



State of Utah

DEPARTMENT OF NATURAL RESOURCES
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September 4, 2002

OK

TO: Internal File

THRU: *PB* Priscilla Burton, Team Lead

FROM: Michael Suflita, Reclamation Specialist *MS*

RE: Phase II Bond Release for Hardscrabble and Sowbelly Canyons, Castle Gate Holding Company, Castle Gate Mine, C/007/004-BR02

SUMMARY:

On May 10, 2002 the Division received an application for Phase II Bond Release for Hardscrabble and Sowbelly Canyons. This is a Hydrologic review of that application. There are no deficiencies.

TECHNICAL ANALYSIS:

RECLAMATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

TECHNICAL MEMO

Analysis:

Groundwater Monitoring

Sowbelly Canyon has no groundwater monitoring points or wells.
Hardscrabble Canyon has no groundwater monitoring points or wells.

Surface Water Monitoring

Sowbelly Canyon has two surface water monitoring points, one above the former disturbed area and one below that area. These points are monitored now and will continue to be monitored until final bond release. There are no wells in Sowbelly Canyon.

Hardscrabble Canyon has two surface water monitoring points, one above the former disturbed area and one below that area. These points are monitored now and will continue to be monitored until final bond release. There are no wells in Hardscrabble Canyon.

Sediment control measures

A field visit was made to Sowbelly Canyon on August 22, 2002. The revegetation has been proceeding well over the last 6 years. Vegetation has grown with considerable diversity. While the plant density varies somewhat over the entire project, all the plants are doing well. They do show some stress from the current dry year. The mounds and depressions are still at about 50 % their original height since the last two years have been drought years. In terms of sediment loss, the reclaimed area is at least as good, or better, than surrounding native areas. Although there is localized erosion and deposition (on the order of 20 feet), overall it's obvious no sediment has been lost from the site. No significant rills or gullies were found.

A field visit was made to Hardscrabble Canyon on August 22, 2002. The reclamation there was implemented in phases over the last 6 years. It's apparent the more recent areas have not developed as much vegetation as the older areas. However, all areas are doing well. The plant diversity is good and the mounds and depressions continue to retain moisture and prevent runoff. In terms of sediment loss, the reclaimed area is at least as good, or better, than surrounding native areas. Although there is localized erosion and deposition (on the order of 20 feet), overall it's obvious no sediment has been lost from the site. No significant rills or gullies were found.

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 postmining land use. The roughening and seeding method has proven successful at many Utah coal mine reclamation projects and is working well at these sites. Thus, this reclamation is using the best technology currently available to prevent

additional contributions of suspended solids to streamflow. There is no evidence of pollution of surface and subsurface waters, and it appears very unlikely there will be future occurrence of such pollution.

Findings:

Plant growth and the roughened ground are sufficient for Phase II Bond Release.

RECOMMENDATIONS:

Phase II Bond Release can be approved for Sowbelly and Hardscrabble Canyons.