



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

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May 12, 1997

TO: File

THRU: Joseph Helfrich, Permit Supervisor *JH*

FROM: Susan M. White, Senior Reclamation Biologist *SMW*

RE: Seeding Time Change, Mountain Coal Company, Gordon Creek 2, 7 and 8 Mines,  
ACT/007/016-97A, Carbon County, Utah

#2

**SUMMARY**

Permit amendment (97A), dated received April 7, 1997, for the above referenced mine was reviewed. The amendment proposes to change the requirement of no seeding prior to September 1 to seeding as soon as possible after final soil preparation. The amendment also deletes the requirement to rake the seed following broadcast seeding. Seeding after final soil preparation can be approved after the amendment is modified as directed.

**REVEGETATION**

Regulatory Reference: R645-301-244, 301-353, 301-355, 301-356

**Analysis:**

**General requirements**

All seeding will be done by broadcast methods (hydroseeding or hand) and followed by light raking (page 3-53). This method has been found to be effective for this area from past interim seeding efforts. A commitment is made to limit the amount of time the seed is in the hydroseeder to 30 minutes. Amendment 97A proposes to eliminate the requirement for light raking. Proper seed/soil contact is essential for germination. Light raking provides for this contact especially after soil has set or crusted.

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### **Revegetation: Timing**

Seeding of the 7 and 8 Mines was done after September 1. Fall is the normally accepted time of year for seeding with this particular seed mixture and for this area. Several of the proposed forb and shrub species seed require a cold stratification prior to germination. The plan commits to seeding as soon as possible after final site preparation. Seeding as soon as possible after final site preparation will insure a good seedbed while not allowing a seed bank of weed seed which can compete with desirable species.

The work at the 7 and 8 Mines followed the old revegetation schedule. Preliminary work was begun in May such as seed orders and soil sampling in June. Recontouring started in July with final seedbed preparation occurring in or after September. A new schedule has been proposed with the amendment to allow for all seeding work to be done as the earth work is completed.

Amendment 97A deletes the requirement for fall seeding and allows seeding anytime after site preparation. A fall seeding or very early spring seeding is recognized as the favorable season for planting in the area. Problems associated with seeding during unfavorable times (spring or summer) are: missing the seed stratification period; rodent and bird predation; poor seed/soil moisture conditions; and weed competition. The Division and other experts agree that seeding during early spring can meet the stratification and moisture requirements for seed germination if done early. However, this seeding window is limited to conditions usually to wet for equipment and ends by April at this elevation. Seeding during unfavorable periods in years of no moisture or abundant moisture may be successful. The Division can not make a positive finding of compliance that the performance standard of R645-301-354 is met.

The amendment proposes to commit to an evaluation of seeding success in the Fall of 1997 and to reseed and plant containerized stock if indicated by the evaluation. The Division will make a positive finding of compliance if the Operator commits to sampling in the summer within two years after seeding. The Operator must also commit to meeting the following vegetation standards on all areas seeded prior to September 1.

1. Approved sampling methods and adequate sample size will meet the requirements of the Division's Vegetation Information Guidelines, Appendix A.
2. The perennial vegetative cover of the reseeded area will be greater than 70 percent of the reference area cover (no statistics).
3. Woody plant density of the reseeded area will be greater than 80 percent of the

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standard described in the permit..

4. The vegetative cover will meet the diversity standard described in the permit.

The Operator must commit to reseeding the area the fall after sampling if any one of the standards are not met. Any reseeding or replanting will restart the bond period if the requirement of R645-301-357.302 are not met. Seeding at times other than the fall will be consider poor reclamation procedures.

## FINDINGS

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

**R645-301-354**, disturbed areas planted at any time other than fall will meet the below listed success standard within two years of seeding.

1. Approved sampling methods and adequate sample size will meet the requirements of the Division's Vegetation Information Guidelines, Appendix A.
2. The perennial vegetative cover of the reseeded area will be greater than 70 percent of the reference area cover (no statistics).
3. Woody plant density of the reseeded area will be greater than 80 percent of the standard described in the permit.(no statistics).
4. The vegetative cover will meet the diversity standard described in the permit.

The Operator must commit to meeting all the above listed standards. If any one of the standards are not met than the area must be reseeded.

**R645-301-341** accepted methods for broadcast seeding require raking or other type of method to ensure soil/seed contact.

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cc: Dave Darby  
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