



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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December 12, 1988

TO: Dianne R. Nielson, Director

THRU: Ron Daniels, Coordinator, Minerals Research

FROM: Brent Stettler, Reclamation Biologist *Brent*
Lynn Kunzler, Reclamation Biologist *Lyn K.*

RE: Cyprus-Plateau Mining Company's Comments on Data Adequacy Standards for Bureau of Land Management's Regional Coal Team

Cyprus-Plateau Mining Company (CPMC) objects to the Regional Coal Team's proposed data adequacy standards in the vegetation section. Objections specifically targeted are:

1. Vegetation mapping,
2. Species abundance, and
3. Threatened and endangered species.

After review of CPMC comments and the BLM guideline (see attachment), we feel that CPMC has misrepresented Division and BLM requirements. Below is our analysis of BLM requirements and the Division's current and proposed new rules.

Vegetation Mapping

The level of detail in vegetation mapping as proposed by the Bureau of Land Management (BLM) is intended to provide a better foundation for leasing decisions and recommendations. Based on BLM guidelines provided us by Ron Daniels, we feel CPMC misunderstands the scope and intent of the proposed change. Mapping requirements may be more stringent than those imposed by the Division for the unaffected permit area, based on delineation of vegetation types identified by the two (or more) dominant species vs. community types (i.e., aspen, coniferous forest, mountain brush, etc.). However, Division map scale requirements are more stringent. BLM requirements appear reasonable in light of their responsibility for multiple use planning.

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Species Abundance

Proposed data adequacy standards require a description of plant species composition and abundance. CPMC objects on the grounds that data is unnecessary. The BLM intends to use the required information to assess wildlife habitat, range condition and carrying capacity, and other agronomic and silvicultural aspects in each lease tract. The proposed requirements may exceed the level of detail required by the Division, except within the area of surface disturbance. However, since much data may be available through the USDA Soil Conservation Service or other government agencies, the burden imposed upon the mine operator may be considerably less than anticipated; i.e., if range condition has been determined, it appears adequate data would be available.

Threatened and Endangered Species

An inventory of the entire lease area is proposed. If sensitive or threatened and endangered species are located, then further sampling is called for to delineate abundance and distribution. A T&E species survey would generally not be as burdensome as represented by CPMC. The U.S. Fish and Wildlife Service could provide the applicant with information on likely occurring species and which habitats warrant searching.

The Division's revised rules also require site specific information within the permit area and adjacent area when listed or proposed threatened and endangered species are likely to occur. The amount of sampling required by the Division would probably be comparable to that proposed by the BLM.

BAS/djh
Attachment(s)
cc: S. Linner
J. Whitehead
AT6/11-12

VEGETATION AND LAND USE

Existing vegetation communities, species composition and relative abundance of species in each community must be determined in each proposed coal lease tract. Existing land uses on all proposed tracts must also be known before leasing decisions can be made. The reclamation potential for each proposed tract must be adequately assessed prior to leasing. The following data requirements and data standards (together with data requirements found in the soils, geology, hydrology, and wildlife sections of this document) are a guideline to provide the BLM with adequate information to rank proposed tracts of land for leasing and development of coal reserves with regard to vegetation and land use.

Tasks

1. Identify plant species on each tract.
2. Delineate and describe vegetation communities.
3. Identify any existing farmlands.
4. Determine livestock carrying capacity.
5. Determine reclamation potential.
6. Identify existing rights-of-way.
7. Delineate existing railroad or other transportation systems in or near the proposed tracts.
8. Identify any other land use; recreation sites, commercial timber, paleontological sites, cemeteries, defense installations, etc. that would or could be disturbed by mining.

Scope and Intensity

1-2. Existing vegetation surveys should be utilized or new vegetation inventories conducted to delineate vegetation communities (based upon 2 or more dominant species) in each tract. All plant communities should be mapped using soil survey maps or other appropriate maps. All plant species present in each tract, as well as relative abundance (based on cover, production and/or frequency) must be noted. Community descriptions should include information on relative abundance of major life forms (deciduous and coniferous trees, shrubs, grasses, and forbs).

A description of the topography within the tract is necessary. Delineate any unique areas (benchtops, buttes, steep canyons, etc.), including any area in which vegetation is inaccessible to livestock. The above areas may be important "natural areas" and may not be reclaimable. Riparian zones, springs and moist areas should be closely scrutinized.

Threatened, endangered, and sensitive plant species are addressed in the wildlife section.

Species (and abundance) data will be used to aid in addressing: type and extent of wildlife habitat, range condition and carrying capacity, and other agronomic and silvicultural aspects of plant materials in each tract. Documentation of sampling methodologies used (i.e. random sampling, stratified random sampling, ocular estimation techniques, size and shape of quadrats or other sampling devices used, community delineation criteria, number of samples-i.e. sample adequacy, etc.) must be incorporated in the narrative description of the plant communities in each tract. Care must be taken to select sampling methodologies that reflect the species composition and relative abundance of the vegetation in the tract as accurately and comprehensively as possible. These steps will provide for accurate interpretation of data and for consistency in future data collection efforts (3,4,6).

3-4-5. Presence or absence of cropland, actual or potential prime farmlands, and alluvial valley floors (AVF) must be determined. If these lands are present; areal extent, type of crops present, annual production, significance to agricultural operations, and volume of suitable soil and spoil available for reclamation must be determined and delineated. A preliminary determination must be made regarding the technological feasibility of restoring disturbed (nonsignificant) AVF's or prime farmlands to equivalent or higher crop yields as compared to predisturbance lands.

Range sites can be determined for all acreage within each tract using the vegetation survey in conjunction with USDA-SCS Technicians Guide to Range Sites and Condition Classes, Soil Conservation Service soil surveys, aerial photos, BLM RMP/EIS grazing documents, etc. Livestock carrying capacity may best be determined by using the current authorized grazing use.

Other questions that must be answered in a pre-lease ranking of tracts include: Is there a "fatal flaw" that would preclude establishing a permanent, diverse vegetative community capable of supporting a post-mine land use for livestock and wildlife? Would any characteristic of the tract preclude reestablishing productive agricultural areas? What is the probable quality and quantity of the reclaimed area root zone medium? All drill hole data should be closely scrutinized and appropriately composited to make a preliminary assessment of post-mine root zone quality and quantity. Specifically, what are the projected soil and spoil chemical and physical characteristics from the surface to at least 8-feet below the reclaimed surface? The probable mining and material handling methods to be used should also be considered in the assessment of reclamation potential. Information gleaned in tract analysis with regard to soil and overburden, hydrology, geology, wildlife and economics, as well as vegetation will be useful in answering these questions (7,8,9,11,12).

6-7. Existing records must be examined for rights-of-way crossing potential lease tracts. Of particular concern are linear rights-of-way for roads, telephone, power and pipelines. BLM and Forest Service MT plats, appropriate maps, consultation with utility companies and private surface owners, etc. will serve to identify rights-of-ways. The purposes, uses, and restrictions on these rights-of-ways should be determined to help in impact identification. Potential impacts to these rights-of-way as well as possible mitigations of these impacts must be addressed and documented.

8. All existing land uses on a tract must be determined. The potential impact of mining and the reclamation potential regarding each of these uses must be assessed and documented. These land uses may include but are not limited to: recreation sites, commercial timber, paleontological sites, cemeteries, defense installations, and historic sites. USGS topography maps, State/US Department of Transportation County, Maps, Federal and State land resource documents (BLM land use planning documents, regional EISs, etc.) may be useful in this regard.

Presence or absence of commercial timber must be determined. A preliminary assessment of the likelihood of reestablishing commercial timber in a post-mine situation should be included in the tract assessment/ranking. Commercial timber exists if the tract or part of the tract is capable of producing at least twenty cubic feet of industrial wood under management. The following data is important for categorizing commercial timber: species, age of stand, density by age class, diameter at breast height, height, growth rate, condition (insect infestation, disease, etc.), accessibility, topography, and transportation availability.

References

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- Office of Surface Mining Reclamation and Enforcement, August, 1983, Alluvial Valley Floor Identification and Study Guidelines; (AVF significance determinations pp. 111-1 through 111-9), U.S. Department of the Interior handbook, Washington and Denver.
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