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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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June 1, 1995

John Pappas
Sr. Environmental Engineer
AMAX Coal Company
P. O. Drawer PMC
Price, Utah 84501

Re: May 22, 1995 Technical Visit, AMAX Coal Company, Castle Gate Mine,
ACT/007/004, Folder #2, Carbon County, Utah

Dear Mr. Pappas:

A site visit was conducted on May 22, 1995, between AMAX representatives: Johnny Pappas and William Hendrickson (Earthfax); and DOGM representatives: Randy Harden, Paul Baker and Sharon Falvey. The following items were discussed:

1. Retention of a permanent road as Post Mining Land Use.
2. Identification of on-site areas for concrete disposal.
3. Additional proposed methods to cover the coal seam at the Number 4 Mine.
4. Identified items necessary for meeting bond release and design standards for the Number 4 Mine.

The extent of the discussions involved the following recommendations and requirements to aid in resolving these issues.

In order to retain the road as a permanent post mining road the Permittee must go through the public comment period for postmining land use change, according to R645-301-412.130. Changes to the plan would include, but not be limited to, a request from the landowner(s) to retain the road, and a demonstration that the requirements of R645-301-413.300 are met. Additional regulatory requirements necessary to retain a road as a post mining land use include: R645-301.527 et. seq.; R645-301-534 et. seq.; R645-301-732.400 et. seq.; R645-301-742.400 et. seq.; R645-301-752.200 et. seq.

Suggestions for altering the grading plan while retaining the existing road included:

1. Using the existing road as a survey control line while reducing the width of



the road to a single lane. For a majority of the canyon the outslope half of the road would be retained except where stream channel alignment requires otherwise. The permittee could then plan the placement of the stream channel in relation to the road with provisions that the channel is placed an adequate depth below the road grade. A suggested vertical displacement of 10 feet below the road was recommended. Survey cross-sections using 50 foot centers were recommended. Critical areas may require closer cross-sections while uniform areas may dictate further distances.

2. The submittal would include, but not be limited to, providing new cross sections for the road alignment and channel adjustments. If no significant regrading volumes appear evident, no regrading analysis beyond the current plan would be necessary. If areas of significant regrading and alignment occurs an inset of the information should be produced.
3. An additional suggestion was to commence grading from the bottom up. If this method is pursued additional sediment control measures would need to be provided, designed and implemented prior to construction to minimize off site erosion. Although these measures were not fully discussed, a combination of methods such as immediate on-site surface roughening, mulching, erosion control matting, small scale sedimentation traps, berms and straw bales outside of the stream channel would be preferred. Additionally, low elevation (< 3 ft.) check dams in channel may be employed with proper site selection and where anchored to the sides and bottom of the channel so as to prevent a blow out in higher flow situations.

Submittal of a revision to allow for retention of a permanent road in Hardscrabble Canyon should at least indicate the proposed alignment of the road in plan and details of the road, restored stream channel and reclaimed slopes in cross section. Consultation with the appropriate land use agencies, including Carbon County and adjacent landowners, should be included to show that the potential use constitutes an equal or better economic or public use. Federal, Utah and local government agencies with an interest in the proposed land use must have an adequate period of time in which to review and comment on the proposed use through public review and comment prior to final approval of the road. The surface landowner of the lands within the permit area must request, in writing, as part of the permit revision, that a variance be granted so as to render the land, after reclamation, suitable for the proposed land use(s). The request must be made separately from any surface owner consent given for the operations under R645-301-114 and will show an understanding that the variance could not be granted without the owner's request. Demonstration that the road constitutes a higher and better use should be accomplished in comparison to the currently approved plan.

Identification of concrete disposal sites included burial in the fan portal area, against the base of the slope below the Dog Flat storage area, and Portal No 3. The fan portal area would then be backfilled to increase grade and achieve a slope that promotes drainage off the regraded site. The Dog Flat area would be backfilled reducing the steepness of the drainage and slope from the Dog Flat area. There may be some stockpiling of concrete to use for fill when regrading at a later date in areas such as Pond 007 and the dog flat area. Other small areas not identified will be used to back-fill with concrete.

In areas where concrete is buried an adequate mixture of finer graded backfill material should be mixed in with the concrete, as it is placed in the back-fill areas, to prevent piping. A minimum of four feet of cover adequate to promote root growth is necessary where large concrete blocks are retained. Where concrete is busted up and relocated, a minimum of 2 feet of cover is required.

Additional areas were identified for cover over the coal seam highwall at the Number 4 Mine. An extended area for accessing materials was proposed at the MSHA bench access road. Materials would be removed from portions of the bench using heavy equipment such as a DC-10. Additional material may be obtained through blasting following submittal of a blasting plan and notification to the Division prior to blasting operations.

Areas identified as requiring additional construction necessary to meet bond release and design standards for the Number 4 Mine included providing back-fill against the north facing cut slope to meet stability requirements and reworking the drainage to meet stability and design requirements.

Analysis of the existing height of the back-fill against the north face of the cut slope should be compared with the design and backfilled to the extent that adequate stability is met as indicated in the stability analysis.

It is suspected that the proposed grade alignment and final grade alignment vary somewhat. The final grade should not exceed the assumptions of the proposed channel design grade unless alternate designs are provided and approved prior to construction. Some areas may need to be re-excavated to meet the maximum design grade and channel configuration. The use of riprap in a channel design is based on the assumption that angular riprap is used. The river rock used at the site has rounded edges and therefore does not meet standard practices for minimum design criteria R645-301-740. The existing channel is not considered to be stable since there are visible signs that the riprap used has been transported downstream. The transport is most evident in steeper section of the channel. In areas where the grade is low, such that deposition and low velocities are likely, the rounded riprap may not be transported. These areas could be further stabilized by filling voids and packing the channel with fine materials. This would assist in vegetative growth in the channel and could

potentially increase stability. Although the rounded riprap in these areas does not meet standard design criteria, successful vegetative growth and filling of voids could increase stability of these low grade sections. Certification of the channel design and construction must be accomplished and approved by the Division prior to petition for bond release.

In order to increase the potential for successful reclamation, it was suggested the permittee adequately roughen and reseed the south half of the Number 4 Mine while the contractor is mobilized. Currently small rills are forming in local areas while seeding appears to show minimal germination in this area.

The Permittee requested that the silt fencing from the site be removed. The silt fencing, as it exists, requires high maintenance and has not shown to provide many benefits for erosion control. It was indicated that if the Permittee applies straw or hay mulch crimped in the soil at a rate of two tons per acre, and if the Permittee provides adequate roughening of the surface the silt fences could be removed.

If roughening, mulching and re-seeding were to occur, the Permittee would continue to be responsible for minimizing erosion and applying additional erosion control measures when warranted. Although this was not discussed on site, a criteria would need to be established along with a method for determining when erosion would require additional methods to provide adequate control. This requirement could also be incorporated to determine if the cover criteria "adequate to control erosion control" is being met for bond release purposes. The request for removal of the silt fence is reasonable but would require a site visit to determine if the measures appear adequate to control erosion. Additional downstream measures such as designed low check dams may provide adequate control to minimize movement of erosion off site.

Based on the need to rework the Number 4 Mine reclamation and proposed changes to the post mining land use by retention of a permanent road, the regrading work for the remainder of the Hardscrabble Canyon will likely be delayed. The current plan states that permanent reclamation of the disturbed area within the main canyon will commence by August 31, 1994 and be completed by December 31, 1995. It appears that completion date will not be met. The Permittee has commenced with the reclamation demolition and therefore, it is felt the permittee is showing diligence in attempting reclamation. Additionally, the effort to improve initial efforts in the Number 4 Mine is considered necessary.

The current pond will retain the runoff from a 1.69 precipitation event, slightly greater than a 5-year precipitation event. The Permittee is required to continue monitoring UPDES discharge points and is responsible for meeting UPDES discharge requirements. No discharges were reported to occur from these ponds to date. No discharge evidence was

reported to be noticed by the inspection staff since the approval for retention of these ponds. The demonstration required by R645-301-742.221.33 for the effluent limitations continues to be required to be provided through submitting the samples analyzed from Pond 009 discharges.

The Division can accept the proposal to retain the Hardscrabble ponds in the present configuration according to R645-742.221.33. Although the Permittee will not complete reclamation of Hardscrabble Canyon within the 18 month period, as demonstrated in their proposal, it is not expected the additional year would significantly change potential environmental impacts. Potential downstream hazard is low as the only major downstream structure is the county road used for cattle grazing access and recreation through and below the minesite. Any discharge from the pond must be in compliance with the UPDES permit. It is recommended the Permittee submit a new reclamation time table to amend the plan.

Sincerely,



Sharon Falvey
Senior Reclamation Specialist

cc: Randy Harden
Paul Baker
Daron Haddock
CG52295V.MEM