



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE RESOURCES

Norman H. Bangarter
Governor

Dee C. Hansen
Executive Director

Timothy H. Provan
Division Director

1596 West North Temple
Salt Lake City, Utah 84116-3195
801-533-9333
801-533-7073 Fax

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cc L Broyton

December 19, 1990

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DIVISION OF
OIL, GAS & MINING

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

I Bottlebrush squirreltail (Sitanion hystrix) X
Pubescent wheatgrass (Agropyron intermedium
trichophorum)

0.5
1.0

O Sand dropseed (Sporobolus cryptandrus)
Palmer penstemon (Penstemon palmeri) X
Gooseberryleaf globemallow (Sphaeralcea X
grossulariifolia)

1.0
1.0
1.0

O Lewis flax (Linum lewisii) X
Gardner saltbush (Atriplex gardneri)
Cliffrose (Purshia mexicana) X
O Black sagebrush (Artemisia nova)

1.0
0.5
0.5
0.5

c. Riparian Mix

Species

Pounds of Pure
Live Seed/Acre

Meadow foxtail (Alopecurus pratensis)
O Jones reedgrass (Calamagrostis scopulorum)
X Gooseberryleaf globemallow (Sphaeralcea
grossulariifolia)

1.0
1.0
1.0

X Scarlet globemallow (Sphaeralcea coccinea)
Alfalfa (Medicago sativa), ladak variety
Forage kochia (Kochia prostrata)

1.0
0.5
1.0

Winterfat (Eurotia lanata)

1.0

O Fourwing saltbush (Atriplex canescens)

1.0

X Basin big sagebrush (Artemisia tridentata tridentata)

0.5

O Woods rose (Rosa woodsii)

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.

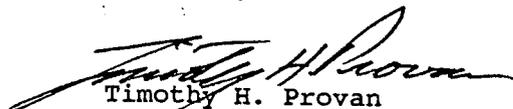
Dr. Dianne Nielson
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If fencing is required around any seeded areas (10-124), we request that fence specifications allow for safe passage of both deer and antelope. A four-strand barbed wire fence will allow deer passage; however, the recommended fence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