

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

September 28, 2012

TO: Internal File

THRU: Steve Christensen, Team Lead. *SCC*

FROM: Priscilla Burton, Environmental Scientist III/Soils. *PWB km 825*

RE: East Mountain Emergency Drill Holes – Phase I Bond Release, Genwal Resources, Inc., Crandall Canyon Mine, C/015/0032, Task ID #4193

SUMMARY:

On September 14, 2012, the Permittee requested Phase I bond release on 9.5 acres of land on East Mountain (T. 15 S., R. 6 E. portions within Section 35 and in T 16 S. R 6 E. portions of Section 2). The application is provided as Attachment 18 to be added to Appendix 5-22A of the MRP. The area includes land that was backfilled and seeded outlined on Map #1 and road shown on SITLA and USFS land on Map #2. Approval of Phase I bond release requires a site visit to in accordance with R645-301-880.100.

The following deficiencies were noted and should be addressed such that the notarized statement will indicate compliance with requirements of the approved reclamation plan, per **R645-301-880.130:**

- 1) As built mapping should show the locations of excelsior log installation at the slide area on Map #1.
- 2) The application should either include or reference Plate 1-1 of the MRP to show the location of the disturbance within Township, Range and Section or label the section lines on Map #2 with this information.
- 3) The Figure on Page 2 should accurately show the reclaimed temporary road segment all the way to the existing USFS road in Section 11.
- 4) The application requests bond release for 9.5 acres disturbed within Sections 35 and Section 2. The application should explain why this bond release acreage is less than the 11.98

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acres attributed to the mine rescue drillholes and rescue road described on page 1-10 of Chapter 1 in the MRP.

5) The multi-agency site visit to evaluate the SITLA road was actually completed in the fall 2010, rather than 2009 as described in the application on pages 8 and 9. Inspection Report #2093 describes this site visit.

6) The USFS road was first reclaimed in 2011, not 2010 as described on page 10 of the application.

7) Were the As- built surveys, maps or geotechnical analysis for the SITLA road completed as described on page 12 of Appendix 5-22(a)?

TECHNICAL ANALYSIS:

The site is located in R. 6 E., T 15 S. Sec. 35 and T. 16 S. Sections 11 and 2, within the Manti LaSal forest on USFS surface (Sec 35 and 11) and SITLA owned surface (Sec. 2). Refer to MRP Plate 1-1 which shows the disturbance location, Township and Range and lease location.

East Mountain ridge is over 10,000 ft. along its seven mile length. It divides the watershed between Cottonwood Creek and Huntington Creek. The Crandall Mine is situated on the east side of the East Mountain ridge on Crandall Creek, a perennial creek with headwaters on the east side of East Mountain. The temporary road access to the reclaimed drill pads left National Forest System Road #50244 and followed the East Mountain ridge for 2,573 ft across USFS managed land and across 11,044 ft of SITLA managed land. The access road then drops off the ridge to the west. Six reclaimed drill pads (7 drilling locations) are on the west side of East Mountain. In addition Map #2 shows two reclaimed spurs on the ridge access road. One was used for water truck parking and one was the location of shot holes made to attempt communication with the miners.

The east side of East Mountain ridge is open meadow. The west side of the East Mountain ridge is pine forest and low brush. Slopes on either side of the ridge are steep. In the reclaimed drill pad locations, slopes average 40% (USGS 7.5 min Rilda Quad map), but the reclaimed slopes were noted to be 63% and 350 ft long by a SITLA representative familiar with the site (Insp. Rpt #2093).

TOPSOIL AND SUBSOIL

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

Analysis:

Redistribution

The requirements for Phase I bond release are outlined in R645-301-880.310.

The disturbed acreage is reported to be 11.98 acres on page 1-10 of Chapter 1 of the MRP. No topsoil was salvaged during the emergency.

In 2007, the fill was replaced at drill locations #3, #4, #5, and #7, using trackhoes and dozers and compacting the soil in 18 -24 inch lifts. The re-graded soil was seeded with the final mix (Attachment 7 of App. 5-22(a)) and mulched with wood straw [Attach 8 of App. 5-22(a)]. Pads #3, #4, #5, #7 and a re-routed segment of the SITLA road were reclaimed in 2007 immediately after disturbance (App 5-22(a)(1)). Inspection reports #1427, #1432, #1441, #1454, #1459 follow the progress of the 2007 work.

In 2008, pads #2 and #6 and the access road off the west side of the East Mountain ridge were reclaimed using track hoes, dozer and rock trucks (as described on page 7 of the application). A French drain was retained across the reclaimed access road in a location of a seep halfway between reclaimed drill pad #6 and #4. Excelsior logs were placed across the slope in a topographically low point across the access road just east of pad#6. Excelsior logs were maintained along the temporary access road across East Mountain ridge. Inspection reports #1716, #1771, #1757, #1733, #1727 follow the progress of the 2008 work. The Permittee did not provide as built surveys, maps or geotechnical analysis for the SITLA road as described in Appendix 5-22(a)

In 2010, a site visit with all agencies present (USFS, SITLA, DOGM) confirmed that the reclamation of the drill sites was stable and the temporary access road could now be reclaimed (Inspection Report #2093). Sediment controls were maintained along the access road, but reclamation work was not completed in 2010. Inspection reports #2070, #2093, #2175, #2405 follow the site in 2010.

In the Spring 2011, a slide below pad #6, across the reclaimed access road was observed. Excelsior logs were placed at the head of the slide in the fall of 2011 and the temporary access road along the East Mountain ridge was reclaimed and French drains were removed all the way back to its intersection with Forest Rd #244 in the fall of 2011. (As built mapping described on page 12 of App 5-22(a) was not completed.) The reclaimed roadway was pocked and seeded, but there was no time to spread wood straw before snowfall made the site inaccessible. Inspection reports #2842, #2883, #2905 follow the progress of the 2011 work.

In August 2012, the slide area below pad #6 was further stabilized (as described on page 10 of the application), thistle was manually controlled on the reclaimed slope of Pad #2 and Pad #6, subsidence cracks (first noted in 2002) were filled on the east mountain ridge, the hiking trail was completed across the ridge to connect with the existing trail #085 on either end of the disturbance, the reaffected portion of the road was pocked and reseeded, and wood straw was

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scattered. The access gate was replaced with boulders and the parking area was roughened and reseeded. Inspection reports #3148, #3169, #3194, #3210, #3224, and #3227 follow the progress of the 2012 work.

Findings:

The following deficiencies were noted and should be addressed such that the notarized statement will indicate compliance with requirements of the approved reclamation plan, per **R645-301-880.130**:

- 1) As built mapping should show the locations of excelsior log installation at the slide area on Map #1.
- 2) The application should either include or reference Plate 1-1 of the MRP to show the location of the disturbance within Township, Range and Section or label the section lines on Map #2 with this information.
- 3) The Figure on Page 2 should accurately show the reclaimed temporary road segment all the way to the existing USFS road in Section 11.
- 4) The application requests bond release for 9.5 acres disturbed within Sections 35 and Section 2. The application should explain why this bond release acreage is less than the 11.98 acres attributed to the mine rescue drillholes and rescue road described on page 1-10 of Chapter 1 in the MRP.
- 5) The multi-agency site visit to evaluate the SITLA road was actually completed in the fall 2010, rather than 2009 as described in the application on pages 8 and 9. Inspection Report #2093 describes this site visit.
- 6) The USFS road was first reclaimed in 2011, not 2010 as described on page 10 of the application.
- 7) Were the As- built surveys, maps or geotechnical analysis for the SITLA road completed as described on page 12 of Appendix 5-22(a)?

STABILIZATION OF SURFACE AREAS

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

Analysis:

Reclamation treatments included surface roughening by gouging and a surface application of wood straw. Seed and wood straw were hand distributed.

Findings:

The Permittee has adequately applied best management practices to control erosion and prevent sediments from leaving the site.

RECOMMENDATIONS:

A few details require clarification in the application prior to approval. In addition, a site visit with the surface managing agencies is required in accordance with R645-301-880.210.