0011

State of Utah
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DIVISION OF OIL, GAS AND MINING

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June 3, 1993

TO: File

THROUGH: Daron Haddock, Permit Supervisor

FROM: Sharon Falvey, Senior Reclamation Hydrologist

RE: Castle Gate Area Refuse Pile NOV N92-39-7-1, Recommended Approval, Castle Gate Coal Mine, Price River Complex, Amax Coal Company, ACT/007/004, Folder #2, Carbon County, Utah

SUMMARY

The Division received the operators response on April 14, 1993 which addresses NOV N92-39-7-1, as well as other outstanding deficiency responses. However, this memo pertains only to information related to the February 19, 1993 memo and NOV N92-39-7-1. Supplemental submittals pertaining to this violation include portions of revised plans submitted on November 10, 1992 and December 16, 1992.

The operator has not identified the extent of excavation for the proposed design. The proposed excavation is required to be 4.96' deep and approximately 12' wide from the centerline using the presented design riprap and filter blanket information. Because the proposed design is intended as the final reclamation design, the construction is considered critical. It is recommended that the operator be required to obtain the Division's approval of extent of excavation prior to placement of riprap and gravel filter. The operator is requested to be in contact with the Division and have a Division employee available during the construction periods for final grading and excavation, during riprap and gravel placement, and at final construction.

ANALYSIS

Deficiency 1:

Map the area where the proposed design will be implemented.

Response:

Exhibit 3.4-2 has been edited to delineate the reach of Diversion CGD-7 (lower) which will be left in its current condition as a temporary operational diversion. The lower 450 feet of CGD-7 will be upgraded to current configuration. Supporting documentation for the grouted design are included in Appendix 3.4J. The grouted ditch will be replaced with the permanent diversion once mine operations begin again. See Section 3.4-3(3), School House Canyon Refuse Site Drainage Control.

Analysis:

Exhibit 3.4-2 identifies the extent of proposed grouted reaches within diversion ditches CGD-7 and CGD-6 for the existing operational layout. Channel surfacing information for earthen and riprapped sections are not referenced on the map and must be referenced in design appendices and text.

Deficiency 2:

Provide a discussion of how the upper most portion of the proposed ditch design work will be completed and tied into the existing design. (A longitudinal cross section across the junction of the two designs provides good information.)

Response:

Grouted section will be transition into permanent section of CGD-7 (lower)/CGRD-3A as shown in Figure 3.4-12.

Analysis:

The operator has provided a longitudinal cross section and transition design across the junction of the two designs. During placement of riprap at the junction, the operator should take precautions to prevent the flow changes at the junction from destabilizing the riprapped section.

Additional design precautions, which prevent the flow changes at the junction from destabilizing the riprap section, is felt to be important. The addition of anchors or dikes at the junction are some methods of terminal riprap placement. The operator is requested to implement a design measure across the riprap and concrete junction during construction and submit designs following completion of construction.

Deficiency 3:

Provide a discussion on how and when the operator will provide for continuation of the design of CGD-7 as the pile progresses to its final elevation.

Response:

Section 3.43(3) has been revised to discuss the plan to extend the diversion on the face of the Refuse Pile as the waste rock is deposited on top of the pile. As the refuse pile grows, the drainage diversions on the face of the refuse will be extended after each ten foot vertical increase in elevation. Page 3.4-7 indicates diversions will not be replaced until the Preparation Plant starts processing coal again.

Analysis:

The operators response is adequate. However, the present understanding is that the operator could potentially add materials to the refuse pile prior to commencing Preparation Plant Processing operations. The Preparation plant may receive waste at other times of operation; for example, when the operator moves waste associated with reclamation process. The operator should be aware that the volume of material moved could affect current drainage design current capacity should the change in volume become significant.

Deficiency 4:

Commit to using durable angular rock.

Response:

Section 3.4-4(2) has been revised to state that riprap placed in permanent diversions will be predominately angular in shape.

Analysis:

The operators response is adequate. It should be noted that other available references indicate additional design standards such as that provided by the U.S. Army Corps of Engineers (1970) which specifies:

a. The STONE shall be predominately angular in shape.

b. Not more than 25% of the stones reasonably well distributed throughout. The gradation shall have a length more than 2.5 times the breadth or thickness.

c. No stone shall have a length exceeding 3.0 times its breadth or thickness.

Deficiency 5:

Commit to informing the Division of construction dates giving adequate advance notice to have an inspector available during construction. Be aware of the inspection requirements of R645-514.200, and the extent of excavation required to meet riprap and filter design requirements.

Response:

Amax Coal will contact the Division prior to the start of construction of permanent diversion CGD-7 (lower)/CGRD-3A. A quality control inspection will be preformed during construction in accordance with R645-301-514.200 and specifically R645-301-514.223.

Analysis:

The operators has committed to notify the Division prior to the start of construction within the text of the response memo.

RECOMMENDATION

The operator's proposal is recommended for approval with the condition that the operator obtain Division approval for the extent of excavation prior to placement of the riprap and gravel. It should be noted that the operator has slightly underestimated the extent of riprap required in the methodology used. It is recommended that the operator also be requested to implement a design measure across the riprap and concrete junction during construction and submit designs following completion of construction.

cc: Paul Baker
CGRENOV.RES