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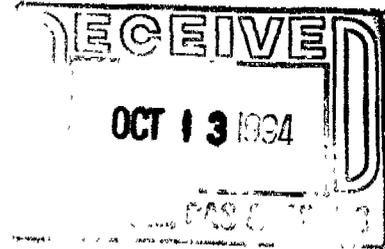


State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE RESOURCES

7-4

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October 4, 1994

Mr. Daron R. Haddock
Division of Oil, Gas and Mining
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Salt Lake City, Utah 84108-1203

Copy Daron and Paul

Subject: AMAX Coal Company, Castle Gate Mine, Revised Mining and Reclamation Plan ACT/007/004 Folder #2, Carbon County, Utah

original file

Dear Daron:

The Division of Wildlife Resources has reviewed Amax's proposal for reclamation in Carbon County. This plan covers the reclamation of several separate mine areas. We have the following comments.

- Species list no. 1 lists salina wildrye (*Elymus salina*) as one of the plant species that will be used for revegetation. We request that this plant be taken off any reseeding lists. Salina wildrye is unpalatable (no nutritional value 342.210, page 9-11) for big game and livestock and is, therefore, incompatible with the post mining activities of livestock and wildlife as stated in the plan. The addition of salina wildrye leaves the species mixtures specified, failing to meet the requirements of 342.2 through 342.230, 353.200, 353.210, 353.240 and specifically 342.210. We recommend that it be replaced with Goldar blue bunch wheat grass or Ladak alfalfa.

Ladak alfalfa is an excellent forage plant for both wildlife and livestock. It is a dry land alfalfa that is drought tolerant and contributes to the nitrogen in the soil needed by other plants. The addition of a natural source of nitrogen will benefit and enhance the establishment of the other plants on the reclaimed areas. We recommend that Ladak alfalfa be added to the seed list. We also recommend the addition of Paiute orchard grass to these lists.



Mr. Daron R. Haddock
October 4, 1994
Page Two

2. Species list no. 4 has annual grains of oats, spring wheat, or barley. We recommend this be changed to the hybrid grain Triticale. Triticale is a hybrid cross between wheat and rye. It is highly drought tolerant, thus requiring less water than other grains, and resists wind damage.
3. Broadcast seeding is presented as one of the means for reseeding the mined areas. Broadcast seeding is the least effective of the three methods mentioned. We recommend that drilling be used, if possible, then hydro seeding and lastly broadcast seeding if the other two methods are not possible.
4. Transplanting shrub seedlings is mentioned as the means for establishing these plants in the area. The mines to be reclaimed are on or near elk and deer winter ranges. Elk have historically been a significant pest and depredator of seedling establishment on reclaimed areas. The seedlings placed on the reclaimed areas of the Hardscrabble Mine west of Martin were almost completely removed within two days of planting. Therefore, a pest control measure will be needed for these animals. We recommend that wire cone cages be placed over the shrub seedlings and the cages be secured to the ground with spikes. These cages should be big enough to accommodate the growth of these plants for two years.

Amax may want to notify us of the transplant times so that we might assist if possible. We also recommend that seeds of these shrubs be added to the seed list to further enhance their establishment in the area. Willows, dogwoods, cottonwoods and other riparian species plants, will not need the same pest control measures, since they can be planted in the late spring after elk and deer have left the area.

5. At temporarily sealed mines with any associated areas not reclaimed or revegetated, we recommend that a temporary revegetation be done on exposed soil. Since this revegetation is not permanent in nature, one of the wheat grasses from the plant species list should be adequate for stabilizing erosion.

Mr. Daron R. Haddock
October 4, 1994
Page Three

We appreciate the opportunity to review this plan and provide our comments. Please contact Ben Morris or Bill Bates at (801) 637-3310 if you have any questions.

Sincerely,


Robert Valentine
Director

RGV/WCQ/kj