

September 23, 1987

INA/007/002#2

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FROM: Lynn Kunzler, Reclamation Biologist

RE: Mid-Permit Term Review, Blackhawk Coal Co., Willow Creek Mine (Eastern Reserves), INA/007/002, Folder #2, Carbon Co., Utah

Blackhawk Coal Company's June 3, 1987 submittal of their mine plan for the mid-permit term review was reviewed for completeness and adequacy for sections UMC 783.18, 783.19, 783.20, 783.22, 784.13(b)(5), 784.15, 784.21, 817.97, 817.100, 817.111-.117 and 817.133. An adequate response to the comments below should also cover the proposed lease addition as well.

UMC 783.18. Climatological Information - lk

This section is complete and adequate.

UMC 783.19 Vegetation Information - lk

The operator needs to provide the following before this section can be considered complete and adequate:

1. The reference area is not marked in the field as described on page 9-6 and the location as shown on Map 30 is in error.
2. Page 9-4 describes a vegetation map of a scale of 1"=400' which shows reference area locations, sample locations, etc. This map needs to be submitted.
3. Table 9-2 does not provide statistical data (means, standard deviations, etc.) for determining sample adequacy. This information needs to be provided.
4. Table 9-1 needs to include the name, address and position of person(s) or organization(s) responsible for vegetation data collection as required by UMC 771.23(c).

Resolution of the above deficiencies will make the plan complete and adequate for the Willow Creek disturbed area only. Due to problems in similarity (or lack thereof) of the proposed reference areas (for other than the Willow Creek disturbed area), their locations, ownership, and/or missing data, they cannot be approved or accepted at this time. Therefore, before mining related disturbance occurs in any other area (i.e. Barn Canyon, Dry Canyon, etc.) a complete vegetation study will need to be conducted in accordance to the rules and guidelines in effect at that time.

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UMC 783.20 Fish and Wildlife Information - lk

This section is complete and adequate.

UMC 783.22 Land Use Information - lk

This section is complete and adequate.

UMC 784.13(b)(5) Revegetation Plan - lk

The revegetation plan, as provided in the MRP, needs to be revised to bring it in line with current reclamation technology. A specific reclamation plan, including species and rate to be seeded and planted is needed. In revising the plan, please note the following:

1. Schedule - Page 9-40 identifies fall planting of shrub seedlings. This should be revised to plant shrubs in early spring (immediately after snowmelt). While the Division agrees that shrubs could be established from fall plantings under certain conditions, , the Division is not aware of any successful fall planting on big-game winter ranges in Utah's coal region.

The operator has not provided plants for contemporaneous revegetation of disturbed areas that are not currently being used for mining activities. Since there are no plans for active operation for the near future, all disturbed areas need to be revegetated with an approved plan during the next available season. It is recommended that the proposed final revegetation plan be utilized or, the area be divided into demonstration plots utilizing different methods and/or seed mixes, fertilizers, etc. on each plot.

2. Species Selection - Current seed lists are not specific as to what species will be used or seeding/planting rates. Several of the species on the lists are introduced species in which the operator has not provided sufficient documentation that they meet the criteria of UMC 817.112. Many of the species are not available in commercial quantities and it is unlikely that they will be available for many years, if ever. Attached is a recommended seed mix for the Willow Creek disturbed area for your consideration, which contains native species that are normally available in large quantities. Species were selected based on their utility in meeting the postmining land use, soil stabilization characteristics and surrounding (and invading) vegetation.

UMC 784.13(b)(5) (cont.)

3. Mulching - Please clarify whether mulch will be used for final revegetation or only with the cover crop (when a cover crop is used). Also, for hay or straw, 1 ton per acre is the minimum acceptable rate of application.
4. Irrigation and Pest/Disease Control - The MRP does not indicate whether irrigation or pest and disease control measures will be utilized (see comment under UMC 817.97). Please clarify. It is highly recommended that any shrub transplants be protected from predation by wildlife.
5. Success Standards and Monitoring - The monitoring plan (methods and frequency) for determining reclamation success is adequate with the exception that the statistical level for success is not identified (i.e. 90% of the standard with 90% confidence level to detect a 10% change in the mean). Also, while the Division agrees that reference area shrub stocking is excessive, before the Division can approve a variance to the high stocking rate, the operator must propose an alternate standard, providing adequate technical justification for establishing a lower density.

UMC 784.15 Reclamation Plan: Postmining Land Use - 1k

This section is complete and adequate.

UMC 784.21 Fish and Wildlife Plan - 1k

See comments under UMC 817.97.

UMC 817.97 Protection of Fish, Wildlife and Related Environmental Values - 1k

The operator needs to provide the following before this section can be considered complete and adequate:

1. The operator must commit to report to the Division the existence of any threatened or endangered species (plant or animal) or any Golden Eagle of which he becomes aware of within the mine plan area, which has not been previously reported.
2. The operator has not addressed the restoration or enhancement of habitats of unusually high value and riparian areas or other wetland areas.

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UMC 817.97 (cont.)

3. The operator has not provided plans to fence, cover, or use other appropriate methods to exclude wildlife from hazardous concentrations of toxic-forming materials or other hazardous areas.
4. The operator must commit to not use persistent pesticides unless approved by the Division.
5. The operator needs to provide a commitment to prevent, control and suppress range, forest and coal fires not approved by the Division.
6. The operator must commit to replace water for wildlife at seeps and springs that are impacted due to subsidence or other mine related activities. The Division considers a seep or spring to be impacted if there is a 50% reduction in flow due to mining activities or subsidence.

UMC 817.100 Contemporaneous Reclamation - 1k

See comments under UMC 784.13(b)(5).

UMC 817.111-.117 Revegetation Plan - 1k

Until a complete plan is submitted (See comments under UMC 784.13(b)(5)), compliance under these regulations cannot be determined.

UMC 817.133 Postmining Land Use - 1k

This section is complete and adequate.

1255R/26-30

Recommended Seed Mix
Willow Creek Disturbed Area
Blackhawk Coal Company
INA/007/002

<u>Species</u>	<u>Rate</u> ¹	<u>Rate</u> ²
GRASSES:		
<u>Agropyron dasystachyum</u> Thickspike wheatgrass	2.0	4.0
<u>Agropyron smithii</u> Western wheatgrass	2.0	4.0
<u>Agropyron spicatum</u> Bluebunch wheatgrass	2.0	4.0
<u>Elymus cinereus</u> Great Basin wildrye	2.0	4.0
<u>Oryzopsis hymenoides</u> Indian ricegrass	2.0	4.0
<u>Sitanion hystrix</u> Bottlebrush squirreltail	1.0	1.5
FORBS:		
<u>Artemisia ludoviciana</u> Louisiana sagewort	0.1	0.1
<u>Linum lewisii</u> Blue flax	1.0	1.5
<u>Melilotus officinalis</u> *	1.0	1.5
<u>Penstemon palmeri</u> Palmer penstemon	0.5	0.5
SHRUBS:		
<u>Artemisia tridentata vaseyana</u> Mountain big sagebrush	0.2	0.2
<u>Atriplex canescens</u> Four-wing saltbush	2.0	2.0
<u>Chrysothamnus nauseosus albicaulis</u> Whitestem rubber rabbitbrush	0.5	0.5
<u>Rhus trilobata</u> Squawbush	2.0	2.0
<u>Rosa woodsii</u> Woods rose	1.0	1.0
TOTAL	19.3	30.8

- 1 - Pounds Pure Live Seed (PLS) per acre for drill seeding.
2 - Pounds PLS per acre for broadcast or hydro- seeding.

* Melilotus officinalis is an introduced species. However, It is highly recommended for reclamation of disturbed soils due to it soil building and stabilizing characteristics, growth characteristics and compatibility with other species. The Division has determined that this species meets the criteria of UMC 817.112 without the operator needing to provide additional documentation.

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