



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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September 19, 1985

TO: Lowell Braxton and Sue Linner

FROM: Randy Hardenz, Rick Summers, Dave Cline, and Jim Leatherwood

RE: Blazon Reclamation Plan, Additional Information Required for Technical Analysis and Final Approval, Blazon No. 1 Mine, ACT/007/021, Carbon County, Utah

In review of the Blazon Reclamation Plan and upon completion of the visit to the mine site on September 16, 1985, several problems and deficiencies are apparent. In order to make a final determination of the Reclamation Plan, the following requirements would have to be stipulated in the technical analysis. The requirements are listed below in their relative order of importance with respect to their impact on the review.

1. Location and Disposition of Mine Development Waste

NAE submitted a plan to remove the mine development waste to the abandoned Clear Creek Strip Pit for disposal. On Monday, September 9, 1985, during a meeting with NAE, OSM was asked to give a determination whether or not this material could be disposed of off site at the abandoned strip pit. It was OSM's opinion that the mine development waste could not be removed from the permit area regardless of the off site location. In light of these circumstances, the Division and NAE determined that the mine development waste would have to be stored and covered within the permit area boundary.

It is apparent that it would be difficult if not impossible to dispose of the material within the current disturbed area boundaries. In looking at Map 11 of Blazon's original permit application package, it appeared that the spoils material could be resituated at the topsoil borrow area on the south end of the disturbed area.

NAE will have to submit to the Division, a map showing the plan and cross sections of the location and disposition of the mine development waste. The design shall include: a mass balance of topsoil and suitable subsoil and waste materials to achieve reclamation standards, measures taken to protect the disposal area from stream channel erosion during a 50 year - 24 hour event, geotechnical stability of the pile, erosion controls to be used during construction and the monitoring period, and revegetation design over the mine waste disposal location. Any other design changes or modifications to the reclamation plan which may result from the location and disposition of the mine development waste pile will also have to be incorporated into the reclamation plan as required.

2. Hydrologic Design Details

In meetings (September 10th and 12th, 1985) with NAE and their consultants(ACZ), several of the design parameters and options were discussed that could be taken in order to present the Division with an acceptable hydrologic design for the reclamation plan. However, NAE has yet to provide the Division with detailed designs and plans that are sufficient for a technical determination of completeness and approval of the plan.

The following is a listing of the hydrologic deficiencies in the reclamation plan which must be submitted by NAE:

- a. Baseline information, design parameters and calculations (including source and citation for all inputs and assumptions) for Mud Creek with respect to the 50 year - 24 hour event. The 50 year - 24 hour event has been determined to be appropriate by the Division as the hydrologic sizing criteria for the Mud Creek Drainage.
- b. Based on the above hydrologic calculations, NAE must provide design details and drawing for channel routing of Mud Creek safely through the permit area, including;
 1. Sizing for culverts B and C.
 2. Open channel design including sizing and riprap protection through the area.
 3. Protection of the mine development waste disposal area.
 4. Design requirements for fish passage for any modifications to culverts B and C that may be required as a result of the above analysis.
 5. Riprap design for the outslopes of the sediment ponds
 6. Designs for headwall and outlet fill protection for culverts B and C.

- c. Design, sizing criteria and plans for sediment and erosion control of the area during construction and through the monitoring period, including;
 - 1. Ditch B design and cross sections
 - 2. Lower portal pad drainage design
 - 3. Silt fence design, maintenance and locations
 - 4. Straw bale design, maintenance and locations
 - 5. Drainage ditch designs and locations

- d. Sedimentation ponds designs must be submitted. The following must be addressed for each sediment pond at the site:
 - 1. Sediment storage volume for a period of one year.
 - 2. Containment of the runoff volume resulting from a 10yr-24hr precipitation event for all areas draining to the pond. Demonstration of drainage controls that delineate these drainages must be depicted (i.e., disturbed vs. undisturbed areas).
 - 3. Design for pond spillways. A separate primary and emergency spillway will be required that are capable of passing the 25yr-24hr peak flow event.
 - 4. Certification of designs by a registered professional engineer.
 - 5. Energy dissipator designs for spillway outlets.
 - 6. A commitment to meet the requirements of 817.46(u) and 817.42(a)(2) prior to pond removal. A monitoring plan must be proposed to demonstrate those requirements.

- e. Hydrologic and drainage designs for those roads which will be left as a post-mining land use, including culverts and ditches. These roads shall be as described on the Reclamation Plan Map as Roads, 1), 2), and 6), and the lower bench area 46).

- f. Designs for the removal of culvert D and restoration of the channel through the existing mine development waste pile. Design for upgrading culvert D through the pad and outlet protection at Mud Creek.

- g. NAE shall submit for approval a post-mining hydrologic monitoring plan.

3. Topsoil and Suitable Subsoil Materials

Upon the site visit by the Division to the Blazon Mine, it was determined that the topsoil volume in the topsoil storage stockpile is approximately half of that as stated in the reclamation plan. Measurement of the topsoil stockpile has shown it to be approximately 750 cubic yards in comparison with the 1360 cubic yards as stated in the reclamation plan. NAE must determine and show how much topsoil is located on the site and submit plans for topsoil distribution which will account for the actual amount of topsoil that is available on the site. Additionally, NAE must also show where and how much suitable subsoil material will be require curing reclamation, where the material will be borrowed from, and the depth and location of the subsoil and the topsoil in its final location.

4. Monitoring Period

NAE must provide sufficient data so as to determine whether or not the reclamation liability period shall be for a period of 5 or 10 years.

5. Other Items Requested but not yet Received to Date

Other items which the Division has requested but have not been sent to the Division as a submittal for the Reclamation Plan are:

- a. A letter from the landowner of record agreeing with the proposed change in post mining land use.
- b. An OFFICIAL response to DOGM's August 28, 1985 review including all items discussed in the September 10, 1985 meeting, including the hydrology calculations, the plan for on site disposal of mine development waste, and updated maps.

ITEMS REQUESTED FROM THE ORIGINAL APPLICATION

1. June 20, 1984 PAP
 - a. Pages 817.22-2 thru 10
 - b. Exhibits 1, 6, 12, and 15
 - c. Maps 1, 2, 3, 4, 6, 16, 17,
2. March 23, 1981 Mine and Reclamation Plans
 - A. Chapter VII, p. A-4