



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

Michael O. Leavitt
Governor
Kathleen Clarke
Executive Director
Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

November 22, 2000

To: **Internal File**

Thru: Susan M. White, Acting Permit Supervisor *SMW*

From: Paul Baker, Reclamation Biologist *PB*
Joe C. Helfrich, Inspector *JCH*
Wayne W. Western, Reclamation Engineer *WWW*

Re: Phase I Bond Release Inspection, Castle Gate Holding Company, Castle Gate Mine, C/007/004-BR00B

Other Attendees: Susan White and Robert Davidson (DOGM); Johnny Pappas, Vicky Miller, and Johnny Greene (Castle Gate Holding Company)

Date & Time: September 20, 2000, 10:00 AM to 1:00 PM

PURPOSE:

This was a Phase I bond release inspection for the Hardscrabble Canyon area. Backfilling and grading were completed in December 1999. The Goose Island refuse pile area was originally reclaimed in 1984 and given Phase I bond release in 1985, but because of problems with the channel and erosion on the outslope, the operator regraded a portion of this area in 1999.

OBSERVATIONS:

The backfilling and grading and channel construction were previously compared with the mining and reclamation plan with no problems found. The operator reclaimed the channels to higher standards than those found in the regulations or the mining and reclamation plan, so the channels should be very stable. Only evidence of minor flows was observed in portions of the channels. The main channel is considered an intermittent channel because the drainage area is more than 640 acres. The other drainages are ephemeral. These items meet the requirements for Phase I bond release.

The operator tried to cover all coal waste with at least four feet of the best available fill. There is an area on the sandstone ledge near the top of HCRD-6 where the operator tried to backfill as far up as possible against the cut and highwall. In 1999 some cracks appeared in this

fill and it appeared it was not stable. The operator uncovered some of the refuse being stored in this area and moved it to a disposal pit at the base of the cliffs below the ledge. In uncovering the refuse, some refuse was mixed with the fill that is being used for soil. As a result, there is some coal waste on the surface in the area of the upper part of HCRD-6. This could potentially present some problems for revegetation and erosion control. No toxicity problems have been identified in the coal waste, and in most areas there is enough soil that vegetation should become established.

In the area where the scalehouse once stood is an area with less vegetation than surrounding areas. Soil tests did not show problems with salt or sodium contents, but it is possible there are some problems with physical characteristics, particularly the structure. The area is not large enough and the vegetation is not reduced enough that it should cause problems for overall revegetation success. If the problem is truly related to the soil structure, it will probably remediate itself over time.

The operator retained a 75 foot section of stone wall from the old mine site. This stone wall provides historical flavor and blends nicely into the surrounding reclaimed area. In this same area the operator has retained about 55 large cottonwood trees through careful grading. Several mature Gambel oak clumps were retained further up the canyon.

The Best Management Practice (BMP), extreme surface roughening with hay amendment and straw mulch, is very successful in this canyon in controlling erosion, reducing soil compaction, and promoting vegetation establishment. This BMP is the primary sediment control method for the site. Vegetation establishment is noticeably less in areas reclaimed prior to the use of this technique.

In the canyon with the No. 4 Mine, we found one live dyer's woad plant. The operator has been trying for several years to eradicate this noxious weed from the mine site and has almost succeeded.

RECOMMENDATIONS/CONCLUSIONS:

The site meets the requirements for Phase I bond release. Backfilling and grading have been done in accordance with the mining and reclamation plan and the R645 regulations.

There are a few areas where there could be revegetation or erosion control problems, but these are relatively small and are expected to stabilize naturally. The Division inspectors should be aware of these areas, check them periodically, and notify other Division staff of any problems found.

Vegetation on the majority of the site has progressed very well, and the Division considers the probability of reclamation success to be high.