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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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March 23, 1992

TO: Daron Haddock, Permit Supervisor

FROM: Randy Harden 

RE: Hardscrabble Submittal, AMAX Coal Company, Castle Gate Mine, ACT/007/004-92A, Folder #2, Carbon County, Utah

SUMMARY

In accordance with the Stipulation under Docket 91-001, AMAX Coal Company has submitted revised plans for the Hardscrabble Canyon Area. These plans were received by the Division on February 18, 1992. The following review is in consideration of the outstanding information as a result of the Division Order issued to AMAX and the information incorporated into those proposed changes to the mining and reclamation plan.

Comments and completeness of the information within the text of this review is in regard only to those areas described in Hardscrabble Canyon unless noted otherwise in the comments. Determination of completeness of the response to the Division Order and Compliance of those requirements for approval cannot be made until such time that all of the required information has been submitted as required by the Division Order.

ANALYSIS

Division Order 2)

R614-301-122. Permit Application Format and Contents. The information contained within the permit must be organized to ensure that each Figure, Plate, Diagram, Analysis etc. that is referenced is included within the Permit Application. The language used in the permit application must accurately differentiate existing and proposed facilities, activities, treatments, etc. This information shall be provided on or before June 1, 1991.

Proposal:

Information submitted for the Hardscrabble Canyon area is specific only to that section of the plan. A new table of contents for Section 3.3 of the plan has been provided.

Analysis:

With respect to Section 3.3 of the plan, the Operator has revised the plan. However, requirements of this section of the Division Order apply to the plan in its entirety.

Deficiencies:

The organization and contents of the plan must be revised to comply with this section of the Division Order. This information should be provided with the information provided for the Remaining areas on June 15, 1992 as part of the Settlement Agreement.

Division Order 3)

R614-301-140. Maps and Plans. The PERMITTEE shall submit to the DIVISION, a schedule for providing complete and accurate maps and drawings to depict the current existing conditions for all facilities, and, proposed reclamation treatments. This schedule shall be provided on or before March 1, 1991.

Proposal:

In accordance with the terms and conditions of the Stipulation (Settlement Agreement), the Operator has committed to a schedule for the submittal of the information required in this section of the Division Order.

Analysis:

The schedule submitted in conjunction with the Stipulation will be administered, revised and completed under the terms and conditions of the Stipulation.

Deficiencies:

None.

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.

Proposal:

The Operator has provided revised drawings for the Hardscrabble Canyon Area. The Post Mining Reclamation Treatments Map, Exhibit 3.3-5 shows the proposed final contours of the area, cross-section locations and watershed areas used for reclamation drainage area calculations.

Exhibit 3.3-1 shows the location and the extent of the areas previously disturbed by mining (pre-SMCRA) and those portions of the previously disturbed area which are incorporated into the disturbed area boundary for current mining operations. This exhibit is also used to identify surface facilities within the Hardscrabble Canyon Area.

Analysis:

Exhibit 3.3-1 sufficiently shows the areas which were previously affected by mining operations (pre-SMCRA), and identifies those area which lay within the disturbed area boundaries which are used in conjunction with current mining operations. In the text of the mining and reclamation plan, the Operator has indicated that essentially all of the disturbed area shown, with the exception of drainage controls, occurred prior to 1977. In context with the requirements of this section of the regulations, it can be assumed that these disturbances occurred prior to August 3, 1977.

Exhibit 3.3-1 also adequately shows that the cutslopes and outslopes of pads and roads used in conjunction with current underground coal mining facilities have been included in the disturbed areas.

Deficiencies:

The Operator is considered to be in compliance with this Division Order in regard to the Hardscrabble Canyon Area.

Division Order 13)

R614-301-340. Reclamation Plan. The PERMITTEE must provide plans to protect reclaimed areas for a minimum 2-year period. The PERMITTEE will revise the MRP to show 1) seedbed preparation plans (i.e. deep ripping to 18-24 inches), 2) that seed and fertilizer will not be mixed in the hydroseeder, 3) plans for the use of the supplemental planting mix for ephemeral/intermittent drainages, including locations (shown on the reclamation maps) and timing of the planting operations, 4) the final revegetation plans (as identified in the July 1990 correspondence) for the cut and fill slopes associated with the Crandall Canyon access road, 5) Clear plans for the reclamation of Gravel Canyon. This information must be provided on or before March 1, 1991.

Proposal:

This Division Order was not specifically addressed as part of the Hardscrabble Canyon area submittal.

Analysis:

The requirements of this section of the Division Order apply to the plan in its entirety.

Deficiencies:

This information should be provided with the information provided for the Remaining Areas on June 15, 1992 as part of the Settlement Agreement.

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.

Proposal:

The Operator has indicated in Section 3.3-4(1) that all existing structures which lie within the disturbed area boundary will be removed and that portals will be sealed according to the plans shown on Figures 3.1-2 and 3.1-4.

The Operator has stated that grading will be done in order to establish drainage and stabilize highwalls and cutslopes. The Operator states that the disturbed areas are to be graded to approximate the original contours by blending into the surrounding area and creating landforms which resemble the surrounding terrain. Cutslope areas which are left, resemble the cliffs in the surrounding topography and were analyzed for slope stability.

The Operator's plan states that during the grading process, berms and temporary diversions will be eliminated, grading will establish surface overland flow drainage where possible, culverts will be removed, sediment ponds will be removed, and paved surfaces will be removed prior to the placement of soil. The Operator will construct permanent stream channels and provide for alternative sediment control practices following reclamation construction.

Phases of reclamation are discussed in Section 3.3-5 of the proposal. Phase I activities include demolition, grading, portal sealing, soil preparation and soil amendments. Phase II activity is listed as seeding and mulching activities. Phase III work includes reclamation monitoring and pond maintenance.

The timing of the reclamation activities calls for the reclamation of the #4 Mine Canyon in the fall of 1992.

Analysis:

Not all facilities within the Hardscrabble Canyon area were shown as reclaimed. The text of the plan indicates that the roads within the disturbed area boundary will be removed, however, the road from the mine facilities area to the substation was not shown as reclaimed. Additionally the substation area was not shown as reclaimed. These facilities must be incorporated into the reclamation plans and the maps and drawings must show that these structures are to be removed and the areas regraded for reclamation.

Due to tight physical constraints, the Operator has proposed the elimination of all sediment ponds within the Hardscrabble Canyon during Phase I reclamation activities. The disturbed area within Hardscrabble Canyon become dissected by the numerous side canyon drainages leaving small, narrow reaches of disturbed areas between and on either side of the main and side canyons. Incorporation of sediment ponds into these areas can be considered impractical. Utilizing sediment ponds for each of these areas would require that a significant amount of the area would have to be redisturbed to eliminate such sediment ponds thus reducing the potential for early reclamation success in the area. These considerations may be used to help justify alternate sediment control measures in lieu of sediment ponds for the area if BCTA practices can demonstrate adequate sediment control for the area.

Comments in this review do not address the adequacy of the alternate sediment control measures that are proposed in the plan and whether or not these measures meet BCTA practices. Refer to comments by Rick Summers.

Figures 3.1-2 and 3.1-4 are referenced by the Operator as part of the portal sealing plan. Actually, the figures are numbered as 3.1-3 and 3.1-4 and the reference in the Hardscrabble Canyon Section 3.3 of the plan should be changed accordingly. Additionally, no details or designs for the permanent closure of the No. 5 Mine return air shaft is provided in the plans or the proposal. The Operator needs to show a detailed section of the closure of this opening. In May of 1991, the Operator submitted a proposal for the sealing of the No. 3 mine and associated openings. Typical seals in the closure plan differ from those presented in the Figures 3.1.-3 and 3.1-4. The Operator needs to correct this conflicting information and provide accurate details of the portal and shaft closure plans.

Deficiencies:

1. Drawings and plans must be revised to incorporate the substation area and the road to the substation area as part of the reclamation work and must be indicated on the reclamation drawings.

2. The Operator needs to provide updated and detailed designs for portal and shaft closures and eliminate conflicting information regarding portal closure designs.

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.

Proposal:

Information regarding backfilling and grading is found in Section 3.3-4 of the mining and reclamation plan. The Operator has indicated that backfilling and grading will be done in order to establish drainage and stabilize highwalls and cutslopes. The postmining topography is found on Exhibits 3.3-4 and 3.3-5 and the Operator has indicated that the proposed grading is compatible with the approved postmining land use of grazing and wildlife habitat, provides adequate drainage and long-term stability.

The Operator has indicated that the disturbed areas will be graded to approximate the original contours by blending spoil into the surrounding area and creating landforms which resemble the surrounding terrain. Cutslope areas which are left resemble the cliffs in the surrounding topography. The retained cutslopes were analyzed by EarthFax Consulting Engineers for slope stability. This information is found in Appendix 3.3D of the plan.

Details of the post mining topography can also be found in the cross-sections as provided in Exhibits 3.3-8A through F.

Analysis:

The Operator has not requested a variance for any structures or facilities to be left upon completion of reclamation or as part of an alternative postmining land use. In order to demonstrate compliance with AOC requirements the Operator has conducted stability analysis of the slopes to be left for final reclamation, and has found those slopes to be designed to have a static factor of safety of 1.3 or greater. Cutslopes associated with roads and pads within the Hardscrabble Canyon area have been proposed to be left in some areas and are included in the stability analysis previously described.

The Operator has provided maps and drawings for backfilling and grading of the area. Mass balance calculations indicate that there is not an excess of materials which could be utilized to eliminate all highwalls and cut slopes within the disturbed area. However, in areas where the minimum factor of safety was found to be less than 1.3, the Operator has provided additional materials at the base of these slopes to buttress the hillsides and increase the factor of safety to be in excess of 1.3. Information shown on map 3.3-5 and the supporting cross-sections indicate that much of the area will be returned to approximate original contour, except that highwalls and cut slopes found within portions of the site will not be completely reduced or eliminated. Constraints which limit these areas are primarily the lack of excess materials which can effectively be used to eliminate these cuts and highwalls, and, in some cases, fill required to eliminate such cut slopes would not be considered stable. The Operator is considered to have adequately addressed the requirements for this provision for a variance from AOC requirements.

In accordance with R645-301-553.130, disturbed areas must be graded and backfilled to 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. Backfilled portions of the area are in general, graded to the most moderate slope possible. The steepest backfilled slopes are designed to be no greater than 2h:1v (26.6° slope angle).

The angle of repose for backfilled material is based on the angle at which loose or fragmented materials, when dumped or piled, come to rest and no longer continue to slide. Slopes and stability for the backfilled area should be such that they are suitable for topsoil placement must be less than that of the angle of repose. Materials used for substitute topsoil will be loose and initially, cohesionless. Based on information on these soils, the Operator needs to determine the angle of repose for the backfilled material and demonstrate that the proposed backfilling slopes of 2h:1v are not greater than the angle of repose. The cut slope areas consist of rock and cohesive soils and consequently are significantly steeper than the

angle of repose, but have been demonstrated by design to meet the 1.3 factor of safety criteria. Cut slope areas are not composed of loose or fragmented material, and, by definition, would not be subject to the limitations for the angle of repose since no backfilling will occur on the cut slopes proposed to remain as part of the proposed reclamation.

Cut slope areas are not clearly defined on the drawings and cross-sections provided in the mining and reclamation plan. The overlay of the existing and the proposed contours on the reclamation maps makes it difficult to determine where these cut slopes will remain. The cross-sections provided do not show the extent of the disturbed area boundaries. If the extent of the disturbed areas were shown on these cross-sections, the Division would be able to identify and locate where cut slopes will remain as part of reclamation. Additionally, this would present a clearer indication of where the adjacent natural slopes are located, and how well the reclaimed slopes blend into the surrounding natural slopes.

Information regarding the cut slopes must also be expanded in the plan to incorporate other reclamation treatments that are proposed in the plan. To date the current plan discusses the soiling, vegetation, and sediment control treatments for the backfilled areas. More precise information needs to be incorporated into the plan regarding these activities for the cut slope areas. Additionally, the Operator needs to discuss how these cut slope areas will be addressed for vegetative cover and diversity in regard to bond release. Discussion of these cut slope areas needs to be provided in the plan in conjunction with vegetation monitoring and the criteria used to measure the disturbed area for density and diversity.

Deficiencies:

1. Cross-sections of the Hardscrabble Canyon area need to be revised to show the disturbed area boundaries so that the location and extent of cut slopes remaining as part of the regrading plan can be evaluated.
2. The angle of repose must be determined for materials to be used for backfilling and the Operator must demonstrate that the slopes of the backfilled materials do not exceed the angle of repose.
3. Detailed information needs to be presented in the plan for any additional reclamation treatments for cut slope areas to remain on final reclamation. This information must address methods for monitoring and evaluating vegetation cover and diversity for the entire disturbed area, including the cut slopes.

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 remining operation and any other reasonably available spoil shall be used to backfill the area. Reasonably available spoil in the immediate vicinity of the remining 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.

Proposal:

Section 3.3-5 of the proposal discusses a request for highwall variance from approximate original contour (AOC). The Operator has indicated that the highwalls created to access the coal outcrops in Hardscrabble Canyon were created during the early 1960's prior to the advent of SMCRA and were not reaffected after SMCRA. The location and extent of the highwalls in which the Operator is requesting a variance are found on Exhibit 3.3-2 and are the No. 3 portal highwall, the No. 4 portal highwall and the No. 5 mine return air shaft.

The Operator has concluded that the highwalls in the Hardscrabble Canyon area are not significantly greater in height or length than the dimensions of existing cliffs in the surrounding area. The highwalls are similar in structural composition to the preexisting cliffs in the surrounding area and are compatible with the visual attributes and geomorphic processes of the area. Slope stability analysis and an evaluation of the highwalls proposed to be retained is provided in Appendix 3.3D in a consultant's report entitled Slope Stability Analyses, Hardscrabble Canyon, Carbon County, Utah, prepared by EarthFax Engineering, Inc., dated February 14, 1992.

The Operator has stated that spoil material is unavailable in Hardscrabble Canyon for several reasons. When the highwalls were cut in the 1960's, most of this material was pushed onto the sideslopes of the canyons. The Operator has stated that this material has since settled into a stable and vegetated condition and if disturbed, will create unstable slope conditions. There has been no additional spoil material generated during the remaining operations because remaining did not re-affect or enlarge the existing highwalls.

The Operator has indicated that any available spoil materials as a result of stream channel excavation will be used to create talus slopes at the base of the highwalls. No other reasonably available spoil material exists in the immediate vicinity of the remaining operations.

Analysis:

In accordance with Section R645-301-600, the Operator has requested a variance for the retention of highwalls. Information found in Appendix 3.3D has been provided by the Operator to address the specific requirements for highwall retention, and to demonstrate that slopes left upon the completion of backfilling and grading operations will be stable and meet a static factor of safety of 1.3.

The Operator has demonstrated by design that the "retained" highwalls and cut slopes proposed within the disturbed area boundary are not significantly greater in height or length than the dimensions of existing cliffs in the surrounding areas. It was found that cliffs adjacent to and within the surrounding area varied from 200 to greater than 1,000 feet in length with heights varying from 5 to 200 feet. Highwalls and cut slopes within the disturbed area measure from 250 to 300 feet in length and to 60 feet in height. These measurements and the documentation found in Appendix 3.3D indicate that the highwalls and the cut slopes to be retained within the disturbed area are not significantly greater in height or length than the surrounding cliffs found in the area.

The retained highwalls and cutslopes within the disturbed area boundary are of similar structure and composition in comparison to the surrounding natural cliffs and ledges. Many of these highwalls are partially or nearly completely composed of sandstone rock which is part of the cliff forming members of the region. Other cut slopes and highwalls are similar to stream downcutting and erosion which can be found within and adjacent to the disturbed areas. This colluvial material was found in most cases to be reasonably well cemented with sufficient cohesion to remain as stable cut slopes. These highwalls are geomorphically comparable to the cliffs and downcut slopes found throughout the area. In comparison,

disturbed fills and regraded areas lack the cohesive structure of these undisturbed soils within the cut slopes, and must be maintained at a more moderate slope than that of the cut slopes.

Approval for incomplete elimination of highwalls in previously mined areas can be accomplished in accordance with R645-301-553.500. The Operator has requested a variance from AOC requirements for incomplete elimination of highwalls. Based on the design information presented in the proposal, the Operator has maintained that the "retained" highwalls are not significantly greater in height or length than the dimensions of existing cliffs in the surrounding areas. Information presented in the EarthFax slope Stability Analysis indicates that: the residual highwalls have been shown by the Operator to be similar in structural composition to the preexisting cliffs in the surrounding area and is compatible with the visual attributes of the area; and, the residual highwall is compatible with the geomorphic processes of the area. The Division will allow for a variance from AOC requirements for preexisting highwalls based on the design information presented in the plan. Accordingly, the permit will need to be revised to indicate that such a variance has been allowed for. Attached to this review is a draft copy of the AOC Variance For Preexisting Highwalls which will be incorporated into the permit as "Exhibit C". It is anticipated that additional requests for highwall variance may be made by the Operator in regard to other surface facilities which are not part of this proposal. Those areas will be considered and incorporated into this variance as they are reviewed and approved by the Division.

Deficiencies:

None.

Division Order 21)

R614-301-731. Operation Plan. General Requirements. The operational plan must be specific to the local hydrologic conditions and will contain steps to be taken during coal mining and reclamation operation through bond release. The PERMITTEE needs to correct the MRP to include monitoring plans specific to ground water and surface water during reclamation through bond release. These monitoring plans should reflect the requirements of R614-301-731.200, and must reflect the language of R614-301-731.212, R614-301-731.233, R614-301-731.214, and R614-301-731-224. The PERMITTEE shall submit a reclamation plan for all phases of reclamation indicating how the relevant requirements for R614-301-730. through R614-301-760. will be met. This shall be required on or before June 1, 1991.

Proposal:

No comments regarding the above Division Order are part of this review.

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.

Proposal:

Bonding information previously found in Section 3.3-6 has been eliminated from Section 3.3, Hardscrabble Canyon.

Analysis:

It is anticipated that the bonding information previously provided for Hardscrabble Canyon will be incorporated into the final plan and that calculations will be provided by the due date for the submittal of all remaining areas of June 15, 1992. Mass balance calculations, especially in regard to Gravel Canyon cannot be completed until all topsoil distribution requirements are determined for the entire permit area.

Deficiencies:

The Operator will need to provide revised bonding calculations by June 15, 1992 in conjunction with the Remaining Areas.

RECOMMENDATIONS

Deficiencies found within the review of the Hardscrabble Canyon area are considered minor in respect to the total reclamation plan submitted for the area. Overall, the revised proposal by the Operator is a considerable improvement over the information previously found in the mining and reclamation plan. Deficiencies found within the scope of this review should be submitted by the Operator as early as possible, but, no later than the deadline for the completion of all the information required under the Stipulation, June 15, 1992.

Attached to this review are the proposed forms for the revised permit. These exhibits will clearly mark the plan as having a variance from AOC requirements. Final determination of AOC variance for all areas and the attachment of these exhibits will be accomplished in conjunction with the revision of the permit. Note currently that only Exhibit C is proposed to be attached to the permit. In the event that the Operator requests variance from AOC for alternate post mining land use facilities or other reasons as allowed under the regulations, that Exhibit D would also be attached. In the event that such a request is made, the Operator should ensure that information required under Exhibit D be provided in sufficient detail for review and approval of the variance.

HARDSCR.JRH

"Attachment C"

AOC VARIANCE FOR PREEXISTING HIGHWALLS

In accordance with R645-301-553.500, the Division has reviewed and accepted a variance from Approximate Original Contour (AOC) requirements for incomplete elimination of highwalls in previously mined areas in accordance with the following findings:

1. Remining operations on previously mined areas that contain the preexisting highwall(s) comply with the requirements of R645-301-537.200, R645-301-552 through R645-301-553.230, R645-301-553.260 through R645-301-553.900, and R645-302-234, except as provided in R645-301-553.500.
2. The requirements of R645-301-553.110 and R645-301-553.120 requiring that elimination of highwalls do not apply to remining operations where the volume of all reasonably available spoil is demonstrated in writing to the Division to be insufficient to completely backfill the reaffected or enlarged highwall. The highwall(s) will be eliminated to the maximum extent technically practical in accordance with the following criteria:
 - A. All spoil generated by the remining operation and any other reasonably available spoil will be used to backfill the area;
 - B. 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;
 - C. Any highwall remnant will be stable and not pose a hazard to the public health and safety or to the environment. The Operator has demonstrated, to the satisfaction of the Division, that the highwall remnant is stable; and
 - D. Spoil placed on the outslope during previous mining operations will 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.

- D R A F T -

SPECIFIC CONDITIONS OF VARIANCE

This variance from Approximate Original Contour for Preexisting Highwalls is issued in conjunction with the Coal Mining and Reclamation Permit. This AOC variance is specific to the following locations and conditions:

1. Variance from AOC for Preexisting Highwalls shall include only those areas which have been identified in the plan and approved by the Division and are as follows:
 - A. The location and the extent of the highwalls as delineated on Exhibit 3.3-2, as the No. 3 portal highwall, the No. 4 portal highwall and the No. 5 mine return air shaft.
 - B. (Other maps and highwall references for other mine facilities area may be included in the highwall variance upon review and approval by the Division.)
2. The terms and conditions of this permit may be modified at any time by the Division, if it determines that more stringent measures are necessary to ensure that the operations involved are conducted in compliance with the requirements of the State Program.

"Attachment D"

VARIANCE FROM AOC RESTORATION REQUIREMENTS

In accordance with the requirements of R645-302-270, the Division has reviewed and accepted a variance from the Approximate Original Contour (AOC) requirements in accordance with the following findings:

1. The alternative postmining land use requirements of R645-301-413.300 have been met;
2. All applicable requirements of the State Program, other than the requirements to restore disturbed areas to their appropriate original contour, have been met;
3. After consultation with the appropriate land use agencies, the potential use has been found to constitute an equal or better economic or public use;
4. Federal, Utah and local government agencies with an interest in the proposed land use have had an adequate period of time in which to review and comment on the proposed use;
5. After reclamation, the lands to be affected by the variance within the permit area will be suitable for the approved postmining land use;
6. The surface landowner of the lands within the permit area has knowingly requested, in writing, as part of the permit application, that a variance be granted so as to render the land, after reclamation, suitable for the postmining land use. This request has been made separately from any surface owner consent given for the operations under R645-301-114 and shows an understanding that the variance could not be granted without the owner's request;
7. The watershed of lands within the proposed permit and adjacent areas has been improved by the coal mining and reclamation operations when compared with the condition of the watershed before mining or with its condition if the approximate original contour were to be restored. The watershed has been deemed improved by demonstrating that:
 - A. The amount of total suspended solids or other pollutants discharged to ground or surface water from the permit area will be reduced, so as to improve the public or private uses or the ecology of such water, or flood zards within the watershed containing the permit area will be reduced by

VARIANCE FROM AOC RESTORATION REQUIREMENTS (Continued)

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- reduction of the peak flow discharge from precipitation events or thaws;
and
- B. The total volume of flow from the proposed permit area, during every season of the year, will not vary in a way that adversely affects the ecology of any surface water or any existing or planned use of surface or ground water;
8. The proposed design plan for the variance has been prepared and certified as described under R645-301-512.260. The proposed design plan also meets the following requirements:
- A. Unless the highwall is determined to be retained as described under R645-301-553.650, the highwall will be completely backfilled with spoil material, in a manner which results in a static factor of safety at least 1.3, using standard geotechnical analysis; and
- B. Only the amount of spoil as is necessary to achieve the postmining land use, ensure the stability of spoil retained on the bench, and meet all other requirements of the Act and R645 Rules will be placed on the mine bench; and
9. The watershed of the permit and adjacent areas can and will be shown to be improved by the Operator through continued water monitoring.

SPECIFIC CONDITIONS OF VARIANCE

This variance from Approximate Original Contour issued in conjunction with the Coal Mining and Reclamation Permit, specifically requires the following conditions:

1. This permit and the requirements of this variance shall be reviewed by the Division at least every 30 months following the issuance of the permit to evaluate the progress and development of the coal mining and reclamation operations to establish that the Operator is proceeding in accordance with the terms of this variance.
2. The terms and conditions of this permit may be modified at any time by the Division, if it determines that more stringent measures are necessary to ensure that the operations involved are conducted in compliance with the requirements of the State Program.

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