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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangerter

Governor

Dee C. Hansen

Executive Director

Dianne R. Nielson, Ph.D.

Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

July 3, 1991

TO: Daron Haddock, Permit Supervisor

FROM: Randy Harden, Sr. Reclamation Engineer

RE: Castle Gate Division Order Response, Castle Gate Mine, Castle Gate Coal Company (AMAX), ACT/007/004, Folder #2, Carbon County, Utah.

SUMMARY:

Amax Coal Company has submitted information in response to the Division Order and received on May 1, 1991 and June 3, 1991.

The following comments indicate a cursory review of the information that was submitted by the Permittee in response to that Division Order. These comments do not indicate a complete technical review of the information presented in the response, only an evaluation of whether or not the information submitted is adequate to allow for technical review of that information.

ANALYSIS:

Division Order:

4) **R614-301-142. Maps and Plans.**

The PERMITTEE has not provided maps and plans with the permit application which distinguish among each of the phases during which coal mining and reclamation operations were, or will be, conducted at any place within the life of operations. At a minimum, distinctions will be clearly shown among those portions of the life of operations in which coal mining and reclamation operations occurred: prior to August 3, 1977; after August 3, 1977, and prior to either May 3, 1978; after May 3, 1978 and prior to the approval of the State Program; and, after the estimated date of issuance of a permit by the Division under the State Program. The PERMITTEE must provide identification as to the date and the use of those areas and facilities within the permit area which have been incorporated into the underground mining activities. Those areas affected by previous mining operations

(including cutslopes and outslopes of pads and roads) and used in conjunction with current underground coal mining facilities are to be included in the disturbed areas. This information shall be provided on or before March 1, 1991.

Analysis:

Maps submitted on April 15, 1991 are indicated by the Permittee as addressing this Division Order.

These drawings do not adequately address the requirements of these regulations. All disturbance within the permit area(s) must be delineated and documented to show pre-law disturbances. As shown on the drawings provided, only areas fringing the Permittee's disturbed area boundary are indicated as pre-law disturbances. This indicates that all of the areas shown within the current disturbed area boundaries, as shown on the maps, are not pre-law disturbances. The maps and drawings must clearly show those areas which are pre-law disturbances and those areas which were affected during and after the dates indicated in the regulations.

As evidenced by the mine workings map, submitted by the Permittee in an amendment for closure of all mine openings, sufficiently greater detail and information also exists on pre-law and abandoned mine workings within the permit area. Maps showing previous mining areas must show the location and the extent of mine workings and their respective dates in order to be in compliance with these sections of the regulations.

Compliance:

The Permittee is not considered to be in compliance with the requirements of this Division Order. Adequate maps and drawings showing the location and dates of previously mined areas must be provided by the Permittee in accordance with the rules and this Order.

Division Order:

15) ***R614-301-521. Operation Plan. General.***

The PERMITTEE shall provide exhibits or drawings which include: the location of all buildings in and within 1,000 feet of the permit area, with identification of the current use of each building; the location of surface and subsurface manmade features within, passing through, or passing over the proposed permit area; and, water supply intakes for current water users. This information shall be provided on or before June 1, 1991.

Analysis:

The Permittee was requested to provide maps showing the location of all buildings in and within 1,000 feet of the permit area. The Permittee has responded that this information can be found on Exhibit 1-1 and Exhibit 3-22 of the MRP. Refer to comments by Sharon Falvey regarding the adequacy of the information provided on water supply intakes for current water users.

Compliance:

This information is considered adequate to address the request of the Division to specify which drawings contain the information required under this section of the regulations. However, it has not yet been determined in the field as to whether or not all of the structures and facilities that exist in and within 1,000 feet of the permit have been adequately provided for on these drawings.

Division Order:

17) R614-301-550. Reclamation Design Criteria and Plans.

The permit application must include site specific plans that incorporate the design criteria for reclamation activities. These design criteria and plans shall include but not be limited to: phased reclamation treatments and designs throughout the permit liability period, designs for temporary and permanent surface features, including diversions, impoundments, sediment control structures, and other facilities which will require construction throughout the reclamation process; specific plans and details for all permanent facilities to remain as part of or in conjunction with post mining land use, including roads, utilities, and structures; and, maps and drawings which clearly show the areal and vertical extent of the existing facility areas and those areas throughout all phases of reclamation. This information shall be provided on or before June 1, 1991.

Analysis:

The Permittee was required to provide site specific plans and drawings that incorporate the design criteria for reclamation activities throughout all phases of reclamation activities.

Maps were provided by the Permittee regarding reclamation design. These drawings are Exhibits 3.2-3, 3.3-3, 4.3-3 and 3.7-9. Revised pages of Chapter 3 of the MRP have been included in the submittal as pages 20 through 27.

No accurate accounting of the quantities required for reclamation activities has been provided by the Permittee. This would include but not be limited to quantities on

backfilling and grading materials, topsoil and substitute topsoils, structures, foundations, culvert removal, channel reconstruction, interim sediment control installations, etc.

The Permittee does provide a very brief and general description of the reclamation work for each area. Owing to the account by the Permittee that the sites are pre-law, the Permittee contends that no grading of the areas is required to achieve approximate original contour. Consequently, the reclamation maps provided by the Permittee do not provide for the re-establishment of natural drainage on the site. Pads, benches, and cuts are left on the sites both within and outside of the areas which were affected by the current mining operations.

As an example of missing or lacking information found within these drawings and on the plan, reference is made to Exhibit 3.2-3. Areas shaded on the drawing are to indicate areas disturbed by mining prior to 1977 and not re-affected by CGCC. Portions of these shaded areas include cut slopes, highwalls and outslopes of the pads and roads that were utilized by CGCC after 1977. Pads and roads used by CGCC which were re-affected by mining operations could not exist without the corresponding cut and fill features and must be included in the permit and disturbed area boundaries.

Diversions are shown on Exhibit 3.2-3 which appear to remain as permanent diversions but are not marked or indicated as such on the drawing. Channel profiles were provided for a majority of the diversions shown on the drawing, but not for all of the diversions. Contour information is inadequate for providing sufficient information on diversions and profiles must be provided for all of the diversions to remain as part of the post mining land use. Further, the stream channels were not relocated to approximate pre-mining conditions. The Permittee contends in the plan in Section 8.5 that these channels were diverted 20 to 80 years ago and have stabilized to their present location. Although this may or may not be true, this does not adequately address the restoration and relocation of stream channel as required under the regulations.

No information is provided on the drawing to indicate the phases of reclamation for the facilities. No interim drainage or sediment control facilities are provided on the drawings to indicate their location upon the completion of Phase I reclamation and to indicate that such facilities will be removed at the completion of Phase II operations. The substation road and pad area are shown to be reclaimed on the post reclamation configuration but the drawing does not indicate that this reclamation will not occur until such time as all reclamation pertaining to the use of that substation occurs and that the timing of the reclamation of the substation will not occur in conjunction with the reclamation of the remainder of Sowbelly Canyon.

Compliance:

The information submitted by the Permittee is not considered adequate. Even without a detailed analysis of this information it is apparent that the Permittee has not adequately responded to the requirements of this Division Order.

Division Order:

18) ***R614-301.553. Backfilling and Grading.***

Backfilling and grading design criteria must be described in the permit application. Disturbed areas must be backfilled and graded to: achieve the approximate original contour, except as provided in R614-301-553.600 through R614-301-553.642; eliminate all highwalls, spoil piles, and depressions, except as provided in R614-301-552.100 (small depressions); R614-301-553.620 (previously mined highwalls); and in R614-301-553.650 (retention of highwalls); achieve a postmining slope that does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum long-term static safety factor of 1.3 and to prevent slides; minimize erosion and water pollution both on and off the site; and, support the approved postmining land use. Information within the plan does not specifically address the above requirements. This information shall be provided on or before June 1, 1991.

Analysis:

The Permittee has referenced Chapter 8, Section 5 of the Mining and Reclamation Plan. Information found in this section of the plan does not adequately address the requirements of these sections of the regulations.

The post reclamation maps and cross sections provided by the operator do not indicate that approximate original contour will be achieved. Exceptions to the requirements for approximate original contour have not been clearly identified in the plan and the Permittee has not provided the specific information required to attain compliance under these exceptions.

The proposed reclamation of facilities throughout the mining and reclamation plan do not adequately demonstrate that pads, roads, benches, and adjoining cuts and fills to these areas have been adequately reclaimed nor demonstrated that they meet certain exceptions as allowed under the regulations. In essence, backfilling and grading of the facilities in conjunction with reclamation is topical in nature with only minimal grading and ripping associated with general cleanup of the sites and topsoil preparation. The drawings and cross sections do show that inadequate backfilling and grading is proposed in the plan to remove the constructed facilities and to restore drainage patterns to their

natural pre-mining state.

Highwall information is considered to be incomplete and inadequate. The Permittee has not shown in sufficient detail, each highwall or highwall remnant to be retained and has not demonstrated that insufficient spoil material is available within, or immediately adjacent to, the permit area for the elimination of highwalls. No discussion, description or design of the highwalls or fill slopes has been presented in the plan to demonstrate that the retained highwalls are stable. The Permittee does not discuss potential for higher and better post mining land use in the event that these highwalls were to be retained nor does the Permittee discuss the effect of the retained highwalls on ecology and surface drainage of the area.

Compliance:

The operator is not considered to be in compliance with the requirements of this Division Order. Without adequate justification to demonstrate that the retention of highwalls, fills or other areas is necessary, and that the specific regulatory requirements have been provided to enable the Division to allow a variance, the Permittee cannot be considered in compliance with these regulations.

Division Order:

19) R614-301-553.500. Previously Mined Areas.

The PERMITTEE shall demonstrate in writing, that the volume of all reasonably available spoil material is insufficient to completely backfill the reaffected or enlarged highwalls to be retained throughout the mine facilities. The PERMITTEE must also demonstrate that the remaining highwalls shall be eliminated to the maximum extent technically practical in accordance with the following criteria: (1) All spoil generated by the remaining operation and any other reasonably available spoil shall be used to backfill the area. Reasonably available spoil in the immediate vicinity of the remaining operation shall be included within the permit area. (2) The backfill will be graded to a slope which is compatible with the approved postmining land use and which provides adequate drainage and long term stability. (3) Any highwall remnant shall be stable and not pose a hazard to the public health and safety or to the environment. The PERMITTEE shall demonstrate, to the satisfaction of the regulatory authority (DIVISION), that the highwall remnant is stable. (4) Spoil placed on the outslope during previous mining operations shall not be disturbed if such disturbances will cause instability of the remaining spoil or otherwise increase the hazard to the public health and safety or to the environment. This information shall be provided on or before June 1, 1991.

Analysis:

The Permittee has referenced information in Chapter 8, Section 5 of the mining and reclamation plan.

The Permittee contends that because the sites are pre-law, that no mitigation or elimination of highwalls for the areas affected by the current mining operations is required. The Permittee states that, "CGCC does not intend to attempt to backfill all existing cuts at the Hardscrabble and Sowbelly Canyon facilities. Cuts made prior to the advent of SMCRA and prior to the existence of PRCC that have not been adversely impacted by CGCC's reclamation responsibility." The Permittee cites the Interior Board of Surface Mining Appeals, Cedar Coal Company v. OSM, IBSMA 145 (1979), and Federal Register, Vol. 48, No. 181, Friday, 09/016/83. pp. 41720-41735 as being in support of their contention. Initial review of this information by the Attorney Generals Office indicates that the case cited pertains to re-mining operations not pre-law disturbances within an active mining operation.

Again, contention by the Permittee as to the specific requirements for previously disturbed areas is the primary issue.

Compliance:

The referenced information cited by the Permittee does not contain the specific information which was required under this section of the regulations and the Division Order.

Insufficient information has been presented in the Permittee's response to consider this section adequate under the requirements of the Division Order. CGCC has incorrectly and inadequately addressed areas as having been not adversely affected by recent mining operations. No evidence or demonstration exists in the plan that meets the requirements set forth in the regulations to enable the Division to allow for a variance from the AOC requirements. Without this demonstration, the Division cannot provide a variance as required under R614-301.553, R614-302.210, and, R614-302.270. The Division does agree that in some previously mined areas of the mining operations, a variance would be warranted for partial retention of highwalls and a variance from approximate original contour could be granted by the Division if adequate information were to be provided in the Mining and Reclamation Plan to address the specific requirements of the R614- Rules.

Division Order:

25) ***R614-301-800. Bonding and Insurance.***

The PERMITTEE shall provide to the DIVISION, the Certificate of Liability Insurance Form which is incorporated into the Reclamation Agreement. Bonding calculations do not include the following information: a map specifying each area of land for which bond will be posted; mass balance calculations presented in sufficient detail to show 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; calculations for determination of quantities, equipment selection and productivity used in determining the bond amount which reflect the quantities determined in the mass balance calculations; 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. This information shall be required on or before June 1, 1991.

Analysis:

The Permittee has provided the insurance form as requested in the Division Order.

The Permittee **has not** provided any additional bonding or updated cost information as required in the Division Order.

Bonding calculations are inadequate for determination of bond amount required by the Permittee. The information presented in the plan is dated. References to cost estimates provided by OSM which are not included in the plan are considered inadequate. Escalation of data and costs used in 1983 are inadequate to qualify the bond amount. Little or no supporting data or calculations have been provided by the Permittee to support the bonding costs presented in the plan. Quantity, productivity, equipment selection and other bonding calculations must be provided to qualify the information provided by the Permittee. References to the source of the information and documentation of the costs and consideration used in determining the reclamation costs must also be provided in the plan.

Bonding costs and figures used in the existing plan cannot be effectively escalated to determine the current bond amount required. Basis and calculations for these cost figures are insufficient to allow continued escalation of those figures.

An adequate bonding map showing the sequence or reclamation treatments throughout all phases of reclamation has not been provided by the Permittee.

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Reclamation costs and treatment should be broken down throughout all phases of reclamation and for each logical treatment of reclamation to allow partial bond release throughout various phases of reclamation.

Compliance:

The Permittee is not considered to be in compliance with this portion of the Division Order. The Permittee must submit sufficiently detailed and accurate information on bonding as required in the Order.

RECOMMENDATIONS:

The information provided as a response to the Division Order is not considered adequate. A timely and extensive review of the information should not be undertaken until such time as the Division and the Permittee reconcile problems associated with the requirements for reclamation in regard to previously disturbed areas, and, to detail the exact requirements for those areas.

cc: BTEAM
Document: BTEAMCASTLE.JRH