

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

May 3, 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 – Sowbelly Substation Area, Castle Gate Holding Co.,
Castle Gate Mine, C/007/0004, Task ID #2149

SUMMARY:

The Division of Oil, Gas and Mining (the Division) received a Phase I Bond Release Application on September 21, 2004 from Castle Gate Holding Company for the Castle Gate Mine. The bond release application is for reclamation of the 1.84-acre former substation area of Sowbelly Canyon. This memo addresses the hydrology section of the application and is the Division's third review. The Permittee responded to deficiencies in submittals dated February 7 and May 2, 2005. The amendment to the MRP includes the reclamation as-built specifications for the two drainages in the former substation area (SBRD-3 and SBRD-5). The Permittee indicated in the amendment the removal of two culverts (SBRC-2 and SBRC-3) associated with the drainages. In addition, the amendment includes the reclamation as-built specifications for drainages SBRD-6, SBRD-7A, and SBRD-7B, and culvert SBRC-5 that are located outside of the 21.0-acre disturbed area boundary for Sowbelly Canyon. Because of early 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:

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: 30 CFR 777.11; R645-301-120.

Analysis:

Although culverts SBRC-2 and SBRC-3 were eliminated from the construction of drainages SBRD-5 and SBRD-3, respectively, the culverts are still listed in the text and in Table 3.2-5, Reclamation Hydrology Culvert Design Summary. The reason for eliminating the culverts is given in the Addendum to Appendix 3.2G, p. 16, and in Section 3.2-5(4), p. 3.2-17. In order to eliminate any confusion, the Permittee has indicated in Table 3.2-9, Reclamation As-Built Hydrology Culvert Summary, that culverts SBRC-2 and SBRC-3 were removed from the reclamation design by extending the drainages.

Findings:

The information provided meets the requirements for bond release.

MAPS AND PLANS

Regulatory Reference: 30 CFR 777.14; R645-301-140.

Analysis:

Exhibit 3.2-13, Sowbelly Canyon As-Built Topography and Treatment Map, shows the updated drainage configuration for the former substation area including the elimination of culverts SBRC-2 and SBRC-3.

Findings:

The information provided meets the requirements for bond release.

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 SBRD-3 and SBRD-5 are included in Addendum to Appendix 3.2G. The Division reviewed the as-built calculations and information provided and determined that they were accurate and complete. Furthermore, the cover page of the addendum has been signed and stamped by a Registered Professional Engineer.

The text in Section 3.2 of the MRP has been modified to reference the rip-rap and channel certification statements for drainages SBRD-3 and SBRD-5 in Appendix 3.2G. Other rip-rap and channel certification statements are found in Appendices 3.2C and 3.2H, respectively.

Findings:

The information provided meets the requirements for bond release.

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 3.2-13, Sowbelly Canyon As-Built Topography and Treatment Map, shows the updated drainage configuration for the former substation area including the elimination of culverts SBRC-2 and SBRC-3.

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As-built profiles and cross sections for the substation area are included in the submitted Addendum to Appendix 3.2G. However, as-built cross sections and profiles for previously reclaimed channels are referenced in the text as being provided in Exhibits 3.2-15 and 3.2-16, respectively. The text in Section 3.2 of the MRP has been modified to reference the as-built cross sections and profiles for drainages SBRD-3 and SBRD-5 in Appendix 3.2G.

Findings:

The information provided meets the requirements for bond release.

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.

RECOMMENDATIONS:

Deficiencies identified from the past two reviews of the hydrology section of the application have been addressed. 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.