

# 4153  
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# TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

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September 6, 2012

TO: Internal File

THRU: April Abate, Lead *AAA*  
*10-8-2012*

FROM: Ingrid Campbell, Environmental Scientist III *IC*

RE: Phase III Bond Release for Hardscrabble and Sowbelly, Castle Gate Holding Company, Castle Gate Mine, Permit C/007/0004, Task ID #4153

**SUMMARY:**

On August 2, 2012, the Division received an application for phase III bond release in Hardscrabble and Sowbelly Canyons. Reclamation in Hardscrabble Canyon (excluding the substation) was completed in 1999. The area received phase I bond release in 2000 and phase II in 2003. Year 9 and 10 vegetation monitoring of the area was completed in 2008 and 2009. Sowbelly reclamation work was completed in 1995 (excluding the substation). The Division granted phase I bond release in 1997 and phase II in 2003. Year 9 and 10 vegetation monitoring was conducted in 2004 and 2005. In 2010 and 2011, the Permittee removed all subsidence monitoring monuments.

This bond release application proposes to release 57.44 acres from the permit area. 5.56 acres would remain in the permit area for future bond release (this includes the two substation areas and adit #1).

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**TECHNICAL ANALYSIS:**

**RECLAMATION PLAN**

**POSTMINING LAND USES**

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

**Analysis:**

The postmining land uses are identified in the Mining and Reclamation Plan, Volume IV, Chapter 4. They are identified as a single or combination of the following: grazing, wildlife habitat, recreational uses, hunting, BLM access for land management, mining and possible limited timber production in mid-evaluation areas. Postmining land use is also mentioned in Volume V, Chapter 9 page 9-12.

The postmining land use was achieved by developing seed mixes that benefit wildlife and other postmining land uses and revegetation success standards on the basis of tree and shrub stocking and vegetative ground cover.

The vegetation success standards were met and exceeded according to the Mt. Nebo Scientific reports found in the bond release application.

**Findings:**

The information in the bond release application is considered adequate to meet the postmining land use regulations.

**REVEGETATION**

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

**Analysis:**

### **Revegetation: Standards For Success**

The vegetation in Sowbelly Canyon was monitored for year nine vegetation parameters in 2004 and year ten in 2005. In 1995 the reference area was selected by DOGM and representatives from Plateau Mining Corporation. The reference area is a small portion of the AML areas down canyon from the permit area. Total living cover, species frequency and composition, and diversity were measured and compared to the reference area. Sowbelly Canyon is unique in that it was disturbed and mined prior to the enactment of SMCRA. Therefore, modern mining practices including the baseline inventory of vegetation as well as the removal and storage of topsoil did not occur. Therefore, representatives from DOGM, Mt. Nebo Scientific and Plateau Mining Corporation developed alternate success standards in accordance with R645-301-356.250 which states, "For areas previously disturbed by mining that were not reclaimed to the requirements of R645-200 through R645-203 and R645-301 through R645-302 and that are remined or otherwise redisturbed by coal mining and reclamation operations, at a minimum the vegetative ground cover will be not less than the ground cover existing before redisturbance and will be adequate to control erosion." Therefore, no woody species density or vegetative productivity parameters were measured. The total living cover of the reclaimed areas within sowbelly canyon met or exceeded the cover of the reference area. The plant species included in the cover measurements were comprised of desirable, non-weedy species.

The vegetation in Hardscrabble Canyon was monitored for year nine vegetation parameters in 2008 and year ten in 2009. Again, the reference area was selected by DOGM and representatives from Plateau Mining Corporation and is a small portion of the AML areas down canyon from the permit area. Also in Hardscrabble Canyon, because this area was disturbed for mining prior to SMCRA regulations, woody species density and annual biomass production were not required parameters for final bond release. The total living cover of the reclaimed area within Hardscrabble Canyon met or exceeded the cover in the reference area and the cover was comprised of desirable, non-weedy species.

A site visit to Sowbelly and Hardscrabble Canyons was conducted by the Division on August 29, 2012. The vegetation was well established and controlling erosion. Little to no weedy species were present and were not interfering with desirable vegetation. No noxious weeds were identified.

#### Extended Responsibility period

Reclamation work was completed in 1995 for Sowbelly Canyon. The extended responsibility period, according to R645-357.220 began in 1995 and ended in 2005 with the year ten vegetation monitoring.

Reclamation work was completed in 1999 for Hardscrabble Canyon. The extended responsibility period, according to R645-357.220 began in 1999 and ended in 2009 with the year ten vegetation monitoring.

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**Findings:**

The information provided in the bond release application is considered adequate to meet the minimum regulations for the revegetation regulations.

**RECOMMENDATIONS:**

This application is recommended for approval.

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