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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MININGNorman H. Bangerter
GovernorDee C. Hansen
Executive DirectorDianne R. Nielson, Ph.D.
Division Director355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

November 29, 1988

Mr. Richard Allison
Castle Gate Coal Company
P. O. Box 449
Helper, Utah 84526

Dear Mr. Allison:

Re: Mid-Permit Term Review, Castle Gate Coal Company, Castle Gate Complex, ACT/007/004, Folder #2, Carbon County, Utah

The Division has completed a detailed review of the information submitted by Castle Gate Coal Company (CGCC) on April 28, 1988 for the Mid-Permit Term Review. The Division has found that many of the review comments in the February 19, 1988 Initial Completeness Review were not adequately responded to.

At this point in time, the Division has decided to terminate the Mid-Permit Term Review process due to the fact that permit renewal is approximately a year away. (The current permit will expire December 24, 1989). Rule UMC 771.21(b)(2) requires application for permit renewal 120 days prior to expiration of the existing permit. Therefore, as a condition to the finalization of the Mid-Permit Term Review, CGCC will be required to adequately respond to the remaining Mining and Reclamation Plan (MRP) deficiencies prior to the permit renewal initiation date (August 24, 1989) so that the existing permit can be renewed.

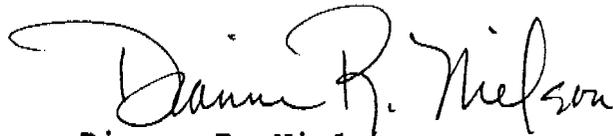
Attached is a schedule of dates for CGCC to submit information, maps and plans as detailed in the attached Determination of Completeness (DOC) Review, and a schedule for the Division to complete review of the submittals. Please note that it is likely that additional technical information will be required before the MRP can be considered complete and adequate, due to the fact that baseline information and maps as outlined in the DOC review must be received before a detailed technical review can occur. Also note that deficiencies dealing with the reclamation plan for Sowbelly Canyon will be addressed with a separate letter and timetable due to the fact that the final reclamation is scheduled to occur in 1989.

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Mr. Richard Allison
Castle Gate Coal Company
November 29, 1988

Division personnel would be glad to meet with you to discuss the requirements and/or time schedule in more detail. Please contact Susan Linner, Permit Supervisor to set up such a meeting.

Best Regards,

A handwritten signature in cursive script that reads "Dianne R. Nielson". The signature is written in dark ink and is positioned above the printed name and title.

Dianne R. Nielson
Director

cl
Attachments
cc: R. Hagen
L. Braxton
B Team
BT45/100-101

FINDINGS

Mid-Permit Term Review
Castle Gate Coal Company
Castle Gate Complex
ACT/007/004
Carbon County, Utah

November 29, 1988

1. The Mining and Reclamation Plan (MRP) has been revised by submittals through April 28, 1988. A stipulation to this approval requires that information necessary to complete a comprehensive updated MRP be submitted on a schedule such that the process will be complete prior to expiration of the current permit.
2. The operator has an adequate bond on file. After submittal of the updated MRP recalculation of the bond amount required will be done to determine if a portion of the bond can be released.

11-29-88

Date

Susan C. Linner
Susan C. Linner
Permit Supervisor

Lowell P. Braxton
Lowell P. Braxton
Administrator
Mineral Resource Development
and Reclamation Program

BT45/102

STIPULATION

MID-PERMIT TERM REVIEW
Castle Gate Coal Company
Castle Gate Complex
ACT/007/004
Carbon County, Utah

November 29, 1988

Stipulation UMC 788.14-(1) - SCL

1. The operator shall submit information as required in the attached Determination of Completeness (DOC) Review and in the timeframes as outlined in the attached Timetable for Finalization of the Castle Gate Mining and Reclamation Plan (MRP), so that a complete, comprehensive and updated MRP will be on file with the Division August 24, 1989, 120 days prior to expiration of the existing permit.

BT45/103

TIMETABLE FOR FINALIZATION OF CASTLE GATE
MINING AND RECLAMATION PLAN

CATEGORY	CGCC RESPONSE DUE	DIVISION REVIEW DUE
General Plans	January 16, 1989	March 1, 1989
*Rules UMC 771.23-MD UMC 782.18-JRH UMC 783.16-MD UMC 783.19-LK UMC 783.22-LK UMC 784.13-MD UMC 784.13-JSL UMC 784.13(b)-LK UMC 784.14-MD UMC 784.19-JRH UMC 784.20-DD UMC 817.22(e)-JSL UMC 817.24-JSL		
Operation Plan - Maps	March 1, 1989	May 1, 1989
Rules UMC 783.24(c)-DD UMC 783.25(e)-DD UMC 783.24-.25-JRH UMC 783.25-MD UMC 784.12-JRH UMC 784.23-JRH		
Reclamation Plan Maps, Designs and Bonding Calculations	March 30, 1989	June 1, 1989
Rules UMC 784.13-JRH UMC 784.22-MD UMC 800 -JRH		

* Refers to specific comments in the attached Determination of Completeness Review.

BT45/104

MID-TERM DETERMINATION OF COMPLETENESS REVIEW

CASTLE GATE COAL COMPANY
CASTLEGATE MINE
ACT/007/004
Carbon County, Utah

November 28, 1988

UMC 771.23 Permit Applications - General Requirements For Format and Contents - MD

The operator is not in compliance with this section. Information presented in the Mining and Reclamation Plan (MRP) is not current and references cited in the text are inconsistent in each section reviewed by the Division. The MRP basically needs to be reorganized and updated to present the required current information in a clear and concise manner. In its present condition, the reviewer can locate specific information only by a trial and error methodology. A thorough technical analysis is not practical at this time because of the MRP's general state of disorder. The following deficiencies must be corrected:

1. Narratives must be updated and corrected to provide a consistent and accurate description of the current operational facilities. Inconsistencies were found in various structural design descriptions which referred to the same structures as both proposed and existing.
2. The tables of contents presented are not accurate. These must be updated to reference the correct page numbers for the listed sections.
3. References made to tables, figures, exhibits, etc. in the text are frequently inaccurate. These must be checked and updated.
4. A detailed regulation subsection by subsection cross section must be submitted.

UMC 782.18 Personal Injury and Property Damage Insurance Information - JRH

Castle Gate has provided insurance under a "claims made" basis. To date the Division has not determined or provided a sufficient policy to accept "claims made" insurance. Further the certification of liability insurance provided by the operator expired on 4/1/87. The operator is not considered to be in compliance with the requirements of this section. Insurance has not been provided as mandated in the regulations and has not been presented in the form as required by the Division. By submitting the information requested in a letter to all operators regarding liability insurance, the operator should be able to come into compliance with the requirements of this section.

Items needed:

1. Liability Insurance on the form and as required by the regulations.

UMC 783.16 Surface Water Information - MD

Water quality data sheets submitted in the MRP are of such poor general quality that they are illegible. These must be replaced with copies that clearly present the data in a legible form.

UMC 783.19 Vegetation Information - LK

Productivity data (i. e., a report from the Soil Conservation Service) for the Barn Canyon Grass-Sage reference area needs to be provided.

Page 8 references vegetation maps with scales of 1"=1000' (permit area), 1"=400' (Hardscrabble & Sowbelly Canyons, Crandall Canyon, and Castle Gate Prep Plant disturbed areas) and 1"=100' (Crandall Canyon Leach Field). These maps were originally prepared by Mariah Associates and with the exception of the 1"=100' map (which is only of the leach field area in Crandall Canyon) have not been provided and must be submitted. (Please note, page 20 of Chapter 9 Section 3.1 states that larger scale maps are available). The map (9-1) in the plan (scale 1"=2000') is not adequate. Please submit a map at scale 1" = 500'.

The previous review noted that Chapter 9 was difficult to follow due to several references regarding the Eastern Reserves that were retained by the parent company. Discussions relating to reference areas for the Eastern Reserves (i.e. Dry Canyon, Willow Creek, etc.), still need to be removed.

UMC 783.22 Land Use Information - LK

Chapter 4, Land Use, Land Status and Post-mining Land Use, does not contain information regarding type(s) of past mining, extent of mining, seams mined and approximate dates of past mining. After much searching, this information was found in Chapter 5, Historical and Cultural Resources. Therefore, pursuant to UMC 771.23(b), please provide a reference to this information under an appropriate title in Chapter 4 or move this information from Chapter 5 to Chapter 4.

UMC 783.24(c) General Requirements - DD

The MRP should contain a schedule of the planned mining sequence for each seam. This information should be illustrated (in years) as blocked out areas on mining maps. The mine plan should also reflect the type of mining planned for each area (UMC 784.20(a)).

UMC 783.25(e) Cross Sections, Maps and Plans -DD

Larger scale mine maps should be submitted that show more detail of active, inactive and planned mining areas. Maps should be legible and have a minimum scale of 1 inch = 500 feet. The information requested under UMC 783.24(c) can be placed on this map for convenience (also see UMC 771.23(e)).

The geologic map (Exhibit 6-1) should show all coal outcrops and portray the attitude (strike and dip) to the formations on the property.

The mine plan should contain a map(s) showing abandoned or old underground mine workings adjacent to or within the permit area.

All maps should be reviewed and updated to ensure that all legends portray the symbols that appear on the maps, and that the symbols that appear on the maps appear in the legend. Maps should be of sufficient size to make symbols legible. As an example, Exhibit 6-2 needs a legend, should identify the type of drill holes and should be of better quality to show contour lines.

UMC 783.24-25 Maps: General Requirements, Cross Sections, Maps, and Plans - JRH

In general, the maps and drawings provided by the operator are not sufficiently detailed or referenced to show the detail required for permit review and approval. With regard to this section, the following list applies.

Items needed:

1. A permit area boundary map showing a clear delineation of the permit area, and permitted acreage;
2. The boundaries of all areas proposed to be affected (disturbed) over the estimated total life of the mining activities;
3. The size, sequence and timing of the mining subareas for which additional permits will be sought;
4. The location of all buildings in and within 1,000 feet of the permit area with identification of the current use of the buildings;
5. The location of surface and subsurface man made features within, passing through, or passing over the permit area, including but not limited to, major power transmission lines, pipelines, gas lines, etc;
6. The locations and boundaries of any proposed reference areas for determining the success of revegetation;
7. The location of water supply intakes for current users of surface waters flowing into, out of, and within a hydrologic area defined by the Division (between the water treatment plant and Helper City), and those surface waters which will receive discharges from affected areas in the permit area;
8. Each public road located in or within 100 feet of the permit area; the boundaries of any public park and locations of any cultural or historical resources listed or eligible for listing in the National Register of Historic Places and known archeological sites within the permit area or adjacent areas; each public or private cemetery or Indian burial ground located in or within 100 feet of the permit area;

9. Reclamation drawings should be enlarged to sufficiently show detail of different reclamation treatments, including but not limited to slope and contour, disturbed area acreage, delineation of soils and vegetation treatments, identification of structures, mine openings, and other surface facilities, and appropriate cross sections in order to determine cut and fill requirements for reclamation.

UMC 783.25 Cross-Sections, Maps, and Plans - MD

Page 262 of the MRP states that the operational surface water quality monitoring program will consist of eight sample stations depicted on exhibit 7-3. UMC 783.25 (b) requires that the elevations and locations of monitoring stations be shown on the appropriate maps. This information is not discernible from exhibit 7-3 because contours are not legible in most of the map. Furthermore, the map scale is too small to adequately determine individual sub-watershed physiographic parameters necessary for design calculations. The operator must submit a revised map which clearly identifies all water quality monitoring stations and their elevations, and in which contour lines are clearly shown for the entire map area. In addition, all permit area maps shall be of scale 1:6000 or larger and all map labels shall be legible.

Maps of existing sediment ponds do not contain sufficient elevation contours or surface areas to determine the configuration of the surrounding land surface and/or in some instances pond capacity. Each map must include measurements extending at least 100 feet beyond the disturbed area perimeter to allow determination of the surrounding land slope and configuration. Surface elevation contours of the surrounding areas must be depicted at no greater than a 5 ft. interval. Contours of the actual pond structures should be at one or two foot intervals. Some maps in the MRP do not depict level contours of the pond structure. Pond capacity can not be determined accurately from these representations. All maps must consist of level contours for a single given elevation. Pond cross-sections and plan views must depict the entire spillway structure, including energy dissipation structures, with dimensions for width or diameter, length, height, side slopes, and bed slope. Maps of the pond structures and surrounding areas must be of scale 1 inch = 10 feet or greater.

Disturbed area boundaries should be clearly delineated on maps of each watershed at a scale appropriate for the design (minimum scale 1" = 100'). Sediment control structures such as berms, straw bale dikes, and sediment fences should be clearly depicted on the appropriate disturbed area maps.

UMC 784.12 Operation Plan: Existing Structures - JRH

As outlined in UMC 700.11 part (e), each structure used in conjunction with, or to facilitate underground coal mining activities shall comply with the requirements of Subchapter K of the underground coal mining regulations. Additionally those existing structures which do not meet the design requirements of Subchapter K must at least meet the performance standards of Subchapter K. Those facilities such as sediment ponds, embankments, cut slopes, pads, highwalls, roads and other facilities used in conjunction with mining operations must all be proven to conform to these performance standards and be included in the disturbed area for the operations. In the event that the structure or facility fails to meet the performance standard, it must be reconstructed to meet the design and performance standards of subchapter K.

Items needed:

1. Those areas affected by previous mining operations and used in conjunction with current underground coal mining facilities are to be included in the disturbed areas. The maps and plans should clearly delineate the disturbed areas and include their respective acreages on the drawings.
2. In the case of sediment pond embankments and slopes exceeding the limits provided in the regulations in Subchapter K, the operator shall be required to justify the existing structures or provide designs and a timetable for the modifications of these structures. Demonstration of stability may be accomplished in some cases by the performance of the structure in the past with a commitment to maintain and monitor those embankments and slopes throughout the permit term. In some cases however, it may be necessary to provide geotechnical information in order to satisfy the requirements of this section.

UMC 784.13 Reclamation Plan: General Requirements - JRH

Maps and plans regarding the backfilling and grading of the site do not clearly depict the reclamation contours, final slopes and the extent to which cuts and highwalls are to be backfilled. Pads and roads shown on the reclamation plan appear to be essentially identical to their existing contours.

Items needed:

1. Under part (b) (3) of this section, a plan for backfilling, soil stabilization, compacting and grading, with contour maps or cross sections that show the anticipated final surface configuration must be provided as part of the reclamation plan.
2. Some cross sections of the facilities are provided by the operator for the final surface plot plan of the areas to be reclaimed. However, no calculations could be found referencing the cross sections for earthwork calculations. These calculations are required for backfilling and grading design for reclamation and determination of the bond amount.
3. Maps used to show the final reclamation of the facilities are not clear. The disturbed areas on the drawings need to be outlined in a manner which will clearly show the disturbed area boundaries. Each map should also delineate and indicate the number of acres relevant to that specific area. To further complicate the site conditions, numerous abandoned mine sites and facilities are within and adjacent to the permit area. The operator must clearly delineate and identify these facilities so that they may be determined to be outside of the operator's disturbed area. The operator shall also indicate the dates of disturbances and the date of their last use as part of mining operations.
4. In some cases, facilities used by the previous permittee must still be included in the disturbed areas even though the current operator has had no activity in those areas. This determination will be made in accordance with the conditions of the permit transfer to Castle Gate Coal.

5. Maps or cross sections should also indicate final reclamation slopes, noting maximum slopes to be left upon final reclamation. In those areas where final slopes exceed 2h:1v, the operator needs to justify the final configuration for the earthwork and provide sufficient design calculations to ensure long term stability of the slopes. Contour maps or cross sections should also include slope detail 100 feet beyond the disturbed area for reference to the adjacent area.

UMC 784.13 Reclamation Plan: General Requirements - MD

Detailed timetables of the reclamation operational sequence relative to the start of reclamation activities should be submitted for each disturbed area. Channel reclamation should be included in addition to the activities listed on the operator's submitted reclamation timetable.

UMC 784.13 Reclamation Plan: General Requirements - JSL

The April 25, 1988 response refers to page 53 of chapter IX that was amended to include a commitment to reduce compaction. Page 53 of chapter IX was not included in the April 28, 1988 submittal. A commitment to reduce compaction must be included in the MRP.

UMC 784.13(b) Revegetation Plan - LK

The schedule for revegetation (Chapter 9, page 72) is not acceptable in that it does not identify each major step in reclamation (i.e., backfilling and grading, topsoil replacement, seedbed preparation, seeding, mulching, planting, etc. as required by UMC 784.13(b)(1) and (b)(5)(i)), and the proposed timing is not during the normal period for favorable planting as required by UMC 817.113(a). Please provide an appropriate schedule for revegetation identifying the approximate dates and time frames for each major step in reclamation (refer to the Division's Draft Revegetation Guidelines to aid in developing an acceptable schedule).

UMC 784.14 Reclamation Plan: Hydrologic Balance - MD

The operator must submit a detailed description of measures to be implemented after cessation of mining activities to protect the quantity and quality of surface and ground waters in each area. This description should include detailed designs for any diversions to be constructed and any alternative sediment control measures to be implemented as part of the final reclamation process. The locations of these structures must be included on an appropriate map of the post-mining land configuration, which shows the reclaimed surface contours and any permanent structures in detail.

The water quality monitoring plan described in section 7.5 of the MRP commits to sampling on a quarterly basis on designated dates. There is no reference to the duration of the monitoring program, however. The operator should commit to continuing the operational monitoring program for two years after all reclamation activities have ceased, at which time a post-mining monitoring plan may be implemented. The following additional constituents should be added to the list of surface water analyses in section 7.5-1:

- Dissolved Oxygen (perennial streams only)
- Total Hardness (as CaCO₃)
- Acidity
- Carbonate
- Total Manganese
- Cation-Anion Balance

Section 7.5-2 of the MRP states that analyses for ground water will be identical to the proposed surface water constituents. The operator should add the following constituents to the list of groundwater analyses:

- Total Hardness (as CaCO₃)
- Carbonate
- Manganese

Groundwater constituents should be analyzed in dissolved form while surface water constituents should be analyzed in both dissolved and total forms.

Section 7.5-2, page 262 states that groundwater sampling will occur at five stations located on exhibit 7-3. Only four stations are located on this exhibit for groundwater monitoring. This discrepancy should be corrected. Detailed sampling procedure descriptions for surface, groundwater (both wells and springs), and in-mine analysis must be included in the text.

UMC 784.19 Underground Development Waste - JRH

The operator must identify the temporary and permanent locations for disposal of excess spoils and mine development waste throughout the permit areas.

Conflicts arise in the consultant's reports and in the text of the reclamation plan regarding design and stability analysis of waste disposal facilities. Even in the reference provided by the operator to the initial review, a conflict in the amount of cover material is indicated. These conflicts must be removed and the plan brought up to date in chapter 3 to show the existing and proposed modification to all waste facilities within the permit area.

The plan does not address the requirements for monitoring embankments for stability and piezometric surface. Although these plans have been implemented and are ongoing, the operator still needs to provide details of the methodology, location and frequency of monitoring the refuse pile for stability.

Quarterly reports are required by the Division for the inspection and condition of the refuse embankment. This reporting information is also required by MSHA for the facility. UMC regulations require that the reports be sent to the Division and a copy of the reports be maintained on file at the mine office. The Division does not have these reports in the Salt Lake office. However, the operator may propose that the copies maintained onsite are sufficient to meet the requirements of the Division if a commitment is made to notify the Division of any adverse or hazardous conditions found during inspection or operation of the facility, and submittal of the quarterly reports is made with the Annual Report. This proposal would have to be made by the operator and approved by the Division in order to waive the reporting requirements of the regulations.

Items Needed:

1. Additional information in the text of the reclamation and operation plans regarding the location of both temporary and permanent storage and disposal areas for all types of waste material, including but not limited to:

- a. Excess spoil and mine development waste
 - b. Coal processing waste
 - c. Coal waste
 - d. Non coal waste
 - e. Hazardous and toxic waste materials
 - f. Liquid waste materials
2. The regulations require that all types of waste materials be described as to their location, amount, disposition and treatment. The plan should address these requirements.
 3. The MRP needs a comprehensive maintenance and monitoring plan for waste storage facilities, especially those meeting the criteria under MSHA regulations.
 4. Maps and plans should be provided which clearly designate and indicate the location and extent of the storage facilities for waste materials, including other ancillary facilities required to achieve compliance with the regulations. Such ancillary facilities would include, roads, culverts, undisturbed diversions, and topsoil stock-piles. Borrow material locations, pre- and post-reclamation configuration of the facilities, and suitable cross sections indicating the location and the disposition of the waste and cover material sufficient to determine the amount of material or mass balance for the reclamation of the proposed facility, should also be shown.
 5. Specific treatment for all types of waste materials encountered, and a commitment to operate, maintain and dispose of all waste materials in accordance with local, state and federal regulations.

UMC 784.20 Subsidence Control Plan - DD

Figure 3.1-1 is illegible. The subsidence control plan is based on the data in this table. Without clarification of this table the subsidence control plan cannot be verified.

UMC 784.22 Diversions - MD

Designs for each diversion within the permit area must be submitted demonstrating that compliance with UMC 817.43-817.44. Diversion cross-sections submitted in the plan are not adequate to determine design dimensions. Map cross-sections are not of a large enough scale and cross-section worksheets are not legible. Detailed diversion channel cross-sections of scale 1 inch = 1 foot or greater must be submitted showing top width, bottom width, depth, side slopes, and maximum and minimum bed slopes. Designs shall incorporate calculations for riprap and energy dissipators for each diversion or a demonstration (with calculations) that these measures are not necessary.

Culvert design calculations could not be found for some areas of the mine operation. Culvert designs must be included in the MRP for all culverts in the permit area, demonstrating that existing culverts are adequate to safely convey the design storm runoff.

The operator must include complete information on inputs used to calculate design peak flows for all areas (disturbed and undisturbed), including:

1. Watershed maps of each area. These maps should delineate sub-watershed areas used in calculating peak flows and differentiate between disturbed and undisturbed areas. Maps shall be of scale 1:6000 or greater and depict structural and/or topographic watershed boundaries and contour intervals of 10 feet or less.
2. Curve number determinations for each area. Assumptions for areas other than Hardscrabble Canyon could not be found in the MRP. These must be presented for each watershed or sub-watershed with references to soil and vegetation information contained in the MRP.
3. Precipitation and time of concentration values (including assumptions and calculations for each watershed area. These are included in table 7-12 of the MRP for undisturbed areas. However, no values for disturbed area inputs could be found.
4. Referenced calculation assumptions and methodologies for peak flow calculations in all areas.

This information is necessary to conduct analyses of diversion, culvert, and sedimentation pond designs. Certain areas such as Hardscrabble Canyon appear to contain the required information. However, information presented for other areas is inadequate.

UMC 784.23 Operation Plan: Maps and Plans - JRH

In some instances, the operator has not provided maps, plans and cross sections in the MRP which are required. Drawings of sufficient detail to show the underground coal mining activities to be conducted, the lands to be affected throughout the operation, and any change in a facility or feature to be caused by the proposed operations, are not provided.

The following shall be shown for the proposed permit area:

1. Buildings, utility corridors, and facilities to be used;
2. The areas of land to be affected within the proposed permit area, according to the sequence of mining and reclamation;
3. Each area of land for which a performance bond or other equivalent guarantee will be posted under Subchapter J of this chapter;
4. Each coal storage, cleaning, and loading area;
5. Each topsoil, spoil, coal preparation waste, underground development waste, and noncoal waste storage area;
6. Each water diversion, collection, conveyance, treatment, storage, and discharge facility to be used;
7. Each source of waste and each waste disposal facility relating to coal processing or pollution control;
8. Each facility to be used to protect and enhance fish and wildlife related environmental values;
9. Each explosive storage and handling facility;

10. Location of each sedimentation pond, permanent water impoundment, coal processing waste bank, and coal processing waste dam and embankment, in accordance with UMC 784 and disposal areas for underground development waste and excess spoil, in accordance with UMC 784;
11. Each profile, at cross sections specified by the Division, of anticipated final surface configuration to be achieved for the affected areas;
12. Location of each water and subsidence monitoring point;
13. Location of each facility that will remain on the proposed permit area as a permanent feature, after the completion of underground mining activities.

Maps and plans presented in the MRP showing the operations and the facilities must include the disturbed area boundaries for reference. The boundaries should also include those areas in which proposed facilities are scheduled for construction as well as borrow areas which may be required for reclamation. Primarily, this information needs to be provided on the operational plans to ensure that the operator is conducting mining activities within the approved permit areas. These boundaries should coincide with perimeter markers and other boundary requirements as provided in the approved mining and reclamation plans.

In accordance with UMC 784.13(b), the operator's drawings should include sufficient details for:

1. Backfilling, compacting and grading, with contour maps that show the final anticipated surface of the proposed permit area;
2. A plan for the removal, storage and redistribution of topsoil, subsoil, and other materials to meet the requirements of UMC 817.21-25;
3. A description including appropriate cross sections and maps of the measures to be used to seal or manage mine openings, and to plug, case or manage exploration holes or other boreholes, wells and other openings within the permit area in accordance with UMC 817.13-15.

Cross sections should be of sufficient number and scale so as to determine the amount of earthwork required on the site, maximum slopes to remain upon reclamation, any retention of highwalls from portals or other cut slopes, and suitability of the reclaimed slopes in achieving approximate original contour requirements.

UMC 800 Bond and Insurance Requirements - JRH

The operator has provided breakdowns of the reclamation activities for the plan. However, until such time as the plan can be determined complete and technically adequate, a detailed review of the reclamation cost estimate can not be accomplished by the Division. Due to changes in the reclamation plan of the site due to transfer and dividing of the approved operation with American Electric Power (AEP), the operator is considered to have sufficient bond at this time. Depending on the final resolution of reclamation plans and procedures contained in the MRP, the operator's bond will most likely be reduced.

The Division has received from the operator, a request to reduce the bond in accordance with those cost estimates, provided in a submittal to the Division on September 29, 1987. This determination will be made in conjunction with the Permit Renewal.

Bonding calculations do not include the following information:

1. A map as specified under UMC 784.23(b)(3) specifying each area of land for which bond will be posted under Subchapter J of the regulations.
2. Mass balance calculations showing backfilling and grading requirements for distribution and disposal of excess spoil and mine development waste, backfilling to meet AOC requirements, subsoil, topsoil and substitute topsoil distribution and quantities for each sub area of the permit.
3. Calculations for determination of quantities, equipment selection and productivity used in determining the bond amount.

4. Determination of Phase I and Phase II reclamation activities including a map showing those facilities to be constructed and/or removed during each phase of reclamation.
5. Costs associated with reclamation were not included in the cost estimate. These costs include but are not limited to the construction of permanent channel reclamation, sediment pond removal, soil sampling and analysis, and water monitoring costs.

UMC 817.22(e) Topsoil: Removal - JSL

To date the Division has not received any alternative re-soil material sample results. Samples were to be taken by late summer of 1984. The analysis must be submitted to the Division.

The April 28, 1988 submittal fails to define the specific parameters for all re-soiling material analysis. The submittal refers to section 3.4-4(1). This section defines the parameters required for the waste material disposed in Schoolhouse Canyon. The applicant must analyze all potential re-soiling material for the following parameters: pH, USDA textural class, electrical conductivity, sodium adsorption ratio, boron, selenium, percent rock fragments, percent calcium carbonate, saturation percentage, available phosphorus and potassium.

UMC 817.24 Topsoil: Redistribution - JSL

The applicant's commitment to redistribute six inches of soil over the waste material is not adequate. As stated previously in section 3.4-4(1) of the MRP, a redistribution depth of 1.5 feet of non-toxic material will be placed over the waste at Schoolhouse Canyon prior to distributing six inches of re-soiling materials for a total depth of two feet. Unless the requested soil analysis data or other information proves otherwise, the operator must commit to this plan.

BT45/83-98