

0014



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

April 15, 1993

TO: File

THRU: Daron Haddock, Permit Supervisor

FROM: Sharon Falvey, Reclamation Hydrologist *SIF*

RE: Castle Gate Mine General Review, Price River Complex, AMAX Coal Company, ACT/007/004, Folder #2, Carbon County, Utah.

SUMMARY:

This review is amended from the March 23, 1993 review. Management has concluded that the portions of my review pertaining to Chapter 9 and the Hardscrabble area are out of the scope of the stipulations under Docket 91-001. The operator is required to respond to Chapter 7 deficiencies only. Chapter 9 issues result from R645-301-880.210 where the Division evaluates reclamation to demonstrate that performance standards and regulation requirements for bond release are met. Although the Division has not fully implemented requirements for erosion determination at all mines, these requirements are required from operators as amendments are submitted. AMAX should consider the Chapter 9 comments important to success of their reclamation process. The Hardscrabble Canyon amendments were submitted in the July 31, 1992 and October 14, 1992 submittal with the pond amendment, but were not reviewed. The review was included so the operator is aware of the identified deficiencies.

ANALYSIS:

General Review Chapter 7

1. Provide a copy of existing stream buffer zone variance approvals and related documentation, as previously contained in Section 3.8-3 1988 submittal. Other stream alteration permits, and pond construction permits for proposed changes may be necessary.

The Operator has not retained information on the stream buffer zones. Items such as approvals for Price River Buffer Zone variances and Stream alteration permits that document historical alterations to stream in the area should be included. See information from Section 3.8-3 1988, Unit Train Loadout submittal.

2. Provide a copy of the current UPDES permit.

Chapter 9

1. The Operator must clarify the method proposed to determine how active rills and gullies are defined. The method should include frequency of measurement, as well as, a defined criteria to make a stability determination.

R645-301-741 requires the Operator to maintain sediment control measures to minimize erosion, on page 16, Chapter 9, the Operator proposes that Control of erosion on Previously mined areas will be demonstrated by the lack of active rills and gullies not consistent with the post mining land use. Active rills and gullies means rills and gullies in which vegetation is not established,

In order to determine what an active rill and gully is, some criteria to define "Active rills and gullies" must be presented. The Operator suggests that rills where vegetation is not established be a criteria for this establishment. This method does not necessarily demonstrate whether the rill and gully formation is active or not. For instance a vegetated area could become actively erosive following a precipitation event of significant magnitude to disrupt initial vegetation growth. Or a gully may stabilize due to structural controls such as rock and bedrock. The Operator does not indicate what percent of the gully must be vegetated in order to meet the criteria. Additionally, the Operator does not describe what is meant by rills and gullies not consistent with postmining land use. It is suggested the Operator use the methodology presented by Humphrey's (1990) Erosion Condition Classification System or provide more specifics to the proposed "vegetation" criteria. The system used should present a method that includes frequency of measurement, as well as other criteria used to make a stability determination. The Operator should also keep in mind that R645-742.110 requires sediment control measures be designed using the best technology currently available.

2. Clarify the statement regarding erosion on cut slopes and highwalls. Remove the statement regarding comparison to unreclaimed sites.

The Operator proposes the control of erosion on cut slopes and highwalls in previously mined areas to mean that these areas function in a way geomorphically similar to steep slopes and cliffs in the local area. The Division recognizes a certain level of rill and gully formation may occur on retained high walls and cut slopes however, these sites are not comparable to unreclaimed areas. The area must be stabilized using current prudent engineering practices as required by R645-301-752.210. The Operator should clarify that some erosion may occur on highwalls to the extent that the stability of the highwall is not affected. Additionally, minor

erosion of the highwall should not cause destabilization or increase erosion on the regraded slopes below the highwall.

3. The Operator shall indicate that other best technology currently available may be employed if necessary. Include the basis for filling rills and gullies based on criteria identified in Deficiency #1 above.

The Operator states corrective action will consist of repairing/replacing or adding filter fabric fences as necessary, replacing straw bales, regrading of ground surface only as necessary to fill 6 inch gullies caused by erosion, and reseeding and mulching to reestablish vegetation. Although this may be adequate, repeating failure could require alternate action to provide Best Technology Available for the existing situation. The determination of the ability to control rill and gully formation should be based on the criteria developed in the plan. See deficiency 1 above.

Hardscrabble Canyon

1. Make directional corrections on Exhibit 3.3-3 or in text on page 3.3-2. Correct the reference to the no. 4 Fan portal which is in conflict with Exhibit 3.3-1A.

On page 3.3-2 the Operator refers to Drainage contained in the basin surrounding the No. 4 mine fan portal. The fan portal no. appears incorrect according to Exhibit 3.3-1A. The directions appear to be incorrect throughout the text on page 3.3-2, according to the directional arrow indicated on Exhibit 3.3-3.

2. Correct the reference to NPDES design exceedence.

Page 3.3-4 states effluent limitations and NPDES permit limitations will not be exceeded if the discharge is the result of a 10yr-6 hr precipitation event. This should read 10 year-24 hour.

3. Provide reference to the channel discussed on pg. 3.3-2. Include the channel and stilling basin on an appropriate map.

On page 3.3-2 the Operator references a channel that flows over a sandstone ledge and a small stilling basin. The channel is designed for the 10 yr. 24- hr. No reference to the ditch label or stilling basin could be found on the hydrology map or Exhibit 1-1.

4. Provide a map location and design for the berm placed at the inlet to culvert HC-8.

Page 3.3-5 indicates diversion structures are located on Exhibit 3.3. The berm recently placed at the inlet to culvert HC-8 (previously HC-9) is not located on the map.

5. Provide designed riprap protection at all culverts and ditches. Remove the language stating riprap sizing is inadequate.

The Operator states that culverts HCC-2, 4, 6, 7, 9 and 10 and ditches 7, 10, 12, and 16 have inadequate riprap protection as indicated on page 3.3-5.

6. Provide the existing ditch configurations for the Hardscrabble area.

Page 3.3-5 states the minimum ditch size required is presented in the designs. It is not clear whether the Operator proposes to fill ditches in order to meet the configuration of the presented designs or if the Operator presents the existing configuration and provides maximum depth of design flow within the configuration. Either way the Operator should provide the existing design configuration to meet as built configuration requirements.

7. Include the disturbed areas within WS-U17 and WS-U13 in the alternate sediment control discussion. Include a discussion of alternate sediment control measures used, areas of disturbances, and values of runoff from the areas. Provide identifying labels for each area on Exhibit 3.3-3.

Page 3.3-17 ASCA does not describe all areas of alternate sediment control. The area within WSU17 is not identified as an alternate sediment control area on the map. Additionally, the area adjacent to the road across from the #3 fan portal (WS-U13) does not have alternate sediment control measures identified. Alternate control measures should have an identifying label on the exhibit. The ASCA for the bathhouse draining into channel D-5 could not be located.

8. Pond sediment removal should include description of dewatering method and a copy of data analysis submitted to the Division prior to sediment removal.