

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

January 31, 2008

TO: Internal File

THRU: Daron Haddock, Permit Supervisor *DH*
Priscilla Burton, Team Lead *Priscilla*

FROM: Wayne H. Western, Environmental Scientist III *WHW*

RE: East Mountain Emergency Access Road Reclamation, Task ID #2893, Genwal Resources, Inc., Crandall Canyon Mine, C/015/0032

SUMMARY:

On December 21, 2007, the Division received an application from Genwall Resources, which addressed the reclamation of the emergency drill pads constructed in an effort to rescue six trapped miners in the Crandall Canyon Mine. Appendix 5-22A is the addendum to the reclamation plan that has been submitted for review. This memo will address the engineering and bond issues.

R645-301-553.110, The Permittee must give the Division a description of the cut slope remnants that will after reclamation. At a minimum, the Permittee must include the height, length and approximate angle of each cut slope remnant. In addition, the Permittee must give a narrative about the stability of each cutslope which should include a description of how much of the cut slope remnant is in bedrock and how much is in unconsolidated material.

R645-301-553.130, The Permittee either show that the reclaimed sites have a static safety factor of 1.3 or show that due to site conditions that a safety factor of 1.3 would be impossible to obtain. If the Permittee cannot show that the reclaimed slopes will have a static safety factor of 1.3 then the Permittee must show that the slopes will be constructed to maximize stability. In addition, the Permittee must show that the reclaimed slope angles do not exceed the angle of repose.

R645-301-543.310 and R645-301-543.320, The Permittee must give the Division certified maps and cross-sections of the reclaimed areas. If possible, the Permittee will include predisturbance maps and cross sections. The maps must show the length of all cutslope remnants that the Permittee will leave after final reclamation. In additional, the Permittee will provide cross sections that they can

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use to show that the reclaimed areas will be stable. The Permittee must also show where the seeps and springs are located and the drains.

R645-301-521.162 and R645-301-521.163, The Permittee must give the Division a map that shows the work done on East Mountain in relationship to the permit area.

R645-301-830.200, The Permittee will provide the Division with an additional \$448,000 bond. In addition, the Permittee must include a copy of the Division's reclamation cost estimate in the MRP.

R645-301-551, The Permittee must demonstrate that all drill holes have been plugged so that no significant amount of surface water will be lost and that no significant cross aquifer contamination will occur.

R645-301-542.600, The Permittee must show what roads they have a legal obligation to reclaim and what roads that they have a legal obligation to leave.

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 definitions of AOC are couched in terms of backfilling and grading in order to achieve certain results. The Permittee must show that the backfilling and grading plan will

- Minimize off-site effects.
- Achieve a final surface configuration which closely resembles the general surface configuration of the land prior to mining.
- Provide a subsurface foundation for a vegetative cover capable of stabilizing the surface from erosion.
- Support the approved postmining land use.

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The Division's main concerns with off-site impacts are water quality and slope stability. The Permittee is using and proposes to use sediment control plans that will reduce the amount of sediment leaving the site. The Division will address slope stability issues in the backfilling and grading section of the TA.

The Division realizes that some cut slopes will have remain because the Permittee cannot place the cut material back and still achieve a safety factor of 1.3. The Division needs the Permittee to describe the height and length of the cut slopes.

The Division considers that the Permittee has met the vegetation requirements for AOC if they met the general vegetation requirements. See the vegetation section of the TA for details.

The Division considers that the Permittee has met the postmining land use requirements when those general requirements have been met. Because there is concern over leaving the roads in place and the need for a change in the postmining land use by other State and federal agencies, the Division will not make a ruling of the postmining land use requirements with regard to AOC at this time.

Findings:

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Before approval, the Permittee must provide the following in accordance with:

R645-301-553.110, The Permittee must give the Division a description of the cut slope remnants that will after reclamation. At a minimum, the Permittee must include the height, length and approximate angle of each cut slope remnant. In addition, the Permittee must give a narrative about the stability of each cutslope which should include a description of how much of the cut slope remnant is in bedrock and how much is in unconsolidated material.

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

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The Permittee did not meet the minimum requirements of this section. The general requirements for backfilling and grading are:

- Achieve the approximate original contour. See the AOC section of the TA for compliance.
- Eliminate all highwalls, spoil piles and depressions. There are no highwalls, spoil piles or depressions at the site.
- Achieve a postmining slope that does not exceed either the angle-of-repose or such lesser slope as necessary to achieve a minimum long-term static safety factor of 1.3 and prevent slides. The Permittee must address these issues. The Division acknowledges natural conditions may prevent the Permittee from constructing slopes that meet the 1.3 safety factor. If the Permittee cannot meet the 1.3 safety factor then they should state why the site would be stable.
- Minimize erosion and water pollution both on and off the site. The Permittee must describe how they will minimize erosion and water pollution.
- Support the approved land use.

Findings:

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Before approval, the Permittee must provide the following in accordance with:

R645-301-553.130, The Permittee either show that the reclaimed sites have a static safety factor of 1.3 or show that due to site conditions that a safety factor of 1.3 would be impossible to obtain. If the Permittee cannot show that the reclaimed slopes will have a static safety factor of 1.3 then the Permittee must show that the slopes will be constructed to maximize stability. In addition, the Permittee must show that the reclaimed slope angles do not exceed the angle of repose.

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:

The Permittee did not meet the minimum requirements of this section. The Permittee needs to show that they have meet all of the requirements to keep acid or other toxic drainage from entering ground or surface waters.

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The Division is specifically concerned because the Permittee was not able to completely plug all of the drill holes. The USFS and the Division are concerned that surface water could enter the drill holes or there is the potential for cross aquifer contamination. The Division is working with the USFS to determine if the drill hole plugging plan is adequate.

Findings:

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Before approval, the Permittee must provide the following in accordance with:

R645-301-551, The Permittee must demonstrate that all drill holes have been plugged so that no significant amount of surface water will be lost and that no significant cross aquifer contamination will occur.

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 Permittee has not met the minimum requirements of this section of the regulations. The status of the roads (portions on SITLA and USFS lands) has not been determined as of January 31, 2008. The USFS wants all the roads to be reclaimed and SITLA wants the roads to be left.

Retention

The Permittee has not met the minimum requirements of this section. The Permittee has not shown what parts of the roads can be reclaimed.

Findings:

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Before approval, the Permittee must provide the following in accordance with:

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R645-301-542.600, The Permittee must show what roads they have a legal obligation to reclaim and what roads that they have a legal obligation to leave.

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

The Permittee must include a map that shows the permit area in relationship to the work done on East Mountain.

Bonded Area Map

Because the work on East Mountain was not approved before hand, the Division did not approve the disturbed or bonded area. The Permittee must include a map that shows the permit boundary in relation to the work on East Mountain.

Reclamation Backfilling And Grading Maps

The Permittee did not meet the requirements of this section. The Permittee must include certified cross sections of typical reclaimed areas. The Division needs this information to determine the stability of the reclaimed areas.

Reclamation Facilities Maps

No reclamation facilities are scheduled to be left in place.

Final Surface Configuration Maps

The Permittee must give the Division certified maps and cross-sections of the reclaimed areas. If possible, the Permittee will include predisturbance maps and cross sections. The maps must show the length of all cutslope remnants that the Permittee will leave after final reclamation. In addition, the Permittee will provide cross sections that they can use to show that the reclaimed areas will be stable. The Permittee must also show where the seeps and springs are located and the drains.

Certification Requirements.

The Permittee must have the reclamation maps and cross sections certified by a registered professional engineer.

Findings:

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Before approval, the Permittee must provide the following in accordance with:

R645-301-543.310 and R645-301-543.320, The Permittee must give the Division certified maps and cross-sections of the reclaimed areas. If possible, the Permittee will include predisturbance maps and cross sections. The maps must show the length of all cutslope remnants that the Permittee will leave after final reclamation. In addition, the Permittee will provide cross sections that they can use to show that the reclaimed areas will be stable. The Permittee must also show where the seeps and springs are located and the drains.

R645-301-521.162 and R645-301-521.163, The Permittee must give the Division a map that shows the work done on East Mountain in relationship to the permit area.

BONDING AND INSURANCE REQUIREMENTS

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

Analysis:

General

In the cover letter, the Permittee states that SITLA would be willing to allow the Permittee to use the existing performance coal lease performance bond for the reclamation bond on the SITLA surface land. The Permittee also stated that the USFS would allow the Permittee to use an existing bond to cover the reclamation work.

R645-301-820.100 requires that the bond be payable to the Division. Therefore, the Division cannot accept the SITLA and USFS bonds as presently constituted.

Form of Bond

As stated in the general section of the Bonding and Insurance Requirements of the TA, the Division cannot accept the SITLA or USFS bonds as presently constituted.

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Determination of Bond Amount

The Permittee met the minimum requirements of the regulations. The Permittee provided the Division with enough information so that the Division could determine the reclamation cost estimate on the East Mountain Project.

In addition, the Permittee must also include the Division's reclamation cost estimate in the MRP.

Findings:

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Before approval, the Permittee must provide the following in accordance with:

R645-301-830.200, The Permittee will provide the Division with an additional \$448,000 bond. In addition, the Permittee must include a copy of the Division's reclamation cost estimate in the MRP.

RECOMMENDATIONS:

The Division should deny the amendment until all of the above mentioned deficiencies have been addressed.