

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

March 28, 2005

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor

THRU: Wayne Western, Team Lead

FROM: Steve Fluke, Reclamation Hydrogeologist

RE: Phase I Bond Release – Hardscrabble Substation Area, Castle Gate Holding Co., Castle Gate Mine, C/007/0004, Task ID #2148

SUMMARY:

The Division of Oil, Gas and Mining (the Division) received a Phase I Bond Release Application on September 24, 2004 from Castle Gate Holding Company for the Castle Gate Mine. The application was assigned Task ID #2037. The bond release application is for reclamation of the 0.72-acre former substation area of Hardscrabble Canyon. The amendment to the MRP includes the reclamation as-built specifications for the two drainages in the former substation area (drainage HCRD-12 and the substation swale road crossing). This memo addresses the hydrology section of the application in the Division's second review. The Permittee responded to deficiencies in a submittal dated February 7, 2005. Because of winter conditions, a site inspection was not performed for this review to verify the drainages were constructed as reported.

The hydrologic information is sufficient to meet the requirements of the Coal Mining Rules. The site is recommended for Phase I bond release pending a field visit conducted by the Division to confirm that the Permittee has constructed the drainages as reported in the amendment.

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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.

Analysis:

Hydrologic Reclamation Plan

The reclamation as-built calculations, drawings, and cross-sections for drainages HCRD-12 and the swale road crossing have been added to Appendix 3.3O as part of this submittal for Phase I bond release. The as-built specifications for HCRD-12 vary slightly and the channel is shorter than the approved reclamation design because the upper part of the drainage appeared to be undisturbed. There was no approved reclamation design for the swale road crossing. The as-built calculations and information provided have been reviewed and appear to be accurate and complete. Furthermore, the cover page of the addendum has been signed and stamped by a Registered Professional Engineer. The drainages can handle the approved reclamation design for a 10-year, 6-hour storm event.

As-built calculations and channel certifications for all reclaimed drainages are presented in Appendices 3.3N, Reclamation As-Built Hydrology Calculations, and 3.3O, Reclamation As-Built Channel Certifications, respectively. However, the HCRD-12 and swale road crossing as-built calculations and channel certification have been submitted as a single addendum to Appendix 3.3O. The text has been changed to reflect that this information can be found in Appendix 3.3O.

Findings:

The information provided is sufficient to meet the Hydrologic Reclamation Plan requirements.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

Analysis:

Final Surface Configuration Maps

Exhibit 3.2-23, Hardscrabble Canyon As-Built Topography and Treatment Map, shows the substation area and drainages HCRD-12 and the swale road crossing and does not need updating.

As-built profiles and cross sections for drainages HCRD-12 and the swale road crossing are included in the submitted amendment to Appendix 3.3O. However, as-built profiles and cross sections for all reclamation channels are referenced in the text as being provided in Exhibits 3.3-21A, 3.3-21B, 3.3-21C, and 3.3-22. The text in the MRP has been changed to indicate that the as-built profiles and cross-sections for drainages HCRD-12 and the swale road crossing are found in Appendix 3.3O and not in the Exhibits.

Findings:

The information provided is sufficient to meet the Maps, Plans, and Cross Sections of Reclamation Operations requirements.

CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT

Regulatory Reference: 30 CFR Sec. 784.14; R645-301-730.

Analysis:

Information provided is adequate to update the Cumulative Hydrologic Impact Assessment if necessary.

Findings:

The information provided meets the requirements for bond release.

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RECOMMENDATIONS:

The site is recommended for Phase I bond release pending a field visit conducted by the Division to confirm that the Permittee has constructed the drainages as reported in the amendment.

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