



## State of Utah

### Department of Natural Resources

MICHAEL R. STYLER  
*Executive Director*

### Division of Oil, Gas & Mining

JOHN R. BAZA  
*Division Director*

JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

May 10, 2005

Dennis Ware, Controller  
Castle Gate Holding Company  
P.O. Box 30  
Helper, Utah 84526-0030

Subject: Phase I Bond Release – Sowbelly Substation Area, Castle Gate Holding Company, Castle Gate Mine, C/007/0004, Task ID #2149, Outgoing File

Dear Mr. Ware:

The above-referenced amendment has been reviewed. The Division finds that the information in the text is adequate to meet the minimum requirements of the regulations. Prior to bond release you will have to give the Division proof of publication of the public notice, after the public notice period there will be a 30 public comment period. If no comments are received the Division will schedule a bond release inspection. If public comments are received then the Division must address those comments before the bond release inspection.

Please submit five clean copies by June 6, 2005. Once we receive these copies, a stamped incorporated copy of the approved plans will be returned to you for insertion into your copy of the Mining and Reclamation Plan. A copy of our Technical Analysis is enclosed.

The bond release inspection will be scheduled soon. If you have any questions, please call me at (801) 538-5268 or Wayne Western at (801) 538-5263.

Sincerely,

Pamela Grubaugh-Littig  
Permit Supervisor

an  
Enclosure  
cc: Price Field Office  
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# State of Utah



## Utah Oil Gas and Mining

### Coal Regulatory Program

Castle Gate Mine  
Phase I Bond Release Sowbelly Substation Area  
C/007/0004, Task #2149  
Technical Analysis  
May 10, 2005



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## TECHNICAL ANALYSIS DESCRIPTION

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# TECHNICAL ANALYSIS DESCRIPTION

The Division ensures that coal mining and reclamation operations in the State of Utah are consistent with the Coal Mining Reclamation Act of 1979 (Utah Code Annotated 40-10) and the Surface Mining Control and Reclamation Act of 1977 (Public Law 95-87). The Utah R645 Coal Mining Rules are the procedures to implement the Act. The Division reviews each permit or application for permit change, renewal, transfer, assignment, or sale of permit right for conformance to the R645-Coal Mining Rules. The Applicant/Permittee must comply with all the minimum regulatory requirements as established by the R645 Coal Mining Rules.

The regulatory requirements for obtaining a Utah Coal Mining Permit are included in the section headings of the Technical Analysis (TA) for reference. A complete and current copy of the coal rules can be found at <http://ogm.utah.gov>

The Division writes a TA as part of the review process. The TA is organized into section headings following the organization of the R645-Coal Mining Rules. The Division analyzes each section and writes findings to indicate whether the application complies with the requirements of that section of the R645-Coal Mining Rules.

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Task ID #2149  
May 10, 2005

**TECHNICAL ANALYSIS DESCRIPTION**

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**RECLAMATION PLAN**

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## **RECLAMATION PLAN**

Phase II bond release for all areas at the Sowbelly site except the substation area were approved on February 21, 2003. On September 14, 2004, the Division received requests for Phase I bond release for the 1.84-acre substation site. The Permittee reclaimed the Sowbelly substation site in the fall of 2002. Current bond for Sowbelly (\$233,000) will be reduced by \$85,000 to \$148,000 with this approval (Table 3.1-2).

The application contains a revised Table 3.1-2 Summary of Bonding and Reclamation Costs, reclamation channel designs (Appendix 3.2.G), a prototype for public notice and letters to interested parties (Appendix 3.2K), and a seed list for the site (Appendix 1 of the bond release application). Reclamation techniques for the substation are described as Phase IV in MRP section 3.2-5(1), 3.2-5(4) and Table 3.2-1. The As-Built Topography and Treatment Map is Exhibit 3.2-13.

The Utah rule R645-301-880.310 allows for Phase I bond release after the completion of backfilling and regrading and drainage control of the bonded area in accordance with the approved plan. The Bond Release Directive Tech-006 (dated September 5, 2000) and Utah Regulations R645-301-880.100 through 880.310 guided this review of the bond release application.

## **GENERAL REQUIREMENTS**

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

### **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 Permittee gave the reason for eliminating the culverts in the addendum to Appendix 3.2G, and in Section 3.2-5(4). Table 3.2-9 indicates that culverts SBRC-2 and SBRC-3 were removed during reclamation and construction of reclamation channels SBRD-5 and SBRD-3, respectively.

Section 3.2-5(3), Section 3.2-6, and Exhibit. 3.2-13 state the date of substation reclamation as 2002.

Map 3.2-13 indicates the sediment control measures used in Sowbelly Canyon. Mulch was incorporated with the gouging technique at all gouged locations.

**Findings:**

The information provided meets the minimum requirements of the reclamation regulations.

**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:

- Minimization off-site impacts.
- The final surface configuration closely resembles the general surface configuration of the land prior to 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 Permittee achieved AOC is whether the postmining topography, excluding elevation, closely resembles its premining configuration. Regulatory requirements that must be achieved include:

- Eliminate all highwalls (none at the substation).
- Eliminate all spoil piles (none at the substation).
- Eliminate all depressions with the exception of small depressions needed to retain moisture, minimize erosion, create and enhance wildlife habitat or assist revegetation.

## RECLAMATION PLAN

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- Minimize erosion and water pollution both on and off site.
- Support the postmining land use.

Exhibit 3.2-13 provides reclamation topography. 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 water pollution.
- The slopes were reclaimed according to the approved reclamation plan see Exhibit 3.3-4A. The plan minimizes erosion and water pollution.
- The Division expects that the reclaimed site will support the postmining land use of grazing and wildlife habitat because the slopes blend with the surrounding area and the area was seeded (Appendix 1 of the bond release application).

### **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 meet the general backfilling and grading requirements because:

- The area was reclaimed to the approximate original contour requirements. See the Approximate Original Contour section of the TA for details.
- 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.

### **Previously Mined Areas**

The R645 Rules allow the Division to enforce different standards to pre-SMCRA disturbed sites 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 Sowbelly site and the Division addressed those issues 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.

### **TOPSOIL AND SUBSOIL**

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

#### **Analysis:**

##### **Redistribution**

The Permittee did not apply topsoil at the site.

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## RECLAMATION PLAN

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### **Findings:**

The information provided meets the requirements for bond release.

## **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:**

#### **Retention**

The approved reclamation plan calls for the retention of the road in Hardscrabble Canyon including the access to the substation.

### **Findings:**

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

## **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 an addendum to Appendix 3.2G. 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 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.

**STABILIZATION OF SURFACE AREAS**

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

**Analysis:**

Erosion control for the substation was accomplished by gouging 2 ton/acre noxious weed-free hay into the surface soil; seeding with the mix described in Appendix 1 of the Phase I bond release for the Sowbelly Substation Area; and mulching with 1.5 ton/acre noxious weed-free straw and 500 lbs/ac of hydromulch and tackifier (Section 3.2-5(1)).

**Findings:**

The information provided in the bond release application meets the bond release regulations.

**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 included As-Built Reclamation Topography and Treatment Map, Exhibit 3.2-13 with the bond release package.

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## RECLAMATION PLAN

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### **Reclamation Facilities Maps**

There are no reclamation facilities associated with the substation area.

### **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.

As-built profiles and cross sections are included in the submitted amendment to Appendix 3.3O. However, as-built cross sections and profiles for all reclamation channels are referenced in the text as being provided in Exhibits 3.2-15 and 3.2-16. The as-built cross sections and profiles for drainages SBRD-3 and SBRD-5 should also be provided in Exhibits 3.2-15 and 3.2-16, respectively.

### **Reclamation Surface And Subsurface Manmade Features 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.

### **Findings:**

The information provided meets the requirements for bond release.

## **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:

## RECLAMATION PLAN

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- 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.
- The Permittee provided as built drawing Exhibit 3.2-13 that shows acreage of disturbed areas in Sowbelly Canyon, and reclamation status of each area
- Exhibit 3.2-13 provides dates of completion for the reclamation work and status of bond release.
- The Permittee included a brief history of the mining and reclamation activities.
- There were no ponds within the substation area. The Permittee used surface roughening techniques, such as pocking for sediment control.
- Table 3.1-2 shows the sites within the Castle Gate Mine, the disturbed acres, the bond held, and the bond release requested.

### **Determination of Bond Amount**

Current bond for Sowbelly is \$233,000 in 2004 dollars. The Permittee requested that the bond amount be reduce \$85,000 for work done at the Sowbelly Substation. After bond release, the bond amount would be \$148,000 in 2004 dollars.

R645-301-830.300 requires that the Division escalate the bond amount. In 2004, the Division escalated the bond by 2.59%. The Division determined that the bond escalated to 2009 dollars would be \$168,000. Therefore, the Division can only grant \$65,000 in bond release.

### **Findings:**

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