tom Tetting, DOGM
Jackson Moffitt, MMS
K. Hutchinson, PRCC
L. Adair, PRCC
G. Cook, PRCC
M. Keller, Esq.

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 · (801) 472-3411

April 13, 1983

RETURN RECEIPT REQUESTED
Certified Mail No. 562101/562068

Mr. Tom Tetting, Engineering Geologist
Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114

Re: Reporting of Land Slides as Required by 817-99

Dear Mr. Tetting:

Heavy snowfalls and frequent extremes in temperature variation are taking a toll on the hillsides around PRCC mining areas. We have had another slide, this time on the south side of the No. 4 loadout in Hardscrabble Canyon. A chunk of hillside about 10' x 4' x 12' has kicked out, destroying a diversion for undisturbed drainage in that area, allowing the potential for excess drainage onto but not from the mine site.

We will install a pipe to replace the breached diversion. This should be satisfactory for the remaining short life (2-3 years) of this facility. The work should be completed by the end of the second week of May.

This is a follow-up to the phone report of the incident on 4-12-83.

Sincerely,

PRICE RIVER COAL COMPANY

R. L. Wiley
Environmental Engineer

RLW:jp

cc: K. Hutchinson
B. Kale, DOGM

cc KBH, EC 4-26-83

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

April 14, 1983

Mr. Allen Klein
Office of Surface Mining
Brooks Towers
1020 15th Street
Denver, CO 80202

RE: Review policy concerning the
Price River Coal Co. Complex
Long Term Mine Plan
ACT/007/004
Folder No. 2
Carbon County, Utah

Dear Mr. Klein:

Recent attention has been drawn to the subject of reviewing the Price River Coal Company's Mining and Reclamation Plan because of a meeting held March 24, 1983 and a subsequent letter on April 6, 1983 between the company and OSM. Apparently requests have been made for clarification of OSM's position in the review concerning certain issues of mine plan area, permit terms and life of mine permits. The letter of April 6, 1983 summarizes the company's understanding of the federal position as derived from the earlier meeting.

On the morning of April 14, 1983 a phone call was arranged between Bill Kovacic, Walt Swain, Tom Tetting and myself to coalesce the respective understandings on the matter. Input from a meeting with company representative, Robert Wiley on April 11, 1983 was also added. The call seems to have achieved its purpose and this letter is simply to reiterate the Division's position of understanding now held.

The State will proceed with the review of the mine plan as generally outlined in the April 6th letter. In essence this will require the Price River Coal Company to redefine its mine plan area and delineate it as a "limited spatial extention" surrounding the Crandall Canyon Facility and other currently operating portals and support areas. A distinction will be made from the "Resource Recovery Protection Plan Area" and although this will be included in the mine plan for reference the total area will not be subject to review by either the Division or OSM at this date. Submittal of information for future expansion to recover the reserves from this additional area will be reviewed at the level of "new mine plans" and incorporated into the existing "complex".

The permit term for the operation has been agreed to be five years and is renewable every 5 years. The "right of successive renewal" should enable the company to secure the needed 25 - 30 year term financing necessary to extract coal from the permitted mine facilities without the need for additional review during that longer term.

The State's position regarding this matter and future reviews of a similiar nature will not be restricted to a permanent procedural context. The decision to process Price River Coal Company's review in this fashion does not in any way set precedent for subsequent actions of a related kind. Reviews will be conducted on a case by case basis and reservations held for examining site specific data, environmental differences and company preferences prior to determining an approach to processing the mine plan. It is a comforting thought that because there are only a limited number of larger acreage minesites in Utah that these cases should be few and far between. The maintenance of flexibility is paramount in this design and intrinsically essential to the State's position.

I hope this letter firmly establishes both our agencies mutual understanding in the spirit of cooperation and intended development. Should any questions persist please feel free to contact me.

Sincerely,

Ronald W Daniels

RONALD W. DANIELS
DEPUTY DIRECTOR
OIL GAS AND MINING

RWD/TNT:lm

cc: Jim Smith, DOGM
Ben Young, OSM, Denver
Tom Tetting, DOGM
Robert Wiley, PRCC
Walt Swain, OSM, Denver

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

April 21, 1983

Mr. Tom Tetting, Engineering Geologist
Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114

Re: Temporary Variance from Diversion of Overland Flow
During Construction

Dear Tom:

During the present and upcoming construction phase at Crandall Canyon we would like a variance to allow 6-7 acres of undisturbed area run-off to drain onto the site. It is impractical if not impossible to maintain berms during final grading and berm reconstruction.

The additional drainage would be collected in the existing sediment pond at the lower end of the site. This would not overburden the pond. If you will recall the pond is vastly oversized to contain the operational flow, which ceased last November.

The area for which the temporary variance is requested is along the south side of the lower site from the substation to the former magazine area. The duration of the temporary variance would be from now to the end of summer, 1983. We should have final site grading completed by then.

There will be no drainage of the disturbed area to the undisturbed drainages except through the pond.

We seek this variance so as to prevent the issuance of violations for proceeding with normal construction activities in a reasonable manner and to make a showing that there will be no negative environmental impacts.

I hope that you can rapidly concur with this practical solution to a potential problem.

Sincerely,

PRICE RIVER COAL COMPANY

R. L. Wiley
Environmental Engineer

RLW:jp

cc: Bart Kale, Inspector, DOGM
H. M. Keller, VanCott, Bagley, Cornwall & McCarthy
E. Buoy

United States Department of the Interior
OFFICE OF SURFACE MINING
Reclamation and Enforcement
BROOKS TOWERS
1020 15TH STREET
DENVER, COLORADO 80202

May 5, 1983

Mr. Robert Wiley
Price River Coal Company
P.O. Box 629
Helper, Utah 84526

Reference: Price River Coal Company's letter of April 6, 1983 to Bennett Young, Project Leader.

Dear Mr. Wiley:

In response to your letter of April 6, 1983, this letter will confirm the substance of your meeting on March 24, 1983 with Mel Shilling, Bill Kovacic, Walter Swain and Bennett Young of my staff, and confirm Bennett Young's telephone conversation with you on April 20, 1983.

In general, the Office of Surface Mining (OSM) is in agreement with the substance of your letter. I have expanded on each of your points, Items 1 through 6, for the purpose of clarification, although the meaning has not been changed. References to OSM's requirements and reviews should not be understood to be different from UDOGM's.

1. Your discussion of BLM's review of the "mine plan or mineral extraction plan" refers to the Resource Recovery and Protection Plan required by 30 CFR 211. The BLM must review and approve this plan before OSM could recommend approval of the Mine Plan and issue a permit for any part of the lease area.

2. OSM and other Federal agencies would review the permit application package (including the mining and reclamation plan). Upon completion of the review and approval of the mine plan by the Assistant Secretary for Energy and Minerals, OSM would be able to issue a permit for that area covered at the necessary level of detail, addressed in Item 3, below.

3. A) "Full and complete" information for permitting purposes includes that data which OSM needs to evaluate all environmental impacts and to make findings of compliance with the applicable regulations.

   B) No SMCRA permit may be issued on a conceptual basis.

   C) The horizontal and vertical extent of the permitted area in relation to underground mining is limited to that coal which is identified in the permit application and which can be recovered

using identified surface facilities and roads for which "full and complete" information is provided. In addition, sufficient information regarding all surface effects of underground mining (principally subsidence), must be provided to allow OSM to evaluate environmental impacts and compliance with applicable regulations.

4. The term of a permit would be five years with a right of successive renewal for the time required to recover the identified coal resource and to reclaim the affected area. If the facilities and portions of the workings will continue to be used for further mining, the permit would continue to be in effect until operations are permanently terminated and the affected areas are reclaimed. Upon approval, facility design and other aspects of the mining operations would not be subject to a full review. OSM, and UDOGM and other responsible agencies will, of course, monitor the operations covered by the permit. Should information collected under the terms of the permit or from other sources show that certain conditions or assumptions had changed or were incorrect, the permit would be subject to revision at either mid-term or upon renewal. I would expect such revisions to be minor, involving changes in monitoring requirements, environmental studies and the like. By the same token, as PRCC encounters the need to alter the permit to reflect changed or unanticipated conditions, you have the option to request modifications at any time during the term of a permit.

   A. The above referenced facilities would include all surface developments supporting coal mining activities such as access for men and materials, utilities, coal and other transport (most roads and all coal belt lines), processing, refuse disposal and ventilation of active workings.

5. Certain sites or activities outside of the permit area and not directly related to permitted mining can be recognized as related activities outside of the permit area. Such activities must be described in the permit application package to allow OSM to reach an informed decision. Such activites and facilities (sites) would include continued ventilation of inactive mines (under the direction of the BLM) and the limited use of existing roads for the purpose of environmental monitoring and studies.

6. The development of new sites and associated mining reserves would be addressed as a new permit application and, when fully approved, would be incorporated into the existing permit.

I understand that PRCC anticipates one major expansion of the limited permit area, which will be identified in your upcoming revised application. OSM strongly encourages permit applications to cover all anticipated mining. The

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dr. G. A. (Jim) Shirazi, Division Director

May 6, 1983

Mr. Robert Wiley
Environmental Engineer
Price River Coal Company
P. O. Box 629
Helper, Utah 84526

RE: Administrative Completeness Review
of Permament Program Permit
Application
Price River Complex
ACT/007/004
Folder Nos. 2 and 3
Carbon County, Utah

Dear Mr. Wiley:

The Division of Oil, Gas and Mining technical staff, having performed a cursory review of Price River Coal Company's Price River Complex' permanent program permit application and mining and reclamation plan, has determined the mine plan to be administratively complete, in that all areas of concern appear to have been addressed.

A more in-depth Apparent Completeness Review (ACR) has been conducted in order to determine the sufficiency of the application and the Division is proceeding or is anticipating proceeding in the near future with the final Determination of Completeness (DOC) and Technical Analysis (TA) phases of the review process according to an established priority schedule.

No response to this cursory review, nor a publication of completeness, by Price River Coal Company is required at this time. However, I would appreciate being notified in writing of any significant circumstances that may exist or may possibly develop in the near future which could affect the Division's review priorities that have been established. Your continued cooperation is appreciated. If you have any questions, please don't hesitate to call.

Sincerely,

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

JWS/MB:btb
cc: Allen Klein, OSM, Denver

WTC staff has suggested the two phase approach, recognizing the large amount of recoverable coal in the limited permit area identified during the March 14, 1983 meeting, and to expedite the repermitting of your operation in a timely manner.

Comparing the substance of your April 6, 1983 letter, the position taken by UDOGM, and OSM's requirements for repermitting of the Price River Coal Company, I do not identify any differences which would lead to a significant misunderstanding. Please contact either Bennett Young or Walter Swain of my staff should any questions arise concerning specific aspects of your repermitting effort.

Sincerely,

Allen D. Klein

Allen D. Klein
Administrator
Western Technical Center

cc: Ron Daniels, UDOGM
Tom Tetting, UDOGM
Bob Hagen, Albuquerque Field Office

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

May 17, 1983

Mr. Joe Lyons, Hydrologist
Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114

Re: Water Monitoring: Commencement of "Operational" Monitoring Program

Dear Mr. Lyons:

Price River Coal Company and its predecessors have conducted a water monitoring program, as described in Appendix 7A of our MRP application, since 1977. We now wish to proceed with the less intensive monitoring suggested in the DOGM guidelines for monitoring programs, designated as "operational" monitoring. During operational monitoring, which will continue for the active life of the mine, the sampling frequency and the number of analyzed parameters will be reduced. Also, at this time and until mining expands, the number of monitoring points will be reduced.

Proposed Operational Monitoring Plan

1. Monitoring Frequency

Surface water points will be monitored three (3) times each year: late spring, mid-summer and early fall.

Ground water sites will be monitored two (2) times per year: late spring and early fall.

2. Paramater Selection

Surface Water

Parameters monitored for surface waters will include initially those which are of concern under the NPDES program. Some additional parameters, also included are those of concern to DOGM under UMC 817.42 and those which through baseline monitoring, showed some relationship to mining activites. All other parameter monitoring will be deleted since no clear relationship to mining can be perceived and measured levels were not within the range of concern for limiting water use.

PRICE RIVER COAL COMPANY
P.O. BOX 629 - 801-472-3411 OFFICE
HELPER, UTAH 84526

Parameter List

pH, Conductivity, Temperature, Flow (CFS)	Measured In Field
pH	Lab Analyses
TDS	
TSS	
Alkalinity (Total)	
Acidity (Total)	
Oil and Grease	
Sulfate	
Iron	
Manganese	

Ground Water

Ground water sites will be analyzed for the same parameters, except in the instance of wells, where water level will be measured.

Reduction of Monitoring Stations

Please refer to Figure 3, page 9 of Appendix 7A, MRP application. The following surface and ground water points will be deleted until such time as mine expansion dictates their need: B-21, B-20, B-19, B-1, B-32, B-33.

PRCC will begin "operational" monitoring by the fall of 1983, should that be acceptable to your agency.

Sincerely,

PRICE RIVER COAL COMPANY

R. L. Wiley
Environmental Engineer

RLW:jp

cc: K. Hutchinson

PRICE RIVER COAL COMPANY
P.O. BOX 629 HELPER, UTAH 84526 (801) 472-3411

June 9, 1983

Mr. Tom Tetting, Engineering Geologist
and PRCC Plan Lead Review
Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114

Re: PRCC's Apparent Completeness Review; Final Submittal

Dear Mr. Tetting:

We are now providing the final information required by the 12-82 joint OSM/DOGM Apparent Completeness Review, the meeting held on 1-13-83 in ODGM offices, the 2-13-83 site visit and meeting with Joe Lyons concerning hydrology, the mine site review and meeting with Bennet Young of OSM and yourself on 2-15-83, the meeting in Denver with OSM staff on 3-26-83 and subsequent 5-5-83 OSM letter clarifying permitting concepts. The following additional information is included with a re-capitulation of the information which has been submitted.

Under UMC 771.23

1. Definition and discussion of permit area. See Item 1. See new Exhibits 1.1, 3.2-1, 3.3-1, 3.4-1, 3.5-1 and 3.6-1.

2. Maps showing underground mining prior to and after 1977. Submitted 4-5-83.

Under UMC 783.14

1. Coal analyses - provided 1-13-83.

2. Roof, floor and refuse analyses and discussion of seam similarity. Submitted 4-26-83.

Under UMC 783.15

Ground Water - See Item 2.

1. Discussed in attached Vaughn Hansen report, "Ground Water Hydrology, Carbon County Mines", May 1983.

2. Long term monitoring plan - submitted to J. Lyons 5-17-83.

PRICE RIVER COAL COMPANY
P.O. BOX 629 - 801-472-3411 OFFICE
HELPER, UTAH 84526

Under UMC 783.16

Surface Water - See Item 3.

1. Description of flow measurement - attached.

2. Identification of water shed areas - attached.

3. Discussion of NPDES discharges - provided 1-13-83.

Under UMC 783.22

Land Use - All responses provided 1-13-83.

Under UMC 783.24

Maps - See Item 4.

1. Permit area - See attached Exhibits 1.1, 3.2-1, 3.3-1, 3.4-1, 3.5-1 and 3.6-1.

2. Sub-areas for future permits - satisfied 1-13-83.

3. Location of all buildings - satisfied 1-13-83.

Under UMC 783.25

Cross sections, Maps, Plans

1. Adequacy of Exhibit 3-1 - satisfied 1-13-83.

2. Channel cross sections and typical roads cross sections. See Item 4. See attached Exhibits 3.2-2, 3.2-3, 3.3-2, 3.3-3, 3.4-2, 3.4-3, 3.6-2 and 3.6-3.

3. Geologic cross sections. See Item 5. See new Exhibits 6.12.

Under UMC 784.11

Gravel Canyon - satisfied 1-13-83.

Under UMC 784.12

1. Dust and fills. See Item 6. See attached photos and discussions.

2. Willow Creek facilities - satisfied 1-13-83.

PRICE RIVER COAL COMPANY
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HELPER, UTAH 84526

Under UMC 784.13

Reclamation Plan - General

1. Closure - submitted 4-4-83.

2. Permit area. See Item 4. Attached Exhibits 1.1, 3.2-1, 3.3-1, 3.4-1, 3.5-1 and 3.6-1.

3. Bonding - submitted 4-4-83

4. Dates for reclamation - provided 1-13-83.

5. Channel cross sections. See Item 4. Attached new Exhibits 3.2-2,3; 3.3-2,3; 3.4-2,3; 3.6-2,3;

6. Portal seals - submitted 4-4-83.

7. NPDES permits - provided 1-13-83.

8. Disturbed area - provided 1-13-83.

Under UMC 784.14

Reclamation Plan - Hydrology

1. Pond sediment disposal - satisfied 1-13-83.

2. Coal fines at Hardscrabble - satisfied 1-13-83.

3. Small area exemptions - satisfied 1-13-83. Also letter of J. Lyons 1-12-83. Attached site drainage discussions.

4. Sediment - deleted

5. Chart clarifications. See Item 4. Attached site discussions.

6. Pond plans and cross sections. See Item 4. Attached Exhibits 3.2-2, 3.3-2, 3.4-2 and 3.6-2.

UMC 784.15

Reclamation Plan - Post mining land use - All items satisfied 1-13-83.

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Under UMC 784.16

Reclamation Plan - Ponds and Banks

1. Subsidence on refuse pile - deleted.

2. Inspection plan - submitted 4-4-83.

3. Refuse pile stability analysis - provided 4-4-83.

4. Maintenance schedule - deleted.

5. Pond discharge structures - required decision by R.A. - no answer to date.

6. Pond plans and cross sections - attached. See Item 4.

7. Outline of pond drainage areas. See Item 4. Attached Exhibits 3.2-1; 3.2-2; 3.3-1,2; 3.4-1,2; 3.5-1 3.6-1,2.

8. Plans for Pond 011, 012 - submitted 12-12-82.

9. (1) Sample of water from refuse pile piezometer - attached.

   (2) R.P. safety factor - provided 4-4-83.

   (3) Under drain and pile covering - satisfied 1-13-83 and 4-4-83.

   (4) Sub drain - satisfied 1-13-83.

   (5) Pile drainage - supplied 4-4-83.

   (6) Pile compaction - See inspection plan 4-4-83.

   (7) Inspection plan - provided 4-4-83.

   (8) Topsoil - satisfied 1-13-83.

   (9) Survey of springs - satisfied 1-31-83.

   (10) Subsidence - deleted.

   (11) Sub drain - R.P. - provided 4-4-83.

   (12) Plan certification - 4-4-83.

   (13) Mixing of fines - satisfied 1-13-83 and 4-4-83.

   (14) Sediment - satisfied 1-13-83 - deleted.