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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE RESOURCES

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cc
Dianne file
Buxton

Act 1515
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DIVISION OF
OIL, GAS & MINING

December 19, 1990

Dr. Dianne Nielson, Director
Utah Division of Oil, Gas and Mining
355 West Triad Center, Suite 350
Salt Lake City, Utah 84116

Dear Dianne:

The Division has reviewed Consolidation Coal Company's Emery Deep Mine permit renewal. We would like to offer the following comments for your consideration.

For revegetation purposes, we recommend seed mixes that contain at least six species of each grass, forbs and shrubs. Although selected species (Chap. 8, pg. 21) have been chosen for specific vegetative communities, it is inevitable that microhabitats exist within these, some due in part to soil changes from mining activities. A greater number of species planted will maximize the potential for revegetation success. The following species are recommended as additions to the seed mixes:

a. Mixed Desert Shrub and b. Greasewood

Species	Pounds of Pure Live Seed/Acre
Bottlebrush squirreltail (<u>Sitanion hystrix</u>)	0.5
Pubescent wheatgrass (<u>Agropyron intermedium trichophorum</u>)	1.0
Sand dropseed (<u>Sporobolus cryptandrus</u>)	1.0
Palmer penstemon (<u>Penstemon palmeri</u>)	1.0
Gooseberryleaf globemallow (<u>Sphaeralcea grossulariifolia</u>)	1.0
Lewis flax (<u>Linum lewisii</u>)	1.0
Gardner saltbush (<u>Atriplex gardneri</u>)	0.5
Cliffrose (<u>Purshia mexicana</u>)	0.5
Black sagebrush (<u>Artemisia nova</u>)	0.5

c. Riparian Mix

Species	Pounds of Pure Live Seed/Acre
Meadow foxtail (<u>Alopecurus pratensis</u>)	1.0
Jones reedgrass (<u>Calamagrostis scopulorum</u>)	1.0
Gooseberryleaf globemallow (<u>Sphaeralcea grossulariifolia</u>)	1.0
Scarlet globemallow (<u>Sphaeralcea coccinea</u>)	1.0
Alfalfa (<u>Medicago sativa</u>), ladak variety	0.5
Forage kochia (<u>Kochia prostrata</u>)	1.0
Winterfat (<u>Eurotia lanata</u>)	1.0
Fourwing saltbush (<u>Atriplex canescens</u>)	1.0
Basin big sagebrush (<u>Artemisia tridentata tridentata</u>)	0.5
Woods rose (<u>Rosa woodsii</u>)	1.0

It is stated that drill-seeding will be utilized. If it is necessary to broadcast seed, the seed application rate should be doubled.

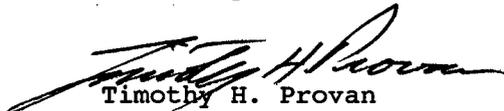
Dr. Dianne Nielson
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If fencing is required around any seeded areas (10-124), we request that fence specifications allow for safe passage of both deer and antelope. A four-strand barbed wire fence will allow deer passage; however, the recommended fence designs with smooth top and bottom wires will allow wildlife to pass unharmed.

We have some concerns with mine water that enters Quitchipah Creek. Sampling has shown Quitchipah Creek to sustain populations of red shiner, longnose dace, speckled dace, and bluehead sucker. Additions of heavy metals to the creek could have negative impacts on fish and wildlife populations.

Thank you for this opportunity to provide comment.

Sincerely,


Timothy H. Provan
Director