

# TECHNICAL MEMORANDUM

## Utah Coal Regulatory Program

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March 22, 2005

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor

FROM: Wayne H. Western, Team Lead

RE: Phase I Bond Release Hardscrabble Substation, Castle Gate Holding Company, Castle Gate Mine Name, Permit C007/0004 and Task ID #2148

### **SUMMARY:**

On September 14, 2004, the Division received requests for bond release on 0.72-acre substation area of Hardscrabble. The Permittee reclaimed the area in the fall of 2002. The rest of the site received Phase I bond release in 1985 and 2001. The Permittee held off reclaiming the substation because of the potential future use of the facilities

On February 7, 2005, the Division received a response to the deficiencies sent out on December 16, 2004. This memo addresses those responses.

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**TECHNICAL ANALYSIS:**

## RECLAMATION PLAN

### APPROXIMATE ORIGINAL CONTOUR RESTORATION

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

**Analysis:**

The requirements to achieve approximate original contour restoration are a combination of performance standards for backfilling and grading, hydrology, postmining land use and revegetation. The performance standards include:

- Off-site impacts are minimized.
- The final surface configuration closely resembles the general surface configuration of the land before mining.
- The topsoil/growth media are adequate to support the vegetation requirements.
- Erosion is minimized.
- The land is able to support the approved postmining land use.

The intent of the approximate original contour regulations is not to restore a site to the approximate premining elevation. Rather the intention of the regulations is to ensure that the reclaimed site has slope lengths and gradients that are within acceptable limits.

The main criterion that the Division uses to determine if the site meets the AOC requirements is whether the postmining topography, excluding elevation, closely resembles its premining configuration. The Permittee must achieved the following regulatory requirements:

- Eliminate all highwalls (none at this substation site).
- Eliminate all spoil piles (none at this substation site).
- Eliminate all depressions with the exception of small depressions needed to retain moisture, minimize erosion, create and enhance wildlife habitat or assist revegetation.
- All slopes will have a static safety factor of 1.3 or greater and not exceed the angle of repose.
- Minimize erosion and water pollution both on and off site.
- Support the postmining land use.

As-Built Reclamation Topography and Cross-section Location Map is Exhibit 3.3-19. Cross sections are on Exhibits 3.3-20A, B, and C. The Permittee met the minimum requirements for achieving AOC because:

- There are no depressions at the site except for small depressions (pocks). The pocks are part of a standard surface roughening methods used to control erosion and subsequent water pollution.
- The slopes have a static safety factor of 1.3 or greater and the slope angles are less than the angle of repose.
- The reclaimed site is expected to support the postmining land use of grazing and wildlife habitat, because the slope configuration blends with the surrounding area and an approved seed mix (Appendix 3.3S) was applied.

### **Findings:**

The information provided in the bond release package meets the minimum requirements of the approximate original contour requirements.

## **BACKFILLING AND GRADING**

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

### **Analysis:**

#### **General**

The Permittee met the general backfilling and grading requirements, including static safety factor and approximate original contour, see the Approximate Original Contour section of the TA for explanation. See Exhibits 3.3-19 and 3.3-23 for as-built certifications.

The site meets the backfilling and grading requirements because:

- The Permittee reclaimed the area to the approximate original contour requirements. See the Approximate Original Contour section of the TA for details.
- There were no highwalls or spoil piles at the site so those regulations are not relevant.
- There are no depressions at the site except pocks used to control erosion.
- The reclaimed slopes have a safety factor of 1.3 or greater and do not exceed the angle of repose. See Exhibit 3.3-23 for as-built certifications.
- The Permittee reclaimed the site using surface roughening techniques (pocking). Pocking is an effective means to control erosion and water pollution.

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- The reclaimed site will support the postmining land use of grazing and wildlife habitat because the Permittee graded the slope so that it would blend into surrounding area and vegetated the slope with an approved seed mix.

**Previously Mined Areas**

Pre-SMCRA mining disturbed the site. The R645 rules allow the Division to enforce different standards if highwalls or spoil piles are present. Since there are no highwalls or spoil piles associated with the substation area those rules do not apply for that area.

Pre-SMCRA highwalls did exist in the Hardscrabble site and the Division addressed the issue during the general Phase I bond release process.

**Findings:**

The information provided in the bond release package meets the minimum requirements of the backfilling and grading requirements.

**MINE OPENINGS**

Regulatory Reference: 30 CFR Sec. 817.13, 817.14, 817.15; R645-301-513, -301-529, -301-551, -301-631, -301-748, -301-765, -301-748.

**Analysis:**

There are no mine openings at the substation area.

**Findings:**

The information provided in the bond release package meets the minimum requirements of the mine openings requirements.

**ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES**

Regulatory Reference: 30 CFR Sec. 701.5, 784.24, 817.150, 817.151; R645-100-200, -301-513, -301-521, -301-527, -301-534, -301-537, -301-732.

**Analysis:**

**Reclamation**

The approved reclamation plan calls for the retention of the road in Hardscrabble Canyon.

**Findings:**

The information provided in the bond release package meets the minimum requirements of the road systems and other transportation facilities 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:**

**Affected Area Boundary Maps**

There was no change to the affected area boundary.

**Bonded Area Map**

There was no change to the bonded area.

**Reclamation Backfilling And Grading Maps**

The Permittee did not include any backfilling and grading maps with the bond release package. The Division approved the backfilling and grading maps for the earthwork completed at the substation and other parts of Hardscrabble Canyon into the MRP on May 11, 2000. See Exhibit 3.3-19 and Exhibits 3.3-20A-C in Volume III of the MRP.

The backfilling and grading maps are adequate to show that the Permittee meet the minimum backfilling and grading regulations including the approximate original contour requirements.

**Reclamation Facilities Maps**

There are no reclamation facilities associated with the substation area.

**Final Surface Configuration Maps**

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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.

### **Reclamation Monitoring And Sampling Location Maps**

Other than the road shown on Exhibit 3.3-19 in the MRP, there are no surface or subsurface manmade features at the substation site.

### **Certification Requirements.**

All appropriate maps were certified.

The information provided in the bond release package meets the minimum requirements of the maps, plan and cross section of reclamation requirements.

### **Findings:**

The information presented in the Maps, Plans and Cross Section of Reclamation Operations is adequate to meet the minimum requirements of the R645 Rules

## **BONDING AND INSURANCE REQUIREMENTS**

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

### **Analysis:**

#### **General**

The Permittee address the general procedures for bond release as follows:

- The Permittee described the area for which Phase I bond release is being sought as 0.72 acres in SE1/4SW1/4 of Section 3, Township 13 South, Range 9 East, SLB&M, Utah. The substation area is shown on Exhibit 3.3-23 in the MRP, which was incorporated January 23, 2003.
- Exhibit 3.3-23 shows the Phase I bond release area and was incorporated into the MRP on January 23, 2003. The map shows 1) all the disturbed areas in Hardscrabble Canyon, 2) the dates when reclamation occurred, 3) the reclamation status of each area within the Hardscrabble area, 4) dates when each area received phased bond release and the acreage, and the area where phased bond release is sought.
- The Permittee showed when the work reclamation work was done.
- In the bond release package, the Permittee included a brief history of the mining and reclamation activities.

- Exhibit 3.3-23 in the MRP, which shows when the seeding was done, was incorporated into the MRP on January 23, 2003.
- There are no ponds within the substation area; sediment control was done with surface roughening techniques, such as pocking.
- Table 3.1-2 shows the amount of bond release being sought.
- Table 3.1-2 shows the sites within the Castle Gate Mine, the disturbed acres and the bond amount.

### **Determination of Bond Amount**

Current bond for Hardscrabble is \$318,100 in 2004 dollars (Section 3.1, Table 3.1-2). The Permittee requested a bond release of \$83,100 for the reclamation work done at the Hardscrabble substation. After bond release, the bond would be \$235,000 in 2004 dollars.

R645-301-830.300 requires that the Division escalate the bond. In 2004, the Division escalated the bond by 2.59%. The Division determined that the bond escalated to 2009 dollars would be \$267,000. Therefore, the Division can only grant \$32,000 in bond release.

### **Findings:**

The information provided in the bond release package meets the minimum requirements of the bonding and insurance requirements.

### **RECOMMENDATIONS:**

The Division should proceed with Phase I bond release.