



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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TO: Internal File

THRU: Peter H. Hess, Senior Reclamation Specialist, Engineer, Team Lead *PHH [signature]*

FROM: Susan M. White, Senior Reclamation Specialist, Biologist *[signature]*

RE: Response to Division Order DO00A, West Ridge Resources, Inc., West Ridge Mine, C/007/041-DO00A-5

SUMMARY:

The Division issued a Division Order to West Ridge Resources, Inc to submit as-built drawings and a detailed back filling and grading plan. The construction of the mine site varied substantially from the approved construction design. After several submittals the Permittee now proposes to reclaim the portal highwall to a 40° slope. This memo reviews information submitted January 15, 2002.

TECHNICAL ANALYSIS:

RECLAMATION PLAN

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:

OK

TECHNICAL MEMO

General requirements

The permittee proposes to reclaim the highwall area to a 40° slope angle. The undisturbed slope above the highwall has a 32° slope angle. The Permittee plans to:

- Compact the slope to a 95 percent compaction standard. Near the slope face the soil will be hand compacted to the required standard and use a temporary form against the outside edge of the slope to ensure compaction.
- If desired, the slope can be constructed with a somewhat irregular surface to promote revegetation, but irregularities cannot extend for more than a few vertical feet.
- If desired boulders will be incorporated into the fill and rocks less than 6" diameter scattered on the surface.
- Biosol fertilizer will be applied at the rate of 1500 pounds per acre.
- The slope will be hydroseeded with the seed mixture shown in Table 5.
- The surface mulched with an unspecified rate of a bonded fiber matrix material.
- Containerized woody plants will be planted at the rate of 2500 plants per acre or one plant every 4.27 foot.
- Diverter logs will be used, if needed for erosion control.

The information presented does not detail how the soil surface will be loosened to a four-foot depth to provide for proper root growth. The Division's experience has shown that steep slopes require extreme roughening to provide sites for seed germination and growth and erosion control. The information presented does not provide adequate detail as to the degree and amount of roughness for this steep of a slope. The Division's standard for roughness is detailed at: ftp://dogm.nr.state.ut.us/PUB/MINES/Coal_Related/RecMan/Reclamation_Manual.pdf. Boulders could potentially provide microsites for plant growth but the amendment fails to detail the amount and spacing of these boulders. A rate of application for the surface mulch has not been provided.

The Division is skeptical about revegetating slopes this steep. Please provide examples of sites, near the angle of repose, successfully reclaimed and revegetated with 68 percent vegetative cover. If the reclaimed highwall slope was reduced, topsoil could be applied and roughened and the approved vegetative cover standard could possibly be met. Reducing the slope gradient may affect the experimental practice. If the experimental practice is affected then those parts of the MRP will need modification.

Findings:

Information provided in the proposed amendment is not considered adequate to meet the requirement of this section. Prior to approval, the permittee must provide the following in accordance with:

R645-301-341, Please provide 1) Detail how the soil surface will be loosened to a four-foot depth to provide for proper root growth; 2) Provide detail as to the degree and amount of roughness for this steep slope; 3) Detail the amount and spacing of boulders; 4) Provide the rate of application for the surface mulch; and 5) Examples of successfully reclaimed slopes near the angle of repose with greater than 60 percent vegetative cover.

RECOMMENDATION

The amendment should not be approved until the above noted deficiency is resolved.