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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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September 13, 2002

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor *pgl*
Daron R. Haddock, Permit Supervisor

FROM: *Ob* Priscilla Burton, Sr. Reclamation Specialist/Soils

RE: Phase II Bond Release Inspections Hardscrabble and Sowbelly Canyons, Castle Gate Holding Company, Castle Gate Mine, C/007/004

OK

Other Attendees:

DOGM Reclamation Specialists: Paul Baker, Wayne Western, Mike Suflita, and Joe Helfrich, and Permit Supervisor, Pam Grubaugh-Littig.
Plateau Mining Corp.: Johnny Pappas
BLM: Steve Falk

Date & Time:

August 22, 2002; 9:30am – 2:00 pm

PURPOSE:

To evaluate site conditions prior to completion of Phase II Bond Release as required by R645-301-880.210.

OBSERVATIONS:

Hardscrabble

Hardscrabble Canyon and the short side canyons were walked. The regrading and gouging performed in 1999 at Goose Island is controlling erosion. The presence of sheet erosion, rills and gullies are very few, located on a gouged slope on the west side of the road between Mine No. 4 and Goose Island. The sediment from the rills is being washed into the roadside ditch, but is not leaving the site. The rills were photographed and can be seen in the images folder for the mine, dated 08222002. This is localized erosion and deposition (on the order of 20 feet), has not resulted in sediment loss from the site.

TECHNICAL FIELD VISIT

September 13, 2002

Most of the site was gouged, and this roughening technique has been very effective in preventing runoff, erosion, and sedimentation. In addition, the two dominant grasses (thickspike wheatgrass, *Elymus lanceolatus*, and western wheatgrass, *Elymus smithii*) and one dominant forb (pacific aster, *Aster chilensis*) are rhizomatous and very effective at controlling erosion (Table 2, Appendix 1).

Two problem areas were noted in the Technical Analysis of the Phase I bond release dated November 29, 2000. The first was the area near the old scale house used for equipment staging and screening soil for riprap. The area was noted as having poor vegetation re-establishment due to limited soil structure (compaction). On August 22, 2002, the Division noted that the area is still limited in vegetation cover, but gouges on the site are retaining all flow on the site and no erosion was noted. The area was photographed.

A second problem area noted during Phase I bond release is the area identified by soil sample HCRD-6. This area covers about 1000 square feet and is elevated on a bench above the canyon floor. The site is very steep with the soil at the angle of repose. There is some vegetation growing on the soils, but the site remains mostly uncovered by vegetation or litter. Despite the lack of cover, there are no rills or gullies on the area. All drainage appears to flow to the low point of the fill at the cliff's edge. Below the cliff, the sediments are captured in gouges.

Even at these problem areas, there is no evidence of pollution of surface and subsurface waters, and it appears very unlikely there will be future occurrence of such pollution.

Sowbelly

The regrading and gouging performed in 1995 is controlling erosion. There were no rills or gullies noted on the site. The site was photographed and can be seen in the images folder for the mine, dated 08222002. Most of the site was gouged or contour furrowed, and these roughening techniques have been very effective in preventing runoff, erosion, and sedimentation. In addition, three of the dominant species in the reclaimed area, western wheatgrass, thickspike wheatgrass, and blueleaf aster (*Aster glaucodes*), are rhizomatous and very effective at controlling erosion.

The reclamation methods have minimized disturbance to the hydrologic balance within the permit and adjacent areas and have prevented material damage outside the permit area. The area can now support the approved post-mining land use.

RECOMMENDATIONS/CONCLUSIONS:

Based upon ground conditions, Phase II Bond release could be approved for both the Sowbelly and Hardscrabble Canyon sites.