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STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

*File*

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April 20, 1988

TO: John Whitehead, Permit Supervisor

FROM: Brent Stettler, Reclamation Biologist *Brent*

RE: Reference Area Approval and Reclamation Seed Mix Proposal for the Wildcat Loadout, Andalex Resources, ACT/007/003, Folder #2, Carbon County, Utah

The Wildcat Loadout selected a sagebrush/grassland reference area which will serve as the standard for reclamation success. The reference area is adjacent to the east permit boundary, and is approximately 1.5 acres in size. Mike Glasson of Andalex Resources, John Whitehead and I visited the site on April 8, 1988. Lynn Kunzler and I made a follow-up visit on April 14, 1988.

The Division approves the reference area with the following two stipulations:

1. The south boundary must be extended approximately 100 feet further south to incorporate the heavier stand of grass occurring on the far side of the drainage. The reference area's east boundary may be pulled in 50 feet to offset extension of the south boundary.
2. The reference area must be enclosed in a woven wire fence to exclude sheep. Permission must first be obtained from the Bureau of Land Management (BLM).

The Division offers the following as justification for the latter stipulation:

- A. Quantitative vegetation sampling (including cover, shrub density, species composition, and frequency) is required by UMC regulations for permit completeness. The Division takes the position that heavy grazing will negatively bias data collection and analysis.
- B. Range condition was rated as being fair by the Soil Conservation Service (SCS). Intense browsing and grazing pressure is evident on the reference area. Fencing is required to arrest what appears to be a trend toward poorer range conditions. The Division will not accept a reference area in poor condition.

- C. In the absence of control, desirable and palatable plant species are gradually replaced by non-palatable, weedy species. Weeds, cheatgrass and salina wildrye could potentially outpace the productivity and cover found on a well-managed range, but would be essentially useless to livestock and wildlife. As a result, the reference area may shift to a standard which is both undesirable and difficult to achieve.
- D. The permit area will be fenced during the 10-year bond liability period. The reference area should likewise be controlled to eliminate the grazing variable, when comparing reclaimed and reference area vegetation parameters.

The following seed mix is proposed for inclusion in the Wildcat Loadout permit. Changes may be expected, pending completion of vegetation sampling in the reference area. The mix was developed by Division biologists in consultation with Dennis Willis, Supervisory Range Conservationist for Carbon County, Bureau of Land Management office.

Grasses

<u>Common Name</u>	<u>Scientific Name</u>	<u>lbs.PLS/acre</u>	<u>PLS/ft<sup>2</sup></u>
Blue grama	<u>Bouteloua gracilis</u>	.5 - 1.0	8.6 - 17.2
Indian ricegrass	<u>Oryzopsis hymenoides</u>	2.5 - 3.0	10.0 - 12.0
Needle and thread	<u>Stipa comata</u>	2.0	5.2
Thickspike wheatgrass	<u>Agropyron dasystachyum</u>	2.5 - 3.0	8.8 - 10.6
Western wheatgrass	<u>Agropyron smithii</u>	3.0	8.3

Forbs

<u>Common Name</u>	<u>Scientific Name</u>	<u>lbs.PLS/acre</u>	<u>PLS/ft<sup>2</sup></u>
Alfalfa	<u>Medicago sativa</u>	1.0	4.8
Gooseberryleaf globemallow	<u>Sphaeralcea grossulariaefolia</u>	.3 - .5	3.4 - 5.8
Lewis flax	<u>Linum lewisii</u>	.75- 1.0	4.9 - 6.6
Palmer penstemon	<u>Penstemon palmeri</u>	.3 - .5	4.2 - 7.0
Yellow sweetclover	<u>Melilotus officinalis</u>	1.0	5.9

Shrubs

<u>Common Name</u>	<u>Scientific Name</u>	<u>lbs.PLS/acre</u>
Antelope bitterbrush	<u>Purshia tridentata</u>	3.0
"Mountain" big sagebrush	<u>Artemisia tridentata</u> ssp. <u>vaseyana</u>	.3
"Whitestem" rubber rabbitbrush	<u>Chrysothamnus nauseosus</u> ssp. <u>albicaulis</u>	.5
Winterfat	<u>Ceratoides lanata</u>	2.0 - 3.0

djh  
 cc: M. Glasson  
 M. Bailey, BLM  
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