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THE COAL AMENDMENT TO THE RATON BASIN



Management Framework Plan

CANON CITY DISTRICT
ROYAL GORGE AREA

1985

HD
243
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L36
1985

THE COAL AMENDMENT
TO THE RATON BASIN



Management
Framework
Plan

CANON CITY DISTRICT
ROYAL GORGE AREA

U.S. Department of the Interior
Bureau of Land Management
1982

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UNITED STATES
DEPARTMENT OF THE INTERIOR

HD
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L36
1985

BUREAU OF LAND MANAGEMENT
Canon City District
Royal Gorge Resource Area

E A F A C E S H E E T

No: CO-050-RG-84-62

ACTION: Coal Amendment to the Raton Basin Management Framework Plan

Location: T. 31 S., R. 63 W., Secs. 1, 2, 11, 12, and 15

<u>TEAM SIGNATURES</u>	<u>TITLE</u>	<u>RESOURCE VALUES ASSIGNED</u>	<u>HOURS</u>
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DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Denver City District
Royal Gorge Research Area

E A T A C E S H E E T

No. 60-050-100-01-03

ACTION: Final Amendment to the Basin Basin Management Research Plan

Location: T. 31 S., R. 61 W., Secs. 1, 2, 11, 12, and 13

PERSON	RESOURCE VALUE ASSIGNED	TITLE	TEAM SIGNATURE
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60	Soils, Paleontology, Geology, Transportation, Tech. Coord., Mineral	Geologist	<i>[Signature]</i>
60	Water & Soils	Hydrologist	<i>[Signature]</i>
60	Land Use, Recreation, State Superv.	Recreation Specialist	<i>[Signature]</i>
15	Cultural	Archaeologist	<i>[Signature]</i>
15	Climate & Air Quality	Air Quality Specialist	<i>[Signature]</i>
45	Recreation & Sociology	Recreation Specialist	<i>[Signature]</i>
45	Interpretive	Assistant Planner	<i>[Signature]</i>
30	Planning Consultant	Specialist	<i>[Signature]</i>
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		RESEARCH MANAGER	<i>[Signature]</i>

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I. Purpose and Need

This Amendment/EA is intended to accomplish the following:

Update the existing Raton Basin Management Framework Plan (MFP) to comply with changes in the statutory and regulatory requirements for land use plans where coal leasing is considered.

Conduct land use planning for lands excluded from the MFP so the statutory and regulatory requirements for considering areas for coal leasing are met.

Meet the requirement of the National Environmental Policy Act of 1969.

As required by the Federal Land Policy and Management Act (FLPMA) of 1976 and Bureau of Land Management (BLM) planning regulations 43 CFR Part 1600, Public Lands and Resources; Planning, Programming, and Budgeting, the BLM Royal Gorge Resource Area is preparing this planning amendment on a parcel containing Federal coal resources in the Raton Basin Planning Unit to determine if it is suitable for coal development.

An MFP amendment is necessary because a portion of the applied for lands was not identified for coal development in the original MFP document. As a result these lands were not subject to multiple resource considerations during the conflict identification phase of the MFP. This amendment will update the MFP and include those lands not assessed at that time.

This planning amendment/environmental assessment will address the lease area for which the Sundance Coal Company of Trinidad, Colorado, applied. The parcel of land is covered by lease application C-37838.

This document will aid decision makers in determining suitability or unsuitability on the lease area. It also will satisfy the Council on Environmental Quality (CEQ) Regulations 40 CFR Part 1500, Regulations for Implementing the National Environmental Policy Act of 1976. CEQ regulations state "National Environmental Policy Act procedures must ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken."

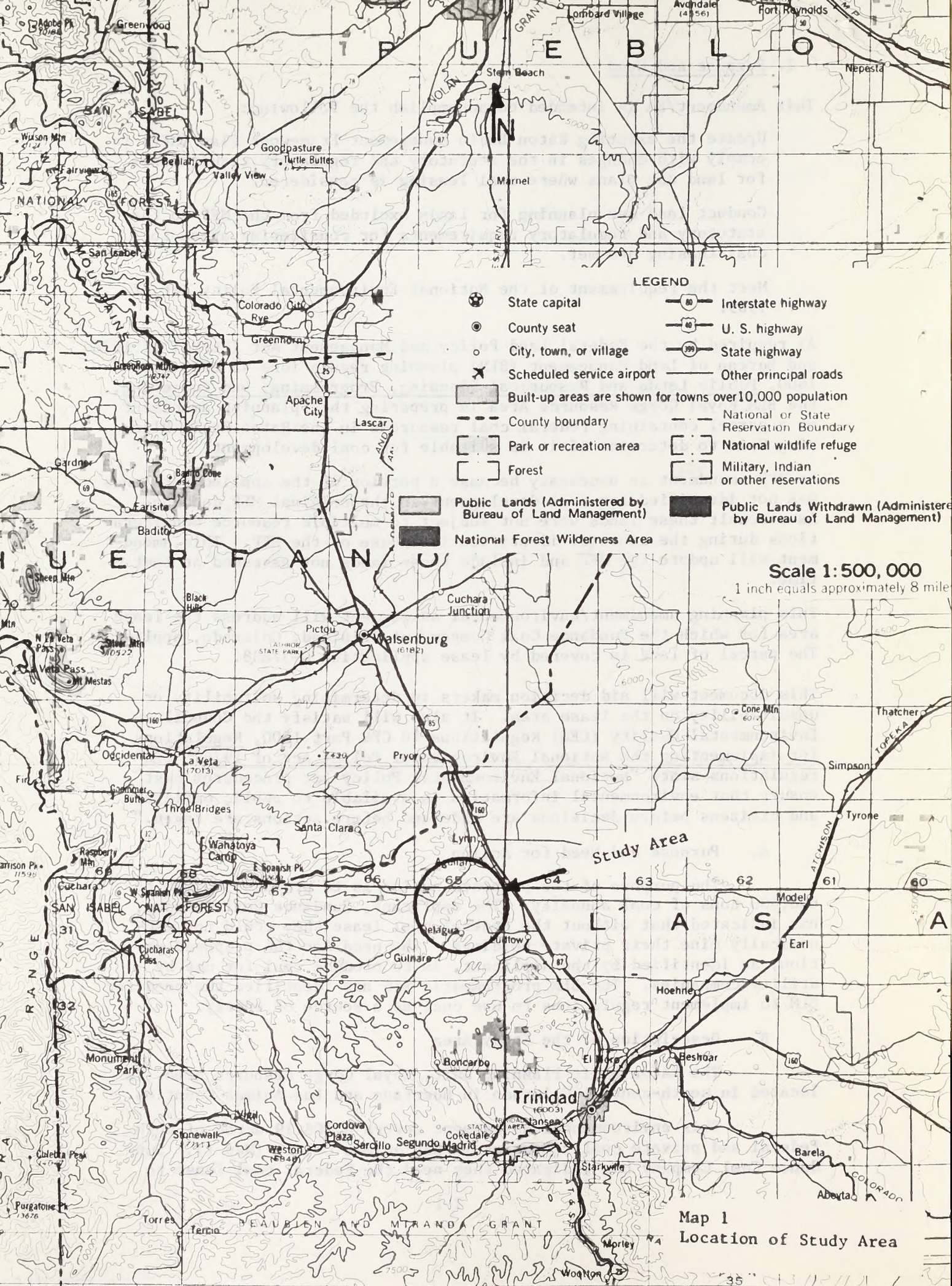
A. Purpose and Need for Action

The purpose of the proposed action is to produce 300,000 to 600,000 tons of coal annually. The applicant, Sundance Coal Company, has indicated that without the Federal coal lease they could not economically mine their private holdings. The need for the proposed action, as identified by the applicant, is to produce coal for use by utility companies. The BLM programmatic EIS has identified the need for BLM to implement regulations to use coal as a source of energy.

B. Description of the Study Area

The Raton Basin Planning Unit, Royal Gorge Resource Area, is located in south-central Colorado in Huerfano and Las Animas Counties.

This environmental assessment covers 6,408.19 acres of both Federal and private coal resources in Las Animas County (Map 1). Sundance Coal Company has indicated they need the Federal coal lease to



LEGEND

- State capital
- County seat
- City, town, or village
- Scheduled service airport
- Built-up areas are shown for towns over 10,000 population
- County boundary
- Park or recreation area
- Forest
- Public Lands (Administered by Bureau of Land Management)
- National Forest Wilderness Area
- Interstate highway
- U. S. highway
- State highway
- Other principal roads
- National or State Reservation Boundary
- National wildlife refuge
- Military, Indian or other reservations
- Public Lands Withdrawn (Administered by Bureau of Land Management)

Scale 1:500,000
1 inch equals approximately 8 miles

Study Area

Map 1
Location of Study Area

economically mine their private lease holdings. For this reason the environmental assessment will cover the entire proposed mine area so the full affects of the Federal action can be ascertained. The unsuitability criteria will only be applied on the 1,969.02 acres of Federal coal and not on the 4,439.17 acres of private mineral estate. Within the 1,969.02 acres of Federal mineral estate is 160 acres of public surface. The remaining is private surface.

The study area is located approximately 2 miles south and southwest of Aguilar, Colorado (Map 2). Appendix A lists the legal descriptions of the study area.

C. Planning Process

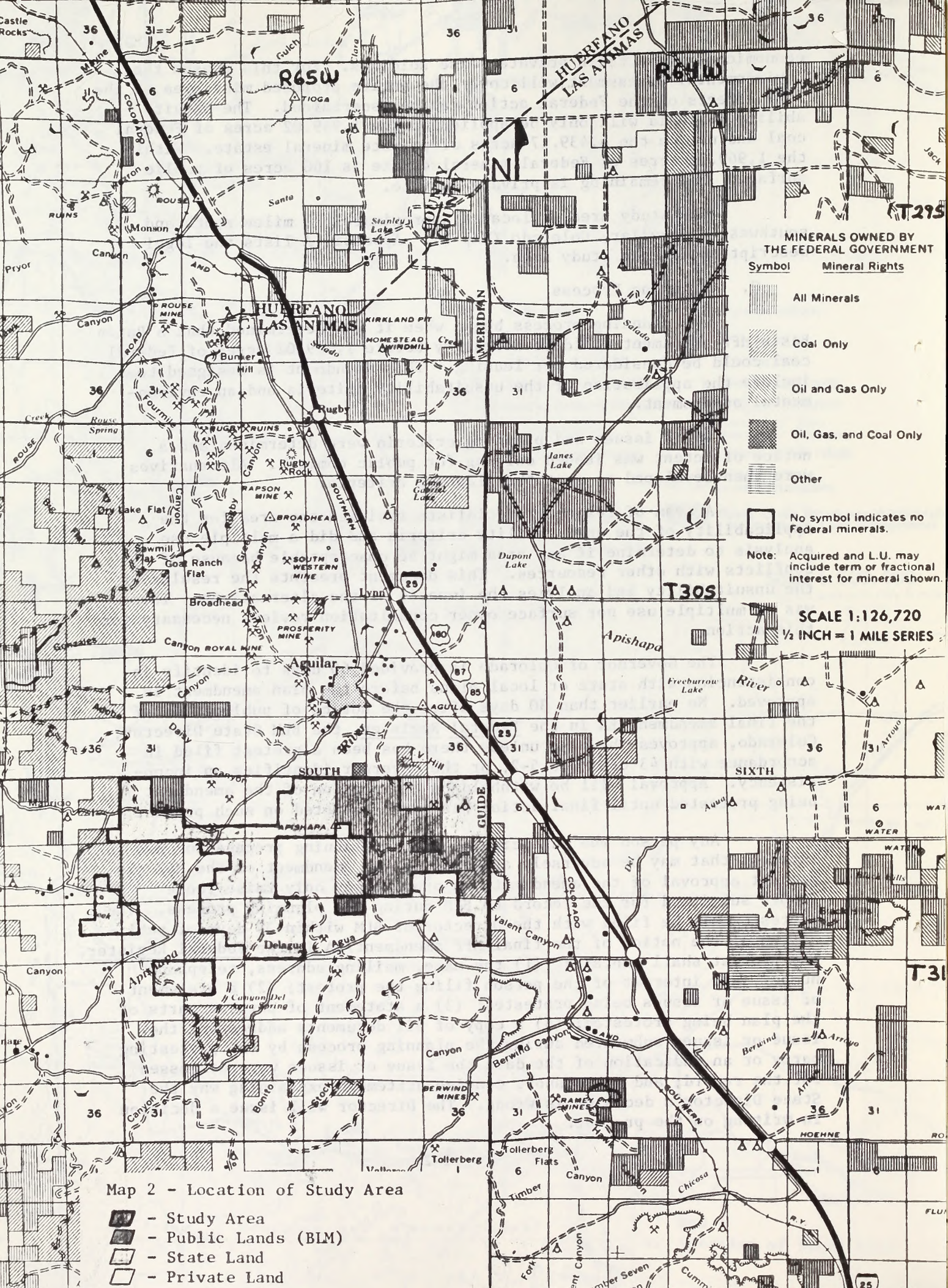
The planning process began when it was determined that a Raton Basin MFP amendment would be necessary before 1,969.02 acres of Federal coal could be considered for leasing. This amendment is designed to include the application of the unsuitability criteria and an environmental assessment.

Basic issues and planning criteria were determined and a notice of intent was issued calling for public comment. Alternatives were then developed to meet the planning criteria.

A team of resource specialists reviewed the area for the applicability of the unsuitability criteria and did a multiple use analysis to determine if any area might be unacceptable because of conflicts with other resources. This document presents the results of the unsuitability and analyzes the impacts of the alternatives. There was no multiple use nor surface owner consultation reviews necessary for this action.

The Governor of Colorado is provided 60 days to identify inconsistencies with state or local plans before the plan amendment is approved. No earlier than 30 days after the notice of publication of the final amendment/EA in the Federal Register, the BLM State Director, Colorado, approves the plan unless there has been a protest filed in accordance with 43 CFR 1610.5-2, or the Governor identifies an inconsistency. Approval will be withheld on any portion of the amendment being protested until final action has been completed on such protest.

Any person who participated in the planning process and has an interest that may be adversely affected by the amendment of the MFP may protest approval of the amendment. A protest may only raise those issues submitted for the record to BLM during the planning process. The protest shall be filed with the Director of BLM within 30 days of publication of the notice of the final MFP amendment/EA in the Federal Register. The protest shall contain: (1) the name, mailing address, telephone number, and interest of the person filing the protest; (2) a statement of issue or issues being protested; (3) a statement of part or parts of the plan being protested; (4) a copy of all documents addressing the issue or issues submitted during the planning process by the protesting party or an indication of the date the issue or issues were discussed for the record; and (5) a short concise statement explaining why the State Director's decision is wrong. The Director will issue a decision in writing on the protest.



MINERALS OWNED BY THE FEDERAL GOVERNMENT

Symbol	Mineral Rights
	All Minerals
	Coal Only
	Oil and Gas Only
	Oil, Gas, and Coal Only
	Other
	No symbol indicates no Federal minerals.

Note: Acquired and L.U. may include term or fractional interest for mineral shown.

SCALE 1:126,720
1/2 INCH = 1 MILE SERIES

Map 2 - Location of Study Area

- Study Area
- Public Lands (BLM)
- State Land
- Private Land

D. Scoping Process

The general public, other Federal agencies, and state and local governments were asked to identify issues or concerns with the proposed issuance of a Federal coal lease to Sundance Coal Company.

A news release was published April 30, 1984, in local newspapers asking the public to express concerns. The scoping period ended May 18, 1984. In addition, a Federal Register Notice was published April 27, 1984, with the 30-day comment period ending May 25, 1984.

Other Federal agencies and state governments were contacted and letters to individual landowners completed the scoping process.

BLM roles and responsibilities do not come to an abrupt end with the issuance of a coal lease. This is merely the first step in a program involving Federal, state, and local government agencies. BLM and the following government agencies will interact in all phases of coal lease development as discussed below:

1. Office of Surface Mining (OSM)

OSM, with concurrence of the surface managing agency (BLM) and the BLM branch of solid minerals, recommends approval, conditioned approval, or disapproval of a mining plan to the Assistant Secretary of Lands and Minerals Management. Colorado Mined Land Reclamation Division (CMLRD) in September 1982 entered into a cooperative agreement with the Secretary of the Interior, pursuant to Section 523(c) of the 1977 Surface Mining Control and Reclamation Act (SMCRA). This mandates the state regulatory authority to permit and regulate surface coal mining operation on Federal lands within the state of Colorado.

OSM enforces the environmental performance and permit requirements during operation of the mine, and has primary authority in emergency environmental situations. However, BLM has emergency authority in cases where OSM inspectors are unable to take action before significant harm or damage will occur.

2. Bureau of Land Management (BLM)

BLM develops special stipulations and mitigation requirements to be included in Federal coal leases and in mining. These are related to the management and protection of all other resources and the postmining land use of the affected Federal lands. BLM is also responsible for granting any needed rights-of-way for ancillary facilities such as access roads, powerlines, communication lines, and railroad spurs on public lands.

BLM determines the acceptability of Federal coal lands for mining. BLM is the lead agency in conducting an environmental analysis on Federal coal lease proposals. The Federal Land Policy and Management Act (FLPMA) provides BLM with a statutory framework for land use planning on public lands and requires that BLM use the principles of multiple use and sustained yield, give priority to the protection of areas of critical environmental concern, consider present as well as future uses of public lands, and coordinate planning activities with those of Federal, state, and local agencies.

BLM is responsible for development, production, and coal resource recovery requirements of the Federal coal lease. It supervises operations for all coal exploration on public lands and evaluates the coal resources prior to leasing and mining.

3. Other Federal Agencies

The Environmental Protection Agency (EPA) administers both the Clean Air Act of 1970, as amended, and the Federal Water Pollution Control Act, as amended. It ensures that any entity proposing a new industrial facility (e.g., fossil fuel fired steam generators) obtains permits certifying that the plant complies with EPA new source performance standards. In Colorado, this authority has been delegated to the State Air Pollution Control Division and the State Water Quality Control Division of the Colorado Department of Health.

The Mining Safety and Health Administration (MSHA) of the Department of Labor enforces Federal health and safety standards in all mining operations.

The Department of Labor Occupational Safety and Health Administration (OSHA) is responsible for enforcement of the Employee Safety and Health Act of 1970, which applies to surface structures and facilities of coal mining operations.

The Department of Army Corps of Engineers is responsible for ensuring compliance with Section 404 of the Federal Water Pollution Control Act and Section 10 of the River and Harbor Act of 1899. These regulations are contained in 33 CFR 209.12 and require issuance of permits for a wide variety of actions relating to crossings of navigable streams and alteration of streambeds.

The U.S. Fish and Wildlife Service is responsible for clearance for any threatened and endangered species, in addition to species of "High Federal Interest."

4. State Agencies

The Division of Mines of the Colorado Department of Natural Resources requires the filing of a notice of activity for any proposed exploration or mining in the state. The division also monitors mine safety practices along with MSHA. A common procedure is for the state to conduct the monitoring with MSHA providing an overview.

The Colorado Mined Land Reclamation Division (CMLRD) issues a permit based on an acceptable plan of activity, application fee, and performance bond. The plan must comply with the Colorado Open Mining Land Reclamation Act, as amended in 1973, and the Colorado Mined Land Reclamation Act of 1976 as amended, which set standards, practices, time factors, and reporting procedures. Under a cooperative agreement, effective September 20, 1982, between the state of Colorado and the Department of the Interior, the Colorado Department of Natural Resources and the Colorado Mined Land Reclamation Board are responsible for administering and enforcing state reclamation requirements on Federal coal leases in Colorado.

The State Water Quality Control Division and the State Air Pollution Control Division of the Department of Health has regulatory authority over water and air quality and related health hazards during construction and operation phases. Standards are established by state law and permits are required. The divisions work together with EPA.

The state engineer has authority over water wells and other water sources, such as retention dams and mine drainage.

The Colorado Public Utilities Commission (PUC) works with the Federal Interstate Commerce Commission (ICC) in matters involving railroad construction and abandonment. Of particular concern to PUC is the crossing of a public road by a railroad; approval is required for the location and safety features of a crossing.

The State Highway Department also is concerned with railroad crossings of state and Federal highways, and with any infringement on these road systems, including actions that will tend to significantly increase traffic volume or load tonnages.

The Colorado Occupational Safety and Health Administration of the Division of Labor issues permits to acquire, transport, and store explosives and other hazardous materials used in connection with construction or mining.

The state of Colorado requires licenses for all contractors.

The State Historic Preservation Office (SHPO) is consulted to assure that an undertaking would not cause damage or change the character of a cultural or historic site that is of National Register quality or is a potential nominee to the register. SHPO will consult with the agency to either remove or mitigate any adverse impact.

The Colorado Division of Wildlife manages wildlife and fish populations.

5. Local Agencies

City and county regulations generally involve special use permits, zoning variances, or construction permits where applicable.

The proposed coal mine will be located in Huerfano County. The county commissioners have jurisdiction over land use zoning for the county. Although county zoning and permitting requirements may not be used to deny actions authorized under Federal law, it is Bureau policy to require that any permitted actions are accomplished consistent with county zoning and permit requirements.

E. Conformance and Consistency

The Canon City District Manager has determined that the proposed action is not in conformance with the existing Raton Basin Management Framework Plan. Of the 1,969.02 acres under lease application

C-37838, 1,084.72 acres were recommended for coal leasing in MFP recommendations M-1.1, M-1.7, and M-1.9. However, 884.30 acres were not analyzed for coal leasing. Since the MFP never considered the entire area of proposed action, the MFP must be amended.

The Bureau is required to determine planning consistency with local agencies. These contacts have been made.

The Huerfano-Las Animas Area Council of Governments has three documents covering the coal application area: "Land Use Policy Statement - June 1974," "Existing Land Use Inventory - July 1975," and "Regional Land Use Plan - 1976." Although all three documents address resource development and preservation generally, no specific items are considered inconsistent with the coal mining operation.

Las Animas County has an adopted "County Zoning Resolution" as of September 1978. This is designed to implement the "Las Animas County Plan", which ". . . outlines, in accordance with physio-cultural characteristics, the future use of land, its proposed densities and sets forth the general standards for development."

The zoning resolution establishes five land use zones within the county. The mining proposal falls into the "Highland Agriculture" and "Ranchette" zones. The principal purposes of the Highland Agriculture zone is ". . . watershed protection with allowance of those uses determined to be compatible with the topography and physical characteristics of the zone." The principal purpose of the Ranchette zone is ". . . to encourage agricultural production and allow development compatible with irrigated agriculture."

The coal mining proposal would fall under the county "Uses by Special Permit Only" section of the zoning resolution. A Class VI special permit for "Resource Production and Extraction" would be needed by the coal mining proponent.

Overall, there appears to be nothing in the plans or the zoning resolution that would, from a planning consistency standpoint, prohibit the development of the coal mine as proposed. A Federal action to lease coal as proposed would not be inconsistent with local planning.

F. Planning Criteria

The format for Category I plan amendments is designed to meet the requirements of both FLPMA as reflected in the Bureau planning system (43 CFR Subpart 1601) and the National Environmental Policy Act (NEPA) as reflected in CEQ Regulations (40 CFR Parts 1500-1508).

1. Issues and Concerns

No issues were identified by the public during the scoping process. The scoping process included publishing a Federal

Register Notice and news releases in local newspapers. Preliminary analysis revealed that potential degradation of ground water quality could occur as a result of mining. Additionally mining could substantially increase local revenues.

2. Planning Criteria

The coal screening procedures identified in 43 CFR 3420, Federal Coal Management Regulations, are the planning criteria for this plan amendment/environmental assessment. Included in this screening are the following: only areas with coal development potential may be considered and unsuitability criteria described in 43 CFR 3461 shall be applied.

II. Alternatives

This chapter will describe in detail the alternatives considered and provide a comparison of those alternatives in this planning amendment/environmental assessment.

A. Preferred Alternative (Proposed Action)

The Preferred Alternative is:

1. To amend the land use plan to make the 1,969.02 acres acceptable for further consideration for coal leasing;
2. To offer the area for competitive leasing in response to an emergency coal lease application submitted by Sundance Coal Company under the regulations contained in 43 CFR 3425.

Management has selected the applicant's proposal as the Preferred Alternative because of the positive benefits gained from mining the coal resource. The applicant's proposal, with stipulations identified in this document, will not adversely affect public lands.

The following stipulations will be incorporated in the lease:

In the event that surface subsidence will affect the powerline structure and it is impractical to relocate the right-of-way, mining will not be permitted within the right-of-way.

Relocation of the right-of-way will be required through consultation between the right-of-way holder and the lessee. All costs involved in the relocation will be borne by the lessee.

During the mine plan phase of this project, when additional information is presented concerning surface subsidence, critical areas such as residences, roads, etc., may be omitted from mining if subsidence will be a potential problem.

Under this alternative, 1,969.02 acres of Federal coal in Las Animas County, Colorado, would be leased from BLM by Sundance Coal Company of Trinidad, Colorado. The Federal coal would be mined in conjunction with 4,439.17 acres of private coal located on property leased by Sundance. This alternative is the applicant's proposal.

The Federal coal acreage in the application is described as follows:

Sixth Principal Meridian, Colorado

	<u>Acres</u>
T. 31 S., R. 65 W.,	
sec. 1, $W\frac{1}{2}SW\frac{1}{4}$,	80.00
sec. 2, lots 3 and 4, $S\frac{1}{2}NW\frac{1}{4}$, $S\frac{1}{2}$	484.30
sec. 3, lots 1 and 2, $S\frac{1}{2}NE\frac{1}{4}$, $N\frac{1}{2}SE\frac{1}{4}$, $SE\frac{1}{4}SE\frac{1}{4}$,	284.72
sec. 11, $N\frac{1}{2}$, $SW\frac{1}{4}$, $W\frac{1}{2}SE\frac{1}{4}$,	560.00
sec. 12, $N\frac{1}{2}$, $SE\frac{1}{4}$,	480.00
sec. 15, $N\frac{1}{2}NE\frac{1}{4}$.	80.00
Total	<u>1,969.02</u>

The application is a request for a lease on all coal seams present. Using 65 percent recovery for a combination of longwall and room and pillar mining in the Hastings bed, the total estimated (preliminary) recoverable reserves for the two beds (Delagua and Hastings) are 11,972,000 tons. If Sundance chooses to mine using only the longwall method, the estimated (preliminary) recoverable reserves are 9,477,000 tons.

Coal in the Raton and Vermejo Formations is high volatile A and B bituminous with an average approximate analysis of 12,935 B.t.u.'s, 0.6 percent sulfur, 10.8 percent ash, and 2.9 percent moisture.

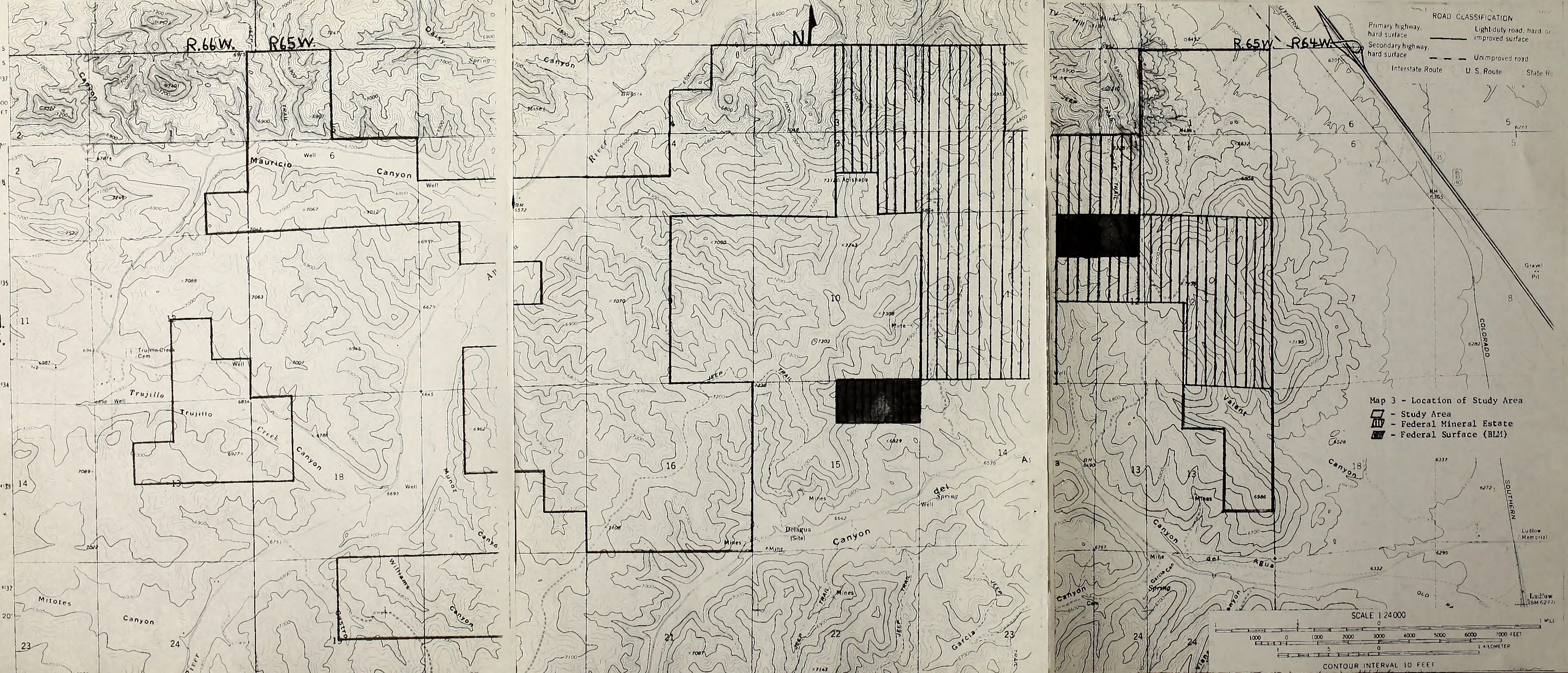
For a description of the private holdings of Sundance see Appendix A.

Preliminary developments, investigations, and proposals by Sundance Coal have been restricted to the Hastings coal seam within the leased fee coal and the Federal coal lands identified in the application. This is due primarily to the availability of information concerning this seam and the general lack of information concerning other coal seams in the application area. Sundance has indicated that investigations into the development possibilities of other coal deposits within the area will be initiated upon issuance of the lease. Based on available geologic data and records from previous mine workings in close proximity to the lease area, the development of the Hastings seam would not hinder the development of any other coal beds, particularly on the requested Federal lands.

The project area is located approximately 2.0 miles south of Aguilar, 2.5 miles north of Ludlow, Colorado, and about 2 miles west of Interstate 25. A distance of approximately 20 miles, via Interstate 25, separates the proposed mine from the Sundance Coal Company Animas Mine, just south of Trinidad, Colorado.

A longwall underground mining method is planned for the property. Preliminary plans call for portals to be located at the outcrop of the Hastings seam in the southeast quarter of sec. 12, T. 31 S.; R. 65 W., 6th PM. A system of mains would be sequenced through Federal coal in sections 2, 3, 11, and 12. Submains and panels would be developed to the north and south to property line or mining limitations on the advance. Ultimate production would depend on market demand. Preliminary plans call for an initial production capacity of 300,000 tons per year increasing to 600,000 tons per year if markets develop.

Access to the portals on Federal lands would be across Sundance property in section 13 (see Map 3). Any minable Hastings seam coal in Sundance property in section 1 would be mined as the workings advance to the north and west. After the workings progress through Federal coal to the west, where Sundance property is entered in section 3, the system of mains through the Federal lands and the portals would be used for transportation of coal mined on the remaining Sundance holdings to the west. It is anticipated the mine would be operational for 25 to 30 years.



ROAD CLASSIFICATION

- Primary highway, hard surface
- Secondary highway, hard surface
- Interstate Route
- Light-duty road, hard or improved surface
- Unimproved road
- U.S. Route
- State Route

Map 3 - Location of Study Area

- Study Area
- Federal Mineral Estate
- Federal Surface (BLM)

SCALE 1:24,000

0 1000 2000 3000 4000 5000 6000 7000 FEET

0 5 1 KILOMETER

CONTOUR INTERVAL 10 FEET

Sundance Coal Company owns and operates the Animas Mine located approximately 20 miles south of Trinidad along Interstate 25. The mine has a coal washing plant and train loading facility. It is presently planned that Federal and fee coal mined from the Hastings seam would be trucked to the Animas Mine for processing and customer loading. The route between the Hastings seam and the Animas Mine would consist of a yet to be established access road over private property to the existing County Road 44.0 located along Canyon del Agua, along County Road 44.0 to its intersection with Interstate 25 in section 16, T. 31 S., R. 64 W., along I-25 to the exit just north of the Animas Mine.

The haul road would be approximately 1 mile in length from the mine entrance to County Road 44.0. The coal would then be trucked an additional 1 mile on the county road to Interstate 25.

Surface facilities in support of the proposed Hastings seam mine would be located on Sundance property in section 13 or on other private lands in the immediate vicinity.

Use of the coal depends on ultimate markets developed. However, it is expected the coal would be sold to industrial and utility consumers and possibly some local coal consumers.

Detailed mining and facility plans and design, including access road, utilities, and support facilities would be prepared subsequent to lease acquisition and the gathering of additional geological, environmental, and marketing information.

Mitigating measures designed to lessen or compensate for the adverse impacts of the Preferred Alternative have not been identified. The environmental consequences are not significantly adverse to warrant mitigating measures.

Table 1 summarizes the impacted environmental elements as a result of the full lease Preferred Alternative (Proposed Action).

B. No Action Alternative

The No Action Alternative would not amend the Raton Basin Management Framework Plan for coal. Therefore, the area would not be offered for competitive leasing.

Under this alternative, if a Federal coal lease were not granted, the Sundance Coal Company would not develop the mine because it would not be economically feasible to mine private coal separately from Federal coal.

Table 1 summarizes the impacted environmental elements as a result of the No Action Alternative.

C. Comparison of Impacts by Alternative

The Preferred Alternative of amending the MFP to expand the area considered for coal leasing was selected after impact analysis.

The positive economic impact and uses of the 9,477,000 tons of coal are considered to outweigh the largely local and temporary adverse impacts caused by mining. These estimated impacts are summarized in Table 1. The assumption was made that if the No Action Alternative were adopted the area would continue to be used as it is now. No change would occur in livestock grazing and rural residential uses.

D. Other Alternatives Considered but not Analyzed

Another alternative was considered, but rejected early in the process. The original analysis was intended to cover only the Federal coal. Consultation with the coal company indicated they could not mine their leased fee coal without the Federal coal lands. For this reason the Federal and leased coal was combined and analyzed as one proposed action.

Also an alternative to amend the plan to determine the area unacceptable for further consideration and, therefore, not offering the area for competitive leasing was rejected. During the analysis, the area was determined to be suitable for mining.

An alternative was also rejected that would amend the plan to determine the area acceptable, but not offering it for leasing as a result of unacceptable impacts. No unacceptable impacts were identified.

TABLE 1 **COMPARISON OF IMPACTS BY ALTERNATIVE**

Impacted Environmental Element	Full Lease Alternative (Proposed Action)	No Action Alternative
Air Quality	The total impact remains within the allowable standards for TSP levels.	No change from present air quality, which are below allowable standards (estimated at 100 and 47 micrograms per cubic meter, 24 hours and annually respectively).
Soils	Soil will be disturbed on approximately 20 to 30 acres. This may cause an increase in sediment yield until vegetation is established.	Minimum soil disturbance would occur (only disturbance related to grazing and a few new homesites is expected).
Geology & Minerals	Oil and gas exploration and development precluded until after surface reclamation. Possible subsidence of the surface in certain areas (these areas cannot be identified until a mine plan is submitted).	Oil and gas exploration could occur immediately. This area is potentially valuable for oil and gas. Subsidence of the surface would not occur.
Paleontology	Adverse impacts to paleontological resources would consist of losses of plant, invertebrate, and vertebrate fossil material.	Losses of fossil material would not occur.
Water	Water quality may be reduced and groundwater tables lowered. This is not expected to be significant.	No water quality change would occur. Water is currently heavily mineralized and used primarily for stockwatering.
Vegetation	Loss of vegetation on 20 to 30 acres until the mine closes and revegetation can occur.	No vegetation loss would occur. It is expected to remain grassland and pinon-juniper.
Wildlife	Loss of wildlife habitat (20 to 30 acres) and the associated wildlife species for the life of the project. Numbers of animals lost is insignificant to the total population.	Current habitat and species levels would continue.

TABLE 1 COMPARISON OF IMPACTS BY ALTERNATIVE

Expected Environmental Element	Full Lease Alternative (Proposed Action)	No Action Alternative
Economics & Sociology	<p>From 80 to 160 jobs during operation. Up to 60 jobs during construction. Increase in state and Federal revenues. Insignificant population changes. Increase in property tax revenues is expected to be significant.</p>	<p>No new jobs would be created and there would be no increases in local, state, and Federal revenues.</p>
Land Use	<p>Use of surface lands (20 to 30 acres) would be eliminated until reclamation is accomplished. This would amount to 1 animal unit month of livestock forage lost per year.</p>	<p>Livestock grazing (the primary land use) would continue as it has in the past.</p>

III. Affected Environment

This chapter will describe the environment of the area to be affected by the considered action. Various environmental elements (e.g. forestry, range) were not considered to be an issue in the consideration of the proposal and are not covered in this document.

This description includes the entire proposed mine area of 6,408.19 acres.

A. Climate and Air Quality

The study area is located in a foothill, continental climate regime characterized by dry air, sunny days, clear nights, low precipitation, moderate evaporation, and large diurnal temperature changes. The complex topography of the region creates variations in site specific temperature, precipitation, and surface winds, but without site specific monitoring data, conditions at the site can only be estimated (Pedco Environmental, Inc., 1981 ^{1/}). Extremely frigid conditions and blizzards can occur, but severe weather conditions such as tornadoes, floods, and damaging hail are rare.

The existing climatology of the proposed tract site is unknown, and prolonged onsite monitoring would be necessary to specify local conditions. The following description represents a "best guess" of climatic conditions at the site, based on measurements at the Wal-senburg powerplant.

Temperatures vary mostly with elevation and, to a lesser extent, local microclimate. Generally, summer temperatures will probably range from lows of 57°F to highs of 87°F. Winter temperatures may range from 21°F to 47°F. Extreme temperatures may range from -36°F to 100°F. Annual precipitation is highly variable, averaging 15 inches, due mostly to late spring and early summer storms. Snowfall averages 8 inches each year, and is likely from November to April.

Although upper level winds may be predominantly from the west and southwest, the diverse and rugged terrain of the study area would result in complex wind flows and surface winds. Air basins have been defined based on these drainage winds, indicating areas of similar atmospheric flow, topographic influence, and general dispersion potential. Under stable conditions, pollutants tend to collect and concentrate in an air basin until regional winds disperse the air between basins. Generally, downslope winds around the proposed tract would flow into the southern Front Range air basin.

^{1/} Pedco Environmental Inc., 1981. Colorado's Climate Meteorology, Air Quality. Prepared for U.S. Department of the Interior, Bureau of Land Management under Contract No. YA-553-CTO-98. Denver, Colorado.

The existing air quality (like climatology) at the site can only be estimated. For most pollutants, no monitoring data is available; the nearest particulate sampler is located nearly 20 miles away in Trinidad, Colorado, in very different surroundings. However, the air quality of the study area is believed to be typical of undeveloped regions in the western United States; ambient pollutant levels are usually near or below the measurable limits. Locations vulnerable to decreasing air quality from extensive resource development include the immediate operation areas (mines, milling operations, etc.), and local population centers with their induced impacts. Total suspended particulate (TSP) levels for 24 hours and annually are assumed to be 100 and 47 micrograms per cubic meter, respectively.

Most of southeastern Colorado has been designated a PSD (prevention of significant deterioration) Class II attainment area. Some towns have measured high TSP levels (occasionally exceeding the standards), but since the cause is primarily natural fugitive dust, these towns have been designated "unclassified" for TSP. The city of Pueblo has been designated "nonattainment" for TSP. The nearest PSD class I area is Great Sand Dunes National Monument, approximately 53 air miles away.

B. Soils

Four major soil types are found within the proposed lease area and adjacent private holdings. These are: (1) Maitland fine sandy loam, (2) Noden loam, (3) Manzano loam, and (4) the Louviers-Travesilla-rock outcrop complex. The Maitland and Noden soils are found on the uplands, the Louviers-Travesilla soils occupy the sideslopes, and the Manzano loam is in the flood plains of the Apishapa River and Mauricio Canyon.

The Maitland and Noden loams are both deep, well drained soils lying on slopes ranging from 1 to 15 percent. Permeability is moderate and available water holding capacity is high. The runoff potential is medium and the water erosion hazard is slight to medium, depending on slope. Because of the gentle slopes and favorable soil-water characteristics, restoration of disturbed areas should not be difficult.

The Manzano loam is similar to the Maitland and Noden soils, except runoff is slow and the hazard of water erosion is slight. This soil is subject to flooding and is well suited for irrigated hay and pasture. Reclamation of disturbed areas is easily accomplished.

The Louviers-Travesilla-rock outcrop complex contains the soils of principal interest. The main mine portal, service areas, and haulage roads would be located on these soils. Both soils are located on slopes ranging from 3 to 85 percent. The predominant rock outcrop is the Trinidad sandstone, although sandstone layers in the Vermejo and Raton formations are also exposed.

The Louviers is a clay loam derived from the shales in the Vermejo-Raton formations. It is shallow (10 to 20 inches deep) and well drained. The permeability is slow and the available water holding capacity is very low. Runoff is rapid and the water erosion hazard is very high.

The Travesilla is a well drained sandy loam about 15 inches deep. This soil is derived from the sandstones of the Trinidad, Vermejo, and Raton formations. Although the permeability is fairly rapid, the available water holding capacity is low. Due to shallow depth and steep slopes, runoff is rapid and the water erosion hazard is very high.

C. Geology & Minerals

The Raton Basin is an asymmetric trough with a steeply dipping west limb and a gently dipping east flank. The basin axis lies close to the western margin and extends northward from near Ute Park in New Mexico to Huerfano Park in Colorado. In the Colorado portion of the basin, this axis is referred to as the La Veta syncline. The basin is not structurally complex and the regional dip is only rarely modified by local structures. One such modification near the lease area is a monocline situated about 3 miles west of Aguilar. This structure trends northeast-southwest and is present in the Trinidad sandstone, Vermejo, Raton, and Poison Canyon formations.

The Raton Basin contains the classic stock and radial dike complex of the Spanish Peaks and Dike Mountain areas. These dike complexes are the most striking topographic feature of the basin. The igneous rocks were emplaced not only as stocks and dikes, but also as laccoliths, plugs, sills, and lavafloWS. This igneous activity has had a varying effect on the coal deposits of the basin.

Bituminous coal occurs in both the Vermejo and Raton formations with such coal of both steam quality and metallurgic grade. Individual coal beds within these formations are quite limited in area extent and rarely exceed a township or a township and a half in size. The individual coal beds usually occur in a well defined coal zone that in turn may be correlated over a wide area. These coal bearing zones are poorly exposed throughout most of the region with the exception of the escarpment overlying the Trinidad sandstone on the eastern margin of the basin and intermittent exposures along the numerous canyon walls.

The following geologic formations occur within the lease area from oldest to youngest: Pierre shale, Trinidad sandstone, Vermejo formation, Raton formation, and Tertiary sills and dikes. The Vermejo and Raton formations are the principal coal bearing sections and contain seven zones of coal 14 inches thick or better within the lease area. Of primary interest to the applicant is the Hastings seam of the Vermejo formation. This coal seam is situated approximately 110 to 150 feet above the Trinidad sandstone and ranges in thickness from 3.3 to 6 feet. Approximately 60 feet above the Hastings seam is the Lower Ludlow, which ranges in thickness from 2 to 4 feet. Several smaller coal zones are situated beneath the Hastings and above the Trinidad. Within the Raton formation the major coal zones are the Bear Canyon, Cass, and Delagua No. 1. Other zones are also present but unnamed. The quality of coal within the Vermejo and Raton are bituminous in rank, high volatile A & B in type, low sulphur, and averages 12,910 BTU/lb. Many, if not most, of the coals in the area will coke.

Other than coal, the only mineral interest in the area is the potential for oil and gas. The entire lease area is currently under lease for oil and gas. Exploration for oil and gas has been limited in the Raton Basin although a thick stratigraphic section containing promising source and reservoir rocks does exist. Due to the lack of structural highs within the basin any accumulations of oil and gas would probably be confined by stratigraphic traps within potential reservoir rocks of Cretaceous age. Recent discoveries of gas from within the coal bearing sections of the Raton and Vermejo would indicate potential for gas development from much of the basin. Because of these recent gas discoveries and the potential Cretaceous reservoirs the lease area would have to be considered potentially valuable for these resources.

No other minerals are known to exist within the area or in association with equivalent geologic formations found within the lease area.

D. Paleontology

A paleontological inventory of the southeast portion of the Royal Gorge Resource Area, which includes the Raton Basin, was conducted by K. Don Lindsey and J. Westlye in 1982-83 under BLM contract CO-050-PP2-15. A general summary of the principal formations to be encountered within the lease area, age, number of fossil localities, and general fossil types is presented in Table 2. A site specific paleontological inventory of the lease area was not conducted.

Table 2. Summary of Paleontological Resources in the Area of the Proposed Sundance Coal Mine

Formation	Period	Known Fossil Localities	Type of Fossils
Raton	Upper Cretaceous	General	P
Vermejo	Upper Cretaceous	General	I,P
Trinidad	Upper Cretaceous	General	V,I,P
Pierre Shale	Upper Cretaceous	General	I,V

General = Formation contains fossils throughout; specific localities are not identified

V - Vertebrate

I - Invertebrate

P - Paleobotanical

E. Topography

The study area lies within an extremely complex topographic area (Map 3). The majority of the area is steep, rugged country broken and dissected by many narrow valleys and canyons. There are numerous cliffs and bluffs and pinnacle-type formations along the north and east out-

cropping with steep to moderate walls of either outcrops or colluvium. Nearly all the valleys and washes flow either north or south draining in the Apishapa River or Canyon del Agua.

Elevations range from 6,700 feet at the lower portions to 7,200 feet at the bluffs along the eastern edge of the study area.

F. Water

1. Surface Water

The proposed lease area and associated private coal holdings are tributary to the Apishapa River, a perennial stream, and Canyon del Agua, an intermittent stream. The gently sloping uplands are drained by numerous small channels that pitch off steeply into the major drainages. All these channels are ephemeral, and flow only during snowmelt or intense rain.

The private coal holdings run across the Apishapa River and into Mauricio Canyon, which drains in from the west. Both of these channels have well defined flood plains that, under Federal criteria, would be unsuitable for strip mining. The valley bottom of the Apishapa River may meet Federal criteria for an alluvial valley floor. Since no Federal coal is involved, a determination of unsuitability would have to be done by the Colorado Mined Land Reclamation Division. Due to the small size, it is doubtful this alluvial deposit would qualify as an alluvial valley floor. There are no flood plains, alluvial valley floors, nor municipal watersheds associated with the Federal coal.

2. Ground Water

There are three major aquifer systems in this area; unconfined (water table) bedrock aquifers, confined (artesian) bedrock aquifers, and unconfined alluvial aquifers. The Trinidad sandstone (under the Hastings seam), the Vermejo formation (containing the seam), and the Raton formation (over the seam) all contain aquifers under artesian pressure. These aquifers are unconfined only in their outcrop areas. An alluvial aquifer is found in the valley of the Apishapa River.

The bedrock aquifers are intruded by numerous igneous dikes, sills, and plugs. These intrusions have resulted in substantial fracturing of the host rocks. In places, the fractures provide connection between confined aquifers or between bedrock and alluvial aquifers. Therefore, leakage between aquifers is common.

In the Vermejo and Raton formations, the principal aquifers are channel sandstones and coal. According to an Indiana University report (Howard, 1981), the coal units are the most productive aquifers in the Vermejo-Raton aquifer system.

The piezometric surface (elevation to which water will rise in artesian wells) of ground water in the lease area varies in

elevation from 7,000 to 6,500 feet. When elevations of the estimated piezometric surface are plotted against estimated elevations of the Hastings coal seam, they intersect about a mile west of the coal outcrop. In other words, it appears likely that ground water would be encountered about a mile down dip from the proposed mine portal. It is possible that areas of perched ground water would be intercepted anywhere between the coal outcrop and the general piezometric surface.

Ground water in the Raton-Vermejo aquifers is highly mineralized. One study (Howard, 1981) reported a mean specific conductance of 1,884 micromhos/centimeter for these aquifers. The ground water is characterized as a sodium bicarbonate-sodium sulfate type. These aquifers contain little dissolved oxygen and high concentrations of organic material. The low oxygen levels result in reducing conditions that cause sulfate reduction and methane formation. When oxygen is introduced to this water, an oxidizing environment is created. This can alter the chemical makeup of the water drastically, depending on the minerals present in the aquifer. If pyrite is present in the coal, it will oxidize to form ferric hydroxide, sulfate, and hydrogen ions (acidity).

There are no known problems resulting from drainage of existing mines in this area. Some old mine works near Walsenburg, however, contain very highly mineralized water unsuitable for almost any use (McLaughlin, 1966).

There are five stockwater wells and one spring on or near the proposed mining area. There is no data to indicate which aquifer or aquifers supply these wells. The spring appears to emerge from a sandstone lens in the Vermejo formation. A potential use for these sources is domestic water. However, it is not known whether the water quality is adequate for this purpose.

G. Vegetation

Pinon-juniper is the predominant vegetation found in the study area. This type includes grassland interspersed throughout the study area as open parks.

Pinon-juniper in the study area is found on shallow rocky soils or ridges, on deep soils, in valleys, and on benches. Pinon dominates at the higher elevations with pockets of ponderosa pine interspersed with juniper most common on the lower elevation sites.

Mature stands of pinon-juniper in the area support little or no understory vegetation.

Following is a species list of the grasses, forbs, shrubs, and trees common on the study area:

<u>Grass</u>	<u>Forbs</u>	<u>Shrubs</u>	<u>Trees</u>
Western wheatgrass	Milkvetch	Fringed sagebrush	Juniper
Blue grama	Colorado rubber plant	Mountain mahogany	Pinon pine
Junegrass	Locoweed	Rabbitbrush	Ponderosa pine
Indian ricegrass	Russian thistle	Snakeweed	
Squirreltail	Scarlet globemallow	Prickly pear	
Sleepygrass	Common mullein	Gambel oak	
		Currant	
		Yucca	

The grassland type is dominated by blue grama. Much of the blue grama results from past overuse of mountain muhly, needle-and-thread, or western wheatgrass sites. Severely overutilized sites within the study area are dominated by annual weeds or shrubs but these are not extensive and generally occur in bottoms, around, water, or in small parks within the pinon-juniper type.

Representative species of the grassland type include the following:

<u>Grass</u>	<u>Forbs</u>	<u>Shrubs</u>
Western wheatgrass	Prickly poppy	Fringed sagebrush
Red threeawn	Milkvetch	Winterfat
Blue grama	Goosefoot	Rabbitbrush
Cheatgrass	Bee plant	Snakeweed
Sand dropseed	Gumweed	Prickly pear
	Locoweed	Skunkbrush
	Russian thistle	Yucca
	Common mullein	

A third and much less common vegetation type would be the riparian type. This type is found where the coal seam passes under perennial streams such as the Apishapa River, Trujillo Creek, and in Mauricio Canyon.

Representative species of the riparian/meadow type include the following:

<u>Grass and Grasslike</u>	<u>Forbs</u>	<u>Shrubs</u>	<u>Trees</u>
Sedge	Yarrow	Chokecherry	Aspen
Rush	Cinquefoil	Locust	Cottonwood
Bluegrass	Dandelion	Woods rose	Willow
	Golden banner	Elderberry	
	Common nettle		

No threatened nor endangered plant species are found within the study area.

H. Wildlife

The 6,408.19 acres in the study area provide habitat for a variety of wildlife species. Table 3 lists the animal and bird species common in the pinon-juniper/grassland habitat types.

Only 11 of the 29 species of wildlife listed in the Division of Wildlife HB 1041 maps could be expected to occur in the study area. They include golden eagle, coyote, band-tailed pigeon, striped skunk, mule deer, turkey, black bear, mountain lion, mourning dove, Abert's squirrel, and bobcat.

Species of special concern in the study area would include mule deer and turkey. The area is not good habitat for either species. Browse species such as mountain mahogany and oak are not widespread.

Very few deer are found in the area and turkey only occasionally use the area (personnel communication with landowner Larry Cher).

Of the 15 species of Migratory Birds of High Federal Interest listed for the Denver-Raton Basin coal Production Region only 2, the prairie falcon and ferruginous hawk, could occur in the study area. Neither of these species is unique to the area and their preferred habitat is not found in the study area.

Suitable habitat exists in the immediate vicinity of the study area for raptor nesting. No cliffs are located in the study area itself, however, cliffs to the north, east, and southeast are known to contain raptor nests and/or abandoned nests. Information from the Division of Wildlife shows an eagle nest located in T. 30 S., R. 65 W., sec. 35, SE $\frac{1}{4}$ was active in 1982 and 1984. No additional information on active nest sites in the area is available at this time.

Table 3.
Common Wildlife Species Found in the Pinon-Juniper/Grassland Habitat Types

Animals	Birds
Mule deer	Golden eagle
Mountain lion	Red-tailed hawk
Coyote	Prairie falcon
Bobcat	American kestrel
Porcupine	Great horned owl
Cottontail rabbit	Pinyon jay
White-tail jackrabbit	Common flicker
Deer mouse	Mountain chickadee
Rock squirrel	Mourning dove
Mexican woodrat	Canyon wren
Pinyon mouse	Mountain bluebird
Least chipmunk	

The hunting and foraging range of raptors using the cliff sites would include the study area, however, the majority of prey probably comes from the open prairies to the east. These areas contain abundant prey and are easier hunting.

No threatened nor endangered species are found in the study area. The bald eagle and peregrine falcon are considered migrants through the area and might occupy the study area for short periods during migration.

I. Recreation

The subject parcels do have hunting values for deer, coyote, and some upland game (i.e., rabbits). However, legal access constraints put severe limitations on the amount of hunters that can use the area.

J. Visual

The majority of the subject lands are included in a Visual Resource Management (VRM) Class IV area (Map 4). The landscape in this area is characterized by low, rounded ridgelines with steep sideslopes.

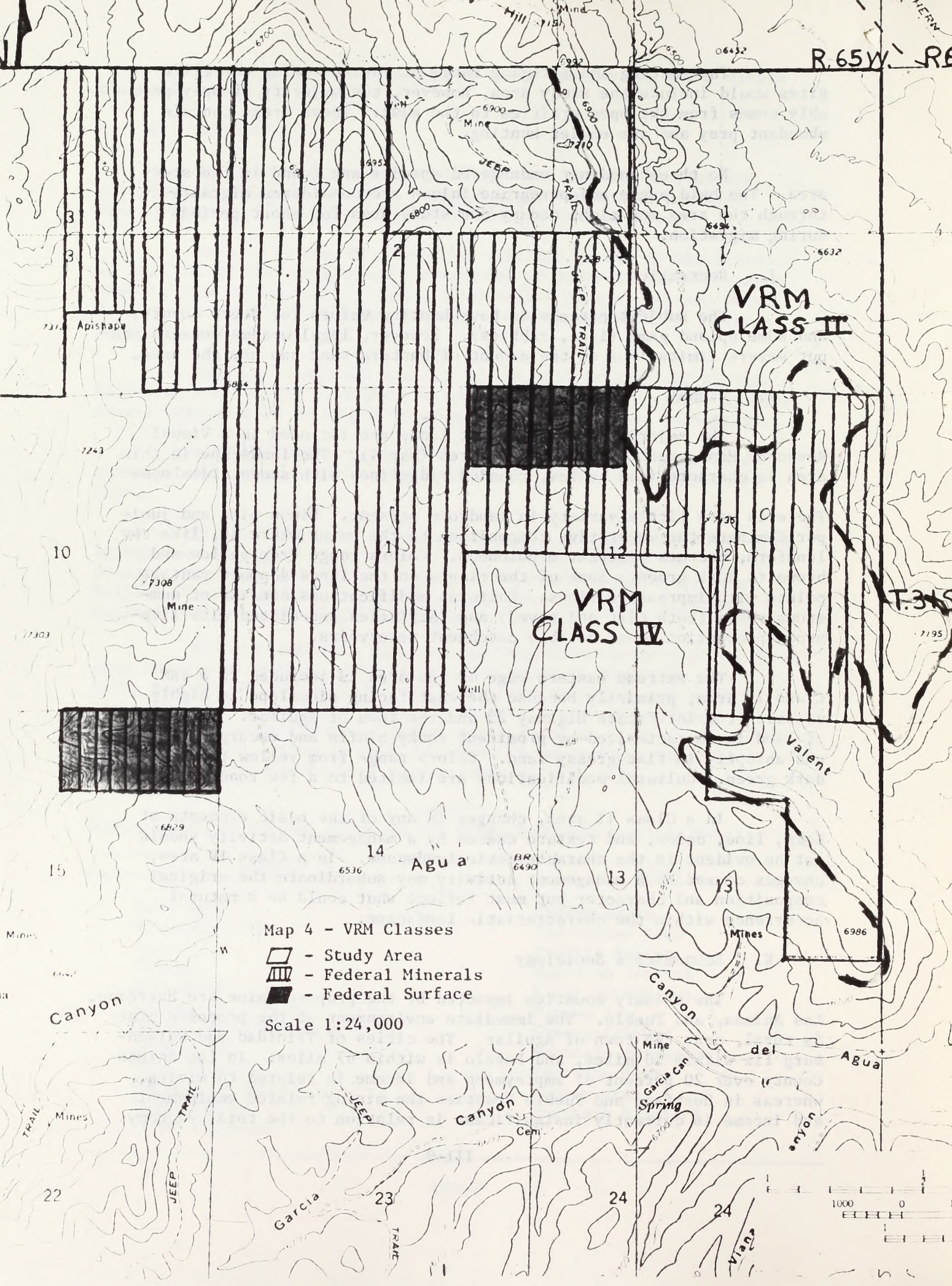
There is very little variety in landform present. Pinon pine and juniper dominate the vegetative composition to the point where it, like the landform, becomes somewhat monotonous. Colors range from yellow and brown to dark green. Some of the ridges on the lands support vantage points with impressive views. Cultural modifications consist of numerous roads (both dirt and paved) and facilities associated with livestock production, most notably catchment reservoirs.

The extreme eastern edge of the area is included in a VRM Class II area, primarily because the east facing sideslope is highly visible from Interstate Highway 25 and the town of Aguilar. The strip of land is characterized by prominent rocky bluffs and escarpments that end abruptly in flat grassy land. Colors range from yellow to brown to dark green. Cultural modifications are limited to a few roads.

In a Class II area, changes in any of the basic elements of form, line, color, and texture caused by a management activity should not be evident in the characteristic landscape. In a Class IV area, changes caused by a management activity may subordinate the original composition and character but must reflect what could be a natural occurrence within the characteristic landscape.

K. Economics & Sociology

The primary counties impacted by the proposed mine are Huerfano, Las Animas, and Pueblo. The immediate environment of the proposed mine is rural, near the town of Aguilar. The cities of Trinidad and Walsenburg lie within 20 miles, and Pueblo is within 67 miles. In Las Animas County over 20 percent of employment and income is related to mining, whereas in Huerfano and Pueblo Counties the mining related employment and income is currently insignificant in relation to the total economy.






R. 65 W. RE

VRM CLASS II

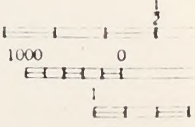
VRM CLASS IV

T. 31 S.

Map 4 - VRM Classes

-  - Study Area
-  - Federal Minerals
-  - Federal Surface

Scale 1:24,000



Huerfano County economy used to be related to the mining industry, but its strength has weakened in recent years.

In 1980 the population within 60 minutes commuting distance of the mine site was approximately 23,434, which includes most of Las Animas and Huerfano Counties and the Colorado City-Rye area in Pueblo County. The past and expected future populations are depicted in Table 4.

Table 4. Previous and Future Populations

County	1970 ^{1/}	1980 ^{1/}	1990 ^{2/}	2000 ^{2/}
Huerfano	6,590	6,440	6,651	6,783
Las Animas	15,744	14,897	15,596	15,946
Pueblo	118,238	125,972	130,432	133,151

^{1/} Census Data

^{2/} Estimates by the Colorado Department of Local Affairs

This table shows the population near the mine area is relatively stable.

Unemployment in the area has been historically higher than the state average in all of the counties. Las Animas County had lower unemployment rates than Pueblo or Huerfano partially because of the mining industry. Recently that position has reversed due to cutbacks in that industry. Las Animas Job Information Service estimates over 400 of the currently unemployed have mining experience. Unemployment in the area in August 1983, estimated by the Colorado Department of Labor and Employment, is shown in Table 5.

Table 5. Colorado Department of Labor and Employment
Estimated Unemployment - 1983

County	Unemployed	Labor Force	Unemployed Percent of Labor Force
Huerfano	242	2,484	9.7
Las Animas	1,177	6,459	18.2
Pueblo SMSA	6,856	50,589	13.6

Government services rely heavily on the property tax. The rural areas are dependent on the urban areas for the provision of health and higher education services.

L. Cultural Resources

Those portions of the Park Plateau and surrounding areas which have been inventoried have yielded several hundred prehistoric and historic sites. The proposed mine itself lies immediately adjacent to

the mine and townsite of Hastings and not far from the site of the Ludlow "Massacre." The old Sciacca family homestead is also close to the area of the proposed adit. Prehistoric remains from this general area of Las Animas County include materials from paleo-indian through historic plains tribes. Significance of any sites affected by this proposal would have to be determined on a site-by-site basis relative to the State Historic Preservation plan and research design. There are no National Register Sites on the proposed study area.

M. Transportation

Major transportation routes in the general area of the lease application are Interstate 25; Federal Highways 85, 87, 160, and 350; Colorado State Highways 10 and 12; Las Animas County Roads 40.1, 41.6, 43.7, and 44.0; and the Burlington-Northern Railroad. Of these routes specific interest focuses on Interstate 25, Las Animas County Roads 43.7 and 44.0, and the Burlington-Northern Railroad as these could be directly utilized by coal development in the study area.

Interstate 25 is a paved four-lane highway traversing north and south through Colorado and serves the towns of Pueblo, Walsenburg, Aguilar, and Trinidad. Las Animas County Roads 43.7 and 44.0 are unpaved gravel roads running west and southwest from I-25 to Colorado State Highway 12.

Table 6 shows the projected traffic in average daily traffic (ADT) for the affected road segments of I-25. Information concerning county roads is unavailable.

Table 6. ADT for Affected Traffic Corridors

Segment	1980	1985	1990	1995
I-25 from Aguilar to Trinidad	4,700	5,500	6,350	7,200

Source: Colorado Department of Highways

Table 7 shows the projected number of traffic accidents per year for the identified segment of I-25 between Aguilar and Trinidad. The accident rate is based on the number of accidents that occur per million miles driven. The number of accidents for each year is determined by the following formula: Segment length x ADT x accident rate x 365 divided by 1 million. The accident rates used in this document are assumed to remain constant over time.

Table 7. Traffic Accidents for Affected Road Segments

Segment	Segment Length	ADT 1985	ADT 1990	ADT 1995	Acc. Rate	Acc. 1985	Acc. 1990	Acc. 1995
I-25 Aguilar to Trinidad	11.5	5,500	6,350	7,200	4.98	115	132	150

Source: Colorado Department of Highways (1981)

The Burlington-Northern Railroad currently operates 16 trains per day along its route from Colorado to New Mexico. In addition under an operating agreement the Denver and Rio Grande Railroad operates 2 trains per day over the same track for a total of 18 trains per day.

N. Noise

General noise levels in the area of the lease application are approximately 35 decibels (dB) based on a population density of 20 people/square mile, however, noise levels are somewhat higher around the transportation corridors. The existing noise level for County Road 43.7 is approximately 47 dB and for County Road 44.0 it is 43 dB; both figures are at 50 feet. All figures contained in this noise analysis are in equivalent continuous sound (Leq).

O. Land Use

The predominant land use on the entire study area is agriculture - primarily ranching. Water is well distributed making most of the area usable by cattle except where limited by slope.

Only two residences are located in the study area, both in Mauricio Canyon. There are approximately 3 miles of county road within the study area. These roads service ranching residences to the west. There are several old inactive coal workings from the early 1900s located throughout the study area.

The Las Animas County zoning maps show, in the Federal coal lease area, 1,889.02 acres zoned Highland Agriculture and 80 acres in the southwest quarter of section 1 zoned Ranchette. The remaining study area is zoned Agriculture. The primary reason for the Ranchette designation is because of the close proximity of this parcel to Interstate 25 and Aguilar.

Reclamation Potential

Soil reclamation potential is estimated as good for returning to current uses. Erosion will vary with water runoff and wind velocity, but these factors will be taken into consideration in the reclamation plan. The proposed study area is on gently sloping uplands drained by small channels. These channels are ephemeral and flow only during snowmelt or intense rain.

Vegetation reclamation is also estimated as good. Vegetation will be reclaimed within 10 years after mining is completed. Reclamation work at the Delagua strip mine approximately 5 miles west of the study area has been very successful.

In general, surface reclamation should not be a problem. The only planned surface disturbance on the lands specified in the application would be from construction of the surface facilities and installation of the portals. This would involve approximately 20 acres in the southeast

quarter of section 12. An approved plan for reclamation of the area will be obtained by Sundance Coal Company under a mining and reclamation permit.

Other Data or Analysis Required for the Amendment

Under the new policy of the Secretary of Interior, leasing would not be considered for Federal lands not found suitable for coal mining through the application of specific "unsuitability" criteria. The purpose of unsuitability criteria is to point out areas with key features and environmental sensitivities that make them unsuitable for certain types of coal mining, therefore, not suitable for coal leasing.

This process has resulted from action by the President and Congress. On May 24, 1977, the President instructed the Secretary of Interior to lease ". . . only those areas where mining is environmentally acceptable and compatible with other land uses." The President further directed that the Department ". . . scrutinize existing Federal coal leases (and preference right coal lease applications) to determine whether they show prospects for timely development in an environmentally acceptable manner, taking steps as necessary to deal with nonproducing and environmentally unsatisfactory leases and applications." (See Abstract of the Final Environmental Statement, Federal Coal Management Program.)

On August 3, 1977, the President signed into law the Surface Mining Control and Reclamation Act. Section 522 of the act requires the Secretary of the Interior to conduct a Federal lands review in order to determine those lands unsuitable for surface coal mining. Federal lands also include private surface underlain by Federal coal.

Description of the Unsuitability Process

The Coal Amendment to the Raton Basin Management Framework Plan involves the application of 20 unsuitability criteria adopted by the Secretary of the Interior.

These 20 criteria can be divided into four categories:

- Those required under Section 522 of the Surface Mining Control and Reclamation Act (SMCRA) (e.g., Federal land systems, buffer zones along rights-of-way and easements or adjacent to communities and buildings);
- Criteria discretionary under Section 522 of SMCRA (e.g., lands used for scientific studies, municipal watersheds, and flood plains);
- Other requirements under statute which the Department chooses to enforce through application of specific criteria (e.g., federally listed endangered species and bald and golden eagle protection); and
- Those resources which are not addressed specifically by statute, but which are of high public interest (e.g., scenic areas, state fish and wildlife and state lands criteria).

As required by regulation (43 CFR 3461.3-1), the 20 unsuitable criteria were applied using the best available data. The available data was assessed for its adequacy and reliability; where data was assessed as inadequate or unreliable the area was considered suitable and a definite plan will be identified for collecting and analyzing the data before a mine permit is issued.

Criterion 1 - Federal Lands Systems

All Federal lands included in the following land systems or categories shall be considered unsuitable: National Park System, National Wildlife Refuge System, National System of Trails, National Wilderness Preservation System, National Wild and Scenic Rivers System, National Recreation Areas, lands acquired with money derived from the Land and Water Conservation Fund, National Forests, and Federal lands in incorporated cities, towns, and villages.

EXCEPTIONS: A lease may be issued within the boundaries of any National Forest if the Secretary finds no significant recreational, timber, economic or other values which may be incompatible with the lease: and (A) surface operations and impacts are incident to an underground coal mine, or (B) where the Secretary of Agriculture determines, with respect to lands which do not have significant forest cover within those National Forests west of the 100th meridian, that surface mining may be in compliance with the Multiple-Use Sustained-Yield Act of 1960, the Federal Coal Leasing Amendment Act of 1976 and the Surface Mining Control and Reclamation Act of 1977. A lease may be issued within the Custer National Forest with the consent of the Department of Agriculture as long as no surface coal mining operations are permitted.

EXEMPTIONS: The application of this criterion to lands within the listed land systems and categories is subject to valid existing rights, and does not apply to surface coal mining operations existing on August 3, 1977. The application of the portion of this criterion applying to land proposed for inclusion in the listed systems does not apply to lands: to which substantial legal and financial commitments were made prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: No such lands occur in the area under study, so the area is considered suitable.

Criterion 2 - Rights-of-Way and Easements

Federal lands that are within rights-of-way or easements or within surface leases for residential, commercial, industrial, or other public purposes or for agricultural crop production on federally owned surface shall be considered unsuitable.

EXCEPTIONS: A lease may be issued, and mining operations approved, in such areas if the surface management agency determines that:

All or certain types of coal development (e.g., underground mining) will not interfere with the purpose of the right-of-way or easement; or

The right-of-way easement was granted for mining purposes; or

The right-of-way or easement was issued for a purpose for which it is not being used; or

The parties involved in the right-of-way or easement agree, in writing, to leasing; or

It is impractical to exclude such areas due to the location of coal and method of mining and such areas or uses can be protected through appropriate stipulations.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: There is one known powerline right-of-way (22 kV) located within the subject area (Map 5). It is owned by San Isabel Electric Company. After applying the exceptions, these lands were considered suitable. The right-of-way can be adequately protected by the following stipulations:

In the event surface subsidence will affect the powerline structures and it is impractical to relocate the right-of-way, mining will not be permitted within the right-of-way.

Relocation of the right-of-way will be required through consultation between the right-of-way holder and the lessee. All costs involved in the relocation will be borne by the lessee.

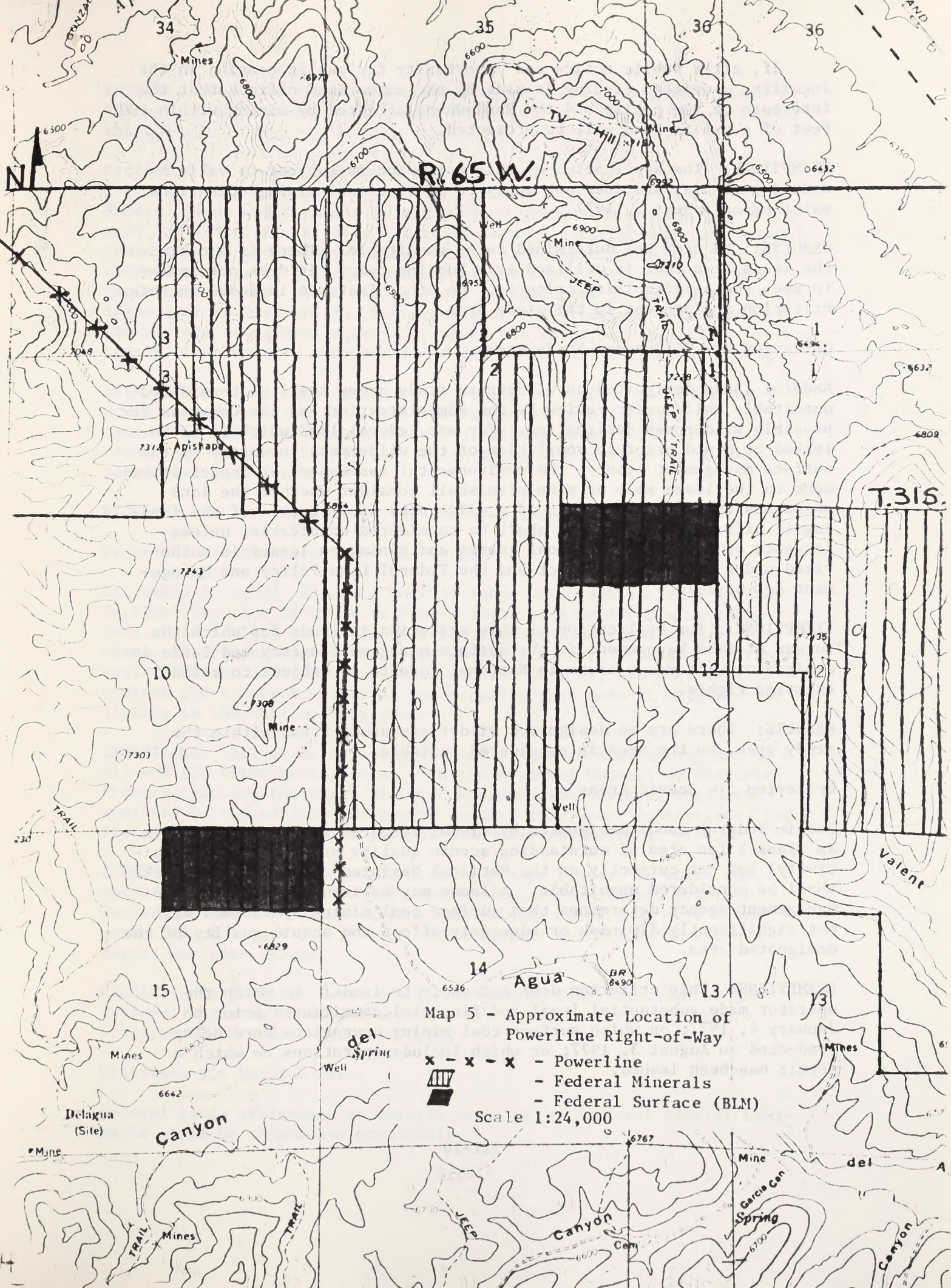
Criterion 3 - Buffer Zones Along Rights-of-Way and Adjacent to Communities and Buildings

Federal lands affected by section 522(3)(4) and (5) of the Surface Mining Control and Reclamation Act of 1977 shall be considered unsuitable. This includes lands within 100 feet of the outside line of the right-of-way of a public road or within 100 feet of a cemetery, or within 300 feet of any public building, school, church, community or institutional building or public park, or within 300 feet of an occupied dwelling.

EXCEPTIONS; A lease may be issued for lands:

Used as mine access roads or haulage roads that join the right-of-way for a public road;



For which the Office of Surface Mining Reclamation and Enforcement has issued a permit to have public roads relocated;



R. 65 W.

T. 31 S.

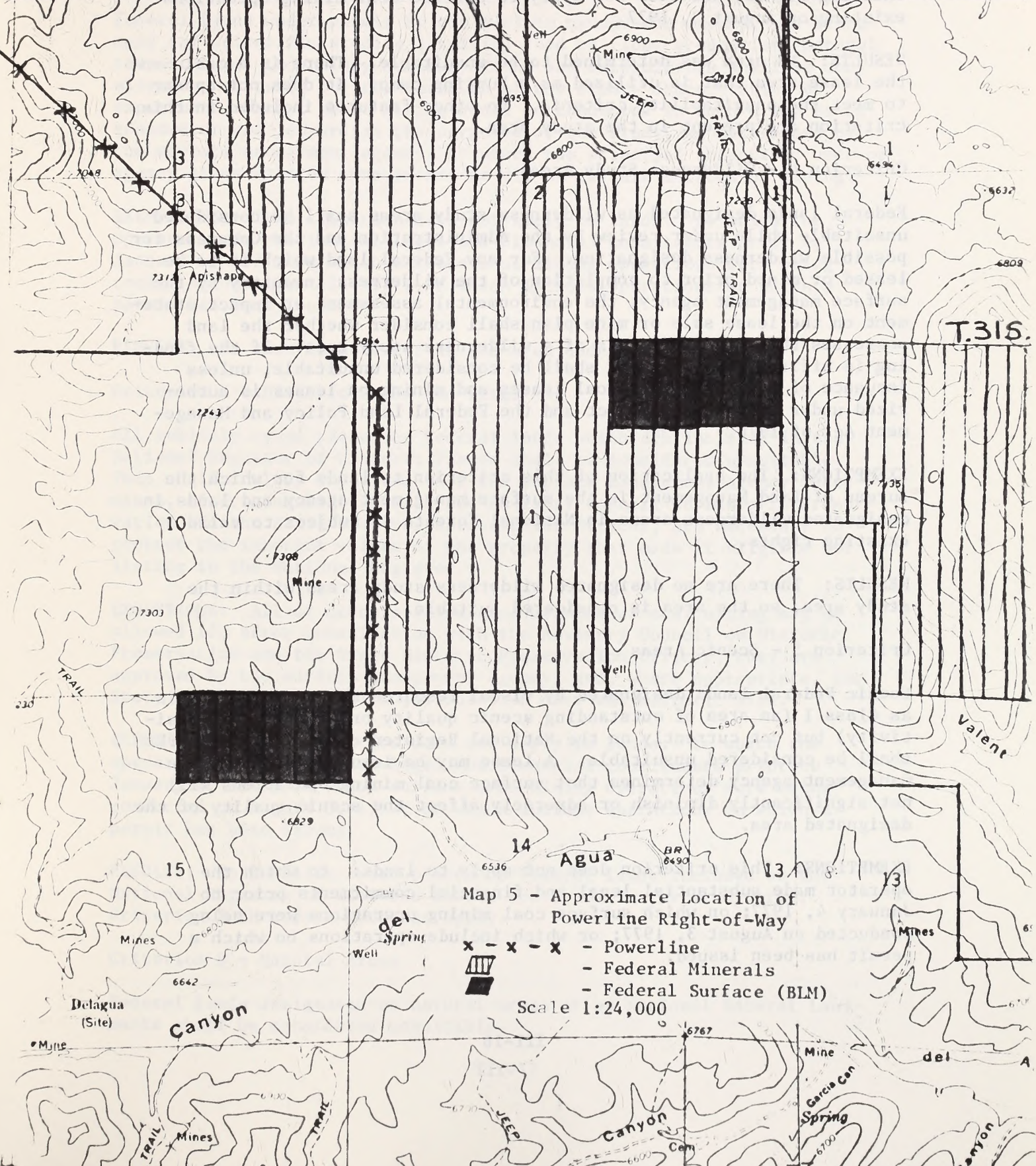
Map 5 - Approximate Location of Powerline Right-of-Way

- x - x - x - Powerline
-  - Federal Minerals
-  - Federal Surface (BLM)

Scale 1:24,000



NA



If, after public notice and opportunity for public hearing in the locality, a written finding is made by the authorized officer that the interests of the public and the landowners affected by mining within 100 feet of a public road will be protected.

EXEMPTIONS: The application of this criterion is subject to valid existing rights, and does not apply to surface coal mining operations existing on August 3, 1977.

RESULTS: No area was determined to be unsuitable. There is a cabin on the lease area that is utilized as a hunting camp. It does not appear to meet the unsuitability criteria. No other features included in this criterion are present in the study area.

Criterion 4 - Wilderness Study Areas

Federal lands designated as wilderness study areas shall be considered unsuitable while under review by the Administration and the Congress for possible wilderness designation. For any Federal land which is to be leased or mined prior to completion of the wilderness inventory by the surface management agency, the environmental assessment or impact statement on the lease sale or mine plan shall consider whether the land possesses the characteristics of a wilderness study area. If the finding is affirmative, the land shall be considered unsuitable, unless issuance of noncompetitive coal leases and mining on leases is authorized under the Wilderness Act and the Federal Land Policy and Management Act of 1976.

EXEMPTIONS: The application of this criterion to lands for which the Bureau of Land Management is the surface management agency and lands in designated wilderness areas in National Forests is subject to valid existing rights.

RESULTS: There are no designated wilderness study areas within the study area, so the area is considered suitable.

Criterion 5 - Scenic Areas

Scenic Federal lands designated by visual resource management analysis as Class I (an area of outstanding scenic quality or high visual sensitivity) but not currently on the National Register of Natural Landmarks shall be considered unsuitable. A lease may be issued if the surface management agency determines that surface coal mining operations will not significantly diminish or adversely affect the scenic quality of the designated area.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: No lands within the study area have been designated Class I through visual resource management analysis, so the area is considered suitable.

Criterion 6 - Lands Used for Scientific Studies

Federal lands under permit by the surface management agency, and being used for scientific studies involving food or fiber production, natural resources, or technology demonstrations and experiments shall be considered unsuitable for the duration of the study, demonstration or experiment, except where mining could be conducted in such a way as to enhance or not jeopardize the purposes of the study, as determined by the surface management agency, or where the principal scientific user or agency gives written concurrence to all or certain methods of mining.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: No such lands occur in the area under study.

Criterion 7 - Historic Lands and Sites

All publicly owned places on Federal lands which are included in the National Register of Historic Places shall be considered unsuitable. This shall include any areas that the surface management agency determines, after consultation with the Advisory Council on Historic Preservation and the State Historic Preservation Officer, are necessary to protect the inherent values of the property that made it eligible for listing in the National Register.

EXCEPTIONS: All or certain stipulated methods of coal mining may be allowed if, after consultation with the Advisory Council on Historic Preservation and the State Historic Preservation Officer, they are approved by the surface management agency, and, where appropriate, the State or local agency with jurisdiction over the historic site.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: No publicly owned places on Federal lands included on the National Register of Historic Places are found in the study area. Criterion 7 therefore does not apply.

Criterion 8 - Natural Areas

Federal lands designated as natural areas or as National Natural Landmarks shall be considered unsuitable.

EXCEPTIONS: A lease may be issued and mining operation approved in an area or site if the surface management agency determines that:

With the concurrence of the state, the area or site is of regional or local significance only;

The use of appropriate stipulated mining technology will result in no significant adverse impact to the area or site; or

The mining of the coal resource under appropriate stipulations will enhance information recovery (e.g., paleontological sites).

EXEMPTIONS: This criteria does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which includes operations on which a permit has been issued.

RESULTS: There are no areas nor sites within the study area that are so designated, so the area is considered suitable.

Criterion 9 - Federally Listed Endangered Species

Federally designated critical habitat for threatened or endangered plant and animal species, and habitat for Federal threatened or endangered species which is determined by the Fish and Wildlife Service and the surface management agency to be of essential value and where the presence of threatened or endangered species has been scientifically documented, shall be considered unsuitable.

EXCEPTION: A lease may be issued and mining operations approved if, after consultation with the Fish and Wildlife Service, the Service determines that the proposed activity is not likely to jeopardize the continued existence of the listed species and/or its critical habitat.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: No areas are unsuitable. No critical habitats for threatened or endangered animals are known to occur, and no known locations for federally listed plant species occur in the area.

Consultation: A letter was mailed on April 19, 1984, to the U.S. Fish and Wildlife Service. Their reply dated June 1, 1984, concurs with findings by BLM of no known conflict (Appendix C).

Criterion 10 - State Listed Endangered Species

Federal lands containing habitat determined to be critical or essential for plant or animal species listed by a state pursuant to state law as endangered or threatened shall be considered unsuitable.

EXCEPTION: A lease may be issued and mining operations approved if, after consultation with the state, the surface management agency determines that the species will not be adversely affected by all or certain stipulated methods of coal mining.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: No areas are unsuitable. No known locations for state listed or BLM sensitive plant species occur in the area.

Consultation: A letter was mailed to the Colorado Division of Wildlife on April 19, 1984. Consultation was completed with receipt of their letter dated May 17, 1984. A letter was also mailed to the Colorado Natural Heritage Inventory on April 19, 1984, requesting information on endangered plants. Consultation was completed with receipt of their letter dated May 16, 1984 (Appendix C).

Criterion 11 - Bald and Golden Eagle Nests

A bald or golden eagle nest or site on Federal lands that is determined to be active and an appropriate buffer zone of land around the nest site shall be considered unsuitable. Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with the Fish and Wildlife Service.

EXCEPTIONS: A lease may be issued if:

It can be conditioned in such a way, either in manner or period of operation, that eagles will not be disturbed during breeding season; or

The surface management agency, with the concurrence of the Fish and Wildlife Service, determines that the golden eagle nest(s) will be moved.

Buffer zones may be decreased if the surface management agency determines that the active eagle nests will not be adversely affected.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: An active golden eagle nest is located in T. 30 S., R. 65 W., sec. 35, SE $\frac{1}{4}$. It is located 2 miles north of the proposed portal location. It is not anticipated that the nest will be adversely affected.

Consultation: A letter was mailed on April 19, 1984, to the U.S. Fish and Wildlife Service. Their reply dated June 1, 1984, concurs with the findings by BLM of no known conflicts (Appendix C).

Criterion 12 - Bald and Golden Eagle Roost and Concentration Areas

Bald and golden eagle roost and concentration areas on Federal lands used during migration and wintering shall be considered unsuitable.

EXCEPTION: A lease may be issued if the surface management agency determines that all or certain stipulated methods of coal mining can be conducted in such a way, and during such periods of time, to ensure that eagles shall not be adversely disturbed.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: No areas are unsuitable. No eagle roosts nor concentration areas are found in the study area.

Consultation: A letter was mailed on April 19, 1984, to the U.S. Fish and Wildlife Service. Their reply dated June 1, 1984, concurs with the BLM finding of no known conflicts (Appendix C).

Criterion 13 - Falcon Cliff Nesting Site

Federal lands containing a falcon (excluding kestrel) cliff nesting site with an active nest and a buffer zone of Federal land around the nest site shall be considered unsuitable. Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with the Fish and Wildlife Service.

EXCEPTION: A lease may be issued where the surface management agency, after consultation with the Fish and Wildlife Service, determines that all or certain stipulated methods of coal mining will not adversely affect the falcon habitat during the periods when such habitat is used by the falcons.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: No areas are unsuitable. No falcon cliff nesting sites occur on the lease area.

Consultation: A letter was mailed on April 19, 1984, to the U.S. Fish and Wildlife Service. Their reply dated June 1, 1984, concurs with the BLM finding of no known conflict (Appendix C).

Criterion 14 - Migratory Birds

Federal lands which are high priority habitat for migratory bird species of high Federal interest on a regional or national basis, as determined jointly by the surface management agency and the Fish and Wildlife Service, shall be considered unsuitable.

EXCEPTION: A lease may be issued where the surface management agency, after consultation with the Fish and Wildlife Service, determines that all or certain stipulated methods of coal mining will not adversely affect the migratory bird habitat during the periods when such habitat is used by the species.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: No areas are unsuitable. No high priority habitats occur.

Consultation: A letter was mailed on April 19, 1984, to the U.S. Fish and Wildlife Service. Their reply dated June 1, 1984, concurs with the BLM finding of no known conflict.

Criterion 15 - State Resident Fish and Wildlife

Federal lands which the surface management agency and the state jointly agree are fish and wildlife habitat for resident species of high interest to the state and which are essential for maintaining these priority wildlife species shall be considered unsuitable. Examples of such lands which serve a critical function for the species involved include:

Active dancing and strutting grounds for sage grouse, sharp-tailed grouse, and prairie chicken;

Winter ranges most critical for deer, antelope, and elk; and

Migration corridors for elk.

A lease may be issued if, after consultation with the state, the surface management agency determines that all or certain stipulated methods of coal mining will not have a significant long-term impact on the species being protected.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: No areas are unsuitable.

Consultation: A letter was mailed to the Colorado Division of Wildlife on April 19, 1984. Their reply dated May 17, 1984, concurs with the BLM finding that no critical habitat exists for resident species of high interest (Appendix C).

Criterion 16 - Floodplains

Federal lands in riverine, coastal and special floodplains (100-year recurrent interval) on which the surface management agency determines that mining could not be undertaken without substantial threat of loss of life or property shall be considered unsuitable for all or certain stipulated methods of coal mining.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: No special flood plains exist, therefore, no areas are unsuitable.

Criterion 17 - Municipal Watersheds

Federal lands which have been committed by the surface management agency to use as municipal watersheds shall be considered unsuitable.

EXCEPTION: A lease may be issued where the surface management agency in consultation with the municipality (incorporated entity) or the responsible governmental unit determines, as a result of studies, that all or certain stipulated methods of coal mining will not adversely affect the watershed to any significant degree.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: No municipal watersheds have been identified within the study area. Therefore, no areas are considered unsuitable.

Criterion 18 - National Resource Waters

Federal lands with National Resource Waters, as identified by states in their water quality management plans, a buffer zone of Federal lands $\frac{1}{4}$ mile from the outer edge of the far banks of the water, shall be unsuitable.

EXCEPTION: The buffer zone may be eliminated or reduced in size where the surface management agency determines that it is not necessary to protect the National Resource Waters.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: The state of Colorado is presently identifying and labeling Natural Resource Waters. To meet criteria for identification, a stream must have perennial or continuous flow and be of high quality, capable of supporting trout fisheries. No water courses in the study area have been officially designated as National Resource Waters in a completed water quality management plan.

Criterion 19 - Alluvial Valley Floors

Federal lands identified by the surface management agency, in consultation with the state in which they are located, as alluvial valley floors according to the definition in § 3400.0-5(a) of this title, the standards in 30 CFR Part 822, the final alluvial valley floor guidelines of the Office of Surface Mining Reclamation and Enforcement when published, and approved state programs under the Surface Mining Control and Reclamation Act of 1977, where mining would interrupt, discontinue, or preclude farming, shall be considered unsuitable. Additionally, when mining Federal land outside an alluvial valley floor would materially damage the quantity or quality of water in surface or underground water systems that would supply alluvial valley floors, the land shall be considered unsuitable.

EXEMPTIONS: This criterion does not apply to surface coal mining operations which produced coal in commercial quantities in the year preceding August 3, 1977, or which had obtained a permit to conduct surface coal mining operations.

RESULTS: No alluvial valley floors exist, therefore, no areas are unsuitable.

Criterion 20 - State Land Use Considerations

Federal lands in a state to which is applicable a criterion (1) proposed by that state, and (2) adopted by rulemaking by the Secretary, shall be considered unsuitable.

EXCEPTIONS: A lease may be issued when: such criterion is adopted by the Secretary less than 6 months prior to the publication of the draft comprehensive land use plan or land use analysis, plan or supplement to a comprehensive land use plan, for the area in which such land is included, or after consultation with the state, the surface management agency determines that all or certain stipulated methods of coal mining will not adversely affect the value which the criterion would protect.

EXEMPTIONS: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

RESULTS: To date the State of Colorado has not developed any regulations or prescriptions approved by the Department of Interior that would apply to this criterion.

IV. Environmental Consequences

This chapter will describe the expected impacts and consequences of the alternative of leasing and development by underground coal mining methods in the study area and the No Action (no leasing) Alternative presented in the previous chapter. These impacts would result from the implementation of the alternatives in Chapter II.

The resource elements described in Chapter III - Affected Environment will be addressed individually regardless of the severity of the impacts. All resource elements with the exception of water and economics have no significant impacts occurring as a result of the applicant's proposal.

A. Preferred Alternative

1. Climate and Air Quality

No measurable impacts to climate are anticipated.

Based on previous impact predictions for a similar, yet larger underground coal mine (1 million tons per year proposed Prairie Dog Mine north of Rangely, Colorado; Radian Corporation, 1983 ^{1/}), no significant impacts to air quality are anticipated. Worst-case, short-term (24-hour) TSP impacts would be less than 36 micrograms per cubic meter, with annual impacts less than 9 micrograms per cubic meter. When added to assumed existing TSP levels at the site, the total impact remains within the allowable standards.

2. Soils

Since the proposed mine would be underground, surface disturbance of the area would be minimal. It is assumed the only disturbance on the Maintland, Noden, and Manzano soils would be from core drilling and associated access roads. If standard road building and erosion control practices are followed, both short- and long-term impacts on the soil resource would be negligible.

According to the proposed mining plan, the main mine portal, haulage roads, and support facilities would be installed on the Louviers-Travesilla-rock outcrop complex. Although these soils have a high water erosion hazard, massive erosion is not expected, due to their shallow depth to bedrock. Onsite erosion would probably be increased about 20 percent above existing rates. If standard road building and erosion control practices are followed, erosion rates should return to preconstruction levels as soon as cuts, fills, and ditches are vegetated. This should be accomplished within 2 to 5 years following construction.

3. Geology & Minerals

Surface expression of subsidence as a result of underground mining for coal could occur within the mine area. However,

^{1/} Radian Corporation, 1983. Site Specific Climate and Air Quality Analysis - Prairie Dog Tract. Prepared for the U.S. Department of the Interior, Bureau of Land Management under Contract No. YA-553-CT2-61. Denver, Colorado.

specific identification of subsidence locations and degree of surface disturbance cannot be determined until such time as a final mining proposal is submitted for the area. Certain areas may be omitted from coal mining if subsidence problems will affect roads or rights-of-way.

In the case of areas being mined by longwall methods, rapid subsidence is much more likely because this method involves the intentional collapse of the overburden above the mined out coal. In areas mined at depths in excess of 300 feet, surface expression of subsidence would probably not be evident. Longwall mining would minimize underground fire hazards and the intentional collapse of mined out coal beds would minimize air movement and exposure of coal surface area. The use of this method would also be superior to room and pillar due to better resource recovery and the reduced problems associated with recurring subsidence due to pressure points created by pillars.

Use of underground mining methods would limit the amount of recoverable coal resources in the study area to approximately 45 to 50 percent of the total reserves. This loss of resource is due to limitations in current mining methods and technology.

Conflicts between coal production and oil and gas exploration and development could occur within the study area. The negotiation of a cooperative agreement between the coal lease and the oil and gas lessee would be the responsibility of the Bureau of Land Management. This agreement would provide for the exploration and production of both oil and gas and coal with a minimum of conflict and a maximum of resource recovery.

4. Paleontology

Adverse impacts to paleontological resources would consist of losses of plant, invertebrate, and vertebrate fossil materials for scientific research, public education, and other values. Losses of various degree would result from destruction, disturbance, or removal of fossil materials as a result of coal mining activities, unauthorized collection, and vandalism.

A beneficial impact of development would be the exposure of fossil materials for scientific examination and collection which otherwise may never occur except as a result of natural exposure.

5. Topography

Subsurface mining of the Hastings coal seam in the study area would not change the topography of the area appreciably. Only 20 to 30 acres of surface disturbance are anticipated at the portal. On completion of the mine project the disturbed area would be reclaimed to its original contour.

6. Water

Road building and excavations needed to establish the entrance portal would cause a short-term increase of sediment loads in

nearby ephemeral channels. These increases are not expected to be large, and would not affect any perennial stream. If standard stipulations for road construction and erosion control are followed, sediment loads should return to predisturbance levels within 5 years.

Coal would be hauled to an existing washing facility at another mine, so no impacts resulting from coal processing are anticipated.

Where ground water is encountered, the mining activity is expected to degrade water quality. Before mining, sodium bicarbonate water in coal seams exists under reducing conditions. During and after mining, an oxidation environment is created. This results in the oxidation of pyrite associated with the coals, increasing the sulphate concentrations of the water and decreasing the pH. The significance of the result would depend on the composition of rocks and coal in the mine, the existing water quality, and the amount of water entering the mine. Total transitional capability is difficult to predict; however, performance standards required by the Colorado Mined Land Reclamation Division (CMLRD) regulations (4.05.1,.2,.10 and 13) appear sufficient to protect nearby surface and ground water from contamination. These standards require practices that minimize water pollution, prohibit gravity discharge from acid or iron producing coal seams, and require monitoring of ground water systems to detect changes in quantity and quality. Treatment of discharges is necessary if they cannot meet state and Federal water quality and effluent standards. In addition, any discharge to local surface waters must be regulated by conditions set forth in a National Pollution Discharge Elimination System (PDES) permit.

Mining under the Apishapa River valley could result in large inflows of water into the mine from the overlying alluvium. The amount would depend on the thickness of impervious layers between the alluvium and the coal, and the extent of fracture zones caused by igneous intrusions. As this water flows down into the mine, it likely would mix with water of lower quality in the bedrock aquifers. When the mixed water is pumped from the mine, it could degrade the quality of water in the alluvium, in the river, or both. Special hydrologic studies are needed to accurately assess this potential problem. The CMLRD will determine, after reviewing the mine plan, if special stipulations are necessary to protect the Apishapa River.

Dewatering of the mine may lower local water tables or artesian heads and impair yields from nearby wells or springs. Owners of water rights are protected against injury by CMLRD regulation 4.05.15, which requires the mine operator to replace any water supply that is injured as a result of his mining activity.

7. Vegetation

There would be a temporary loss of vegetation on 20 acres for the life of the project. It is anticipated the mine would be operational for 25 to 30 years. Mine Land Reclamation Board (MLRB) stipulations

regulating the handling of topsoil and requiring vegetative re-establishment of like form and quality would lessen adverse impact to vegetation, livestock, wildlife, and soil resources. Complete reclamation would be accomplished 10 to 15 years after preliminary reclamation measures are established.

8. Wildlife

The adverse impacts to the wildlife resource can be broken down into two general categories: (1) loss of wildlife habitat and the associated wildlife carrying capacity of that habitat; and (2) the actual loss of wildlife populations for the entire period of mining activities.

The study area would involve a total of 6,408.19 acres of wildlife habitat. The vegetative type that would be disturbed by the construction of portals and support facilities is pinon-juniper in the amount of 20 acres. No other surface disturbance is anticipated.

a. Wildlife habitat losses - The mining proposal would result in both direct and indirect losses of wildlife habitat. Direct losses include habitat actually destroyed by the construction of the mine portals and associated support facilities (i.e. offices, shops, wareyard, etc.).

Indirect losses of habitat would be those areas of habitat not physically destroyed, but those outside the mined area that would become temporarily unusable by wildlife because of isolation, noise, dust, etc.

Direct loss of habitat in the project area is anticipated to be 20 acres. This includes only the mine portal area. Sundance Coal Company has not finalized plans for access to the mine portal. It is anticipated that 1 to 2 miles of road will be built before the mine is operational. This would increase the amount of habitat disturbed by an estimated 10 acres. Indirect losses of wildlife habitat, attributed to activities around the mine portal and access road, could conservatively amount to 30 acres.

b. Wildlife population losses - Wildlife populations in the study area would be lost or reduced with the onset of mining activities. The primary animal species to be impacted through both direct and indirect losses of habitat (60 acres) would include mule deer, cottontail rabbit, deer mouse, rock squirrel, Mexican woodrat, pinyon mouse, and least chipmunk. Primary bird species affected would include pinyon jay, common flicker, mountain chickadee, and mountain bluebird. Crucial habitat does not exist for any of these species. Direct loss of these species in the study area due to mining are insignificant and extremely difficult to measure. Displacement of mule deer is not anticipated to result in a significant loss because of the small area involved, plus the small number of deer using the area.

Impacts to raptors in the area are not anticipated to be significant. The mine portal and access road are located 2 miles from a known active golden eagle nest. Other species of raptors should not be impacted by the proposed mining activity.

There should be no significant impact to any of the species listed on the state Division of Wildlife 1041 maps or on those species listed in Migratory Birds of High Federal Interest.

9. Recreation

Coal development on this tract would have little or no effect on recreation values. Coal development would open access to the area, but the surface is privately owned.

10. Visual

Because coal development on this tract would be accomplished through underground mining and only surface support facilities would be visible, changes to the landscape would be within acceptable limits.

11. Economics & Sociology

The mine estimates a production of 300,000 tons per year during peak periods with an employment of 80 people. If conditions change, production could be accelerated to 600,000 tons per year with a corresponding increase in employment. The company employment estimates assume a high degree of efficiency, but are not unreasonable. Initial work would require a construction labor force which would probably number less than the 60 employees (based on estimated construction labor force for an underground mine in northwestern Colorado). The Walsenburg area recently had from 400 to 500 construction workers on a CO₂ pipeline. In 1982, according to the Walsenburg Chamber of Commerce, motels were filled, sales taxes were boosted from 30 to 40 percent, and other jobs were provided. Construction has ended and these impacts have declined. The proposed action would involve considerably less people. Most are expected to be hired or subcontracted from Trinidad, Walsenburg, and Pueblo. Few construction workers are expected to be brought in, therefore, little local impact is expected during the construction phase.

Unemployment rates (see Affected Environment) indicate a large available work force relative to mine size. Currently, an estimated 400 unemployed people with skills in mining are located in Las Animas County. It is estimated, based on the experience of the Coors Strip Mine north of Denver, that at least 60 percent will be hired locally. This represents a worst-case assumption when deriving immigration estimates because of the large skilled unemployed work force in the area. The mine would be directly responsible for an increase of approximately 32 people and their families in peak production stages. These are allocated according to a gravity model developed by Dr. John McKean at Colorado State University (Table 8).

Table 8. Estimated Migration as a Result of Mine Employment*

Census Division	County	Employees	New Population ^{1/}
Trinidad	Las Animas	13	34
Aguilar	Las Animas	10	26
Walsenburg	Huerfano	6	19
Colorado City	Pueblo	1	3
Weston	Las Animas	1	3
Gardner	Huerfano	<u>1</u>	<u>3</u>
		32	88

* If the mine expanded to 600,000 tons per year, these figures could double, but the net effect would not be expected to impact local infrastructures.

^{1/} The tendency of migrants (especially those in management) to locate in cities of 10,000 or more (Denver Research Institute) indicates this analysis overstates migration to Aguilar and understates that to Trinidad.

The direct employment generated by the new mine would also result in lowering the unemployment rate. The total quantity impacted is too small to cause significant local or regional impacts.

The coal mine should create indirect and induced employment in addition to the direct employment. Indirect employment is that linked to the coal mine purchases and induced employment is that linked to employee purchases. The primary employment increases should be in Trinidad and Walsenburg. Using the average rural ratio of secondary jobs to basic jobs (Denver Research Institute), which is further substantiated by data from the Colorado Department of Local Affairs, from 13 to 32 secondary jobs may be created. The continuous high unemployment rates in these areas imply that most of these would be filled from the existing labor force. Therefore, migration would be insignificant. Using data from similar areas (Denver Research Institute) from 4 to 13 employees may migrate. This will have no significant impact in any of the areas.

A beneficial impact from the mine on the local economy should occur as few infrastructure costs are expected to result from migration. Gains in tax revenues are as follows:

Table 9. Estimated Tax Revenue Increases Related to the Proposed Mine^{4/}

Agency	Property Tax	Severance Tax	Royalties
Federal Government	0		\$240,000 ^{1/}
State Government	0	\$234,000 ^{2/}	\$240,000 ^{3/}
Las Animas County	\$1,672,98		

^{1/} Occurring only when all 300,000 tons mined are Federal at a value of \$20 a ton.

^{2/} Fifty percent of this money is allocated to the State severance Tax Trust Fund, which loans to the Colorado Water Conservation Board with interest going to the General Fund. The remaining 50 percent is given to the Local Government Severance Tax Fund, which allocates 15 percent to the counties based on employee residence (primarily Las Animas County) and 85 percent to the Local Government Mineral Impact Fund. If this latter fund has 10.1 million, the funds are split between the Local Government Mineral Impact Fund and the Public School Fund.

^{3/} Fifty percent of this money (up to \$800,000) goes to Las Animas County, 15 percent to the Local Government Mineral Impact Fund, 25 percent to the Public School Fund, and 10 percent to the Colorado Water Conservation Board.

^{4/} Revenues are at 300,000 tons per year. At 600,000 tons per year revenues other than the property tax would double.

Finally, local income would be positively impacted. At wage rates of \$10 per hour, \$32,000 would be available for expenditures on a weekly basis. A portion of this would be expended in Pueblo County where a large portion of shopping is done. The total is insignificant relative to the total local economy.

In conclusion, net impacts to employment, income, and taxes are positive. Additional infrastructure and social or problems resulting from immigration are expected to be negligible due to the small amount of immigration expected. These impacts are relevant even if production is expanded beyond 300,000 tons annually.

12. Cultural Resources

Any earth disturbing activity is likely to have an adverse impact on cultural resources. These nonrenewable resources must first be located, identified, and subjected to acceptable mitigation procedures by the mining company. Standard stipulations are designed to mitigate adverse impacts.

Any adverse impacts should be reduced by the following standard stipulations:

a. Before undertaking any activities that may disturb the surface of the leased lands, the lessee shall conduct a cultural resource intensive field inventory in a manner specified by the authorized

officer of the Bureau of Land Management on portions of the mine plan area and adjacent areas, or exploration plan area, that may be adversely affected by lease related activities and which were not previously inventoried at such a level of intensity. The inventory shall be conducted by a qualified professional cultural resource specialist (i.e., archaeologist, historian, or historical architect, as appropriate), approved by the authorized officer of the Bureau of Land Management, and a report of the inventory and recommendations for protecting any cultural resources identified shall be submitted to the Regional Director of the Office of Surface Mining (OSM) and the authorized officer of the Bureau of Land Management. The lessee shall undertake measures, in accordance with instruction from OSM to protect cultural resources on the leased land. The lessee shall not commence the surface disturbing activities until permission to proceed is given by OSM.

b. The lessee shall protect all cultural resource properties within the study area from lease related activities until the cultural resource mitigation measures can be implemented as part of an approved mining plan or exploration plan.

c. The cost of conducting the inventory, preparing reports, and carrying out mitigation measures shall be borne by the lessee.

d. If cultural resources are discovered during operations under this lease, the lessee shall immediately bring them to the attention of OSM or the authorized officer of the surface managing agency if OSM or district mining supervisor, as appropriate, is not available. The lessee shall not disturb such resources except as may be subsequently authorized by OSM. Within 2 working days of notification, OSM will evaluate or have evaluated any cultural resources discovered and will determine if any action may be required to protect or preserve such discoveries. The cost of data recovery for cultural resources discovered during lease operations shall be borne by the surface managing agency unless otherwise specified by the authorized officer of the Bureau of Land Management.

13. Transportation

Major highway access to the mine site would utilize Interstate 25 from Trinidad, Walsenburg, and Aguilar at the 300,000-ton production level. The increased traffic flow due to operation of the mine would result in a volume to capacity coefficient of approximately 0.5 which would indicate very little traffic congestion possibilities due to the mining operation. Increased use of county roads could possibly present a slightly higher congestion problem, however, such an increase should not be significant. The impacts associated with the increase in traffic of both routes are increased noise, increased air pollution, increased animal road kills, and slightly increased traffic accidents. There would be slightly greater impacts at the 600,000-ton level. These impacts, however, should not be significant.

The increased use along Las Animas County Road 40.1 due to employee vehicle and haulage traffic could result in an increase in safety hazards involving the railroad crossing of the Burlington-Northern tracks. A grade crossing hazard rating for this site is not available, but with suitable safety measures impacts associated with this crossing should not be significant. No new grade separations should be required as a result of the project.

14. Noise

Noise levels would increase within the study area due to operations at the mine site and additional vehicle use along transportation corridors. Noise levels from the mine site would be approximately 66 dB at 800 feet; noise levels at the lease boundary would be 60 dB or less. There are no residences nor concentrated recreation areas within approximately 1½ miles of the mine site and impacts due to increased noise from the mine would be insignificant. Noise levels would increase along transportation routes as a result of increased traffic caused by the mine operation. Increases in noise levels for I-25 and County Roads 43.7 and 44.0 would be less than 3 dB and, therefore, are not considered significant. The increased dB at 600,000-ton mining level would be slightly greater, but would not be significant.

There would be some impact to wildlife and domestic animals in the study area, however, such disturbance would be minimal.

15. Land Use

Land use (livestock grazing) in the study area should not change significantly. A total of 30 acres of disturbance (mine portal and access road) would result in removal of this land from cattle grazing. This would result in less than 1 animal unit month (AUM) of forage lost.

The construction of the mine portal, access road, and resulting coal mine would have no effect on the Las Animas County zoning designations. A special use permit from the county would be obtained before the project becomes operational.

Because the proposed mining operation will involve underground mining, the 22 kV powerline in sections 3 and 11 should not be impacted. However, the lessee will be responsible to mitigate any disturbance to this powerline. The CMLRD may determine the lessee will be responsible to mitigate damages as a result of mining to any private facilities, county roads, or other structures. There are no withdrawals nor other reservations on the subject lands.

Table 10. Unavoidable Adverse Impacts, Effects on Short-Term Uses and Long-Term Productivity, and Irreversible/Irretrievable Commitments of Resources - Preferred Alternative

Unavoidable Adverse Impacts	Term (Short or Long) ^{1/}	Irreversible/Irretrievable
Removal of coal beds	Long	Yes
Possible loss of unknown paleontological resources	Long	Yes
Possible surface subsidence as a result of underground mining	Long	No
Loss of animal and vegetative communities	Short	No
Some disruption of natural drainages and associated water loss	Short	No
Loss of rangeland	Short	No
Reduction of visual quality	Short	No
Increased income and employment	Short	No
Preclusion of other development such as oil and gas	Short	No

^{1/} Short term means the mine life plus reclamation period (estimated to be 40 to 50 years).

B. No Action Alternative

Under this alternative the 1,969.02 acres of Federal coal lands identified in the lease application would not be leased to the applicant. This would result in the loss of revenues to the Federal government from the lease of the land and the royalty associated with the production of an estimated 9,785,000 tons of coal. In addition the lease applicant has indicated that without the Federal coal lands identified in the lease application they would be required to reassess their position in the area and in all probability would not develop their private coal holdings (refer to letter from D. H. Emling Company dated May 11, 1984, Appendix C). This would result in the loss of jobs, revenue, and tax base as described under the proposed action.

No environmental impacts would affect the public lands or resources if this alternative is selected. The environment would remain as described in the Affected Environment section. Previous growth patterns suggest there will be little if any development in the area. The development would be restricted to possible ranches. The primary land use would remain cattle ranching.

NET ENERGY ANALYSIS

This computes the energy expended in British Thermal Units (BTUs) compared to that created in a project. The following analysis uses data from BLM Colorado State Instruction Memorandum CO-81-302. The final market has not been identified, at this time, by the applicant. Since other coal in the area is transported by rail to Texas, this analysis assumes rail transportation to either Amarillo or Fort Worth.

Energy Expended (BTUs)

Mine operation	4,470 x 10 ⁸
Product transportation - Amarillo	310 x 10 ⁸
Product transportation - Fort Worth	697 x 10 ⁸
Employee transportation	.1585 x 10 ⁸
Infrastructure requirements	5.60976 x 10 ⁸
Total to Amarillo	4,785.77 x 10 ⁸
Total to Fort Worth	5,172.77 x 10 ⁸

Energy Produced

77,610 x 10⁸*

Net Energy Ratio

16.22	to Amarillo
15	to Fort Worth

*Assumes 12,935 BTU/lb. derived from chemical analysis of mine samples in the area.

V. Coordination, Consistency, and Public Participation

A. Coordination with Other Federal Agencies and State and Local Governments

Formal coordination has taken place in the planning amendment/environmental assessment process with the following: U.S. Fish and Wildlife Service, Colorado Division of Wildlife, and Colorado Natural Heritage Inventory. These efforts were required during the application of the unsuitability criteria and are documented in Chapter IV under each applicable criterion.

The following agencies were consulted directly:

Colorado Natural Heritage Inventory
Colorado Division of Wildlife
U.S. Fish and Wildlife Service
Las Animas County

All other state agencies were contacted through the Colorado State Clearinghouse.

B. Consistency Requirements

The Federal Land Policy and Management Act requires that the MFP amendment be as consistent as possible with existing officially adopted and approved resource related policies, plans, or programs of other Federal and state agencies and any local government that may be affected. The 1,969.02 acres identified as acceptable for further consideration for coal development would not conflict with these plans, policies, and programs. The 1,969.02 acres could, therefore, be considered acceptable for further consideration for coal development.

C. Public Participation

The public participation process for this amendment began with the publication of a notice in the Federal Register on April 27, 1984, and a news release mailed April 30, 1984 (see Appendix). These announced the beginning of the amendment process, identified issues and planning criteria, and invited comment. The scoping period ran from April 27 through May 25, 1984. No comments were received. Several individuals requested copies of the amendment/EA on completion.

A notice of availability of the amendment has been published in the Federal Register.

D. List of Preparers

Team Leader, Wildlife, Vegetation, Reclamation, and Topography	Erik Brekke
Climate and Air Quality	Scott Archer
Technical Coordinator, Minerals/ Geology, Transportation, Noise, and Paleontology	Kevin Andersen
Water and Soils	Howard Wertsbaugh
Land Use, Recreation, and VRM	Dennis Zachman
Cultural	John Beardsley
Economics and Sociology	Gary Rutherford
Editor/Writer	Bev Neuben
Planning Consistency	Dave Taliaferro

APPENDICES

APPENDICES

Private Surface/Private Mineral
Sixth Principal Meridian, Colorado

T. 31 N., R. 61 W.,	
sec. 1, lots 1, 2, and 3, S $\frac{1}{2}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$,	482.46
sec. 1, lots 3 and 4, S $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$	323.12
sec. 4, lot 1, S $\frac{1}{2}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$, SW $\frac{1}{4}$	362.80
sec. 3, S $\frac{1}{2}$ SE $\frac{1}{4}$	160.00
sec. 6, lots 3 and 4, S $\frac{1}{2}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ E	497.29
sec. 8, N $\frac{1}{2}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$, SW $\frac{1}{4}$,	360.00
sec. 9, SW $\frac{1}{4}$	120.00
sec. 13, S $\frac{1}{2}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$	160.00
sec. 14, all	640.00
sec. 17, NE $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$	160.00
sec. 18, lots 1 and 2	91.40
sec. 19, NE $\frac{1}{4}$	160.00
sec. 20, NW $\frac{1}{4}$	160.00

APPENDIX A

Legal Descriptions of the Coal Resources

T. 31 N., R. 61 W.,	
sec. 1, S $\frac{1}{2}$ SW $\frac{1}{4}$	40.00
sec. 18, W $\frac{1}{2}$ SE $\frac{1}{4}$	120.00
sec. 13, NE $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$	200.00
Total	4,439.17

Federal Mineral Estate
Sixth Principal Meridian, Colorado

T. 31 N., R. 61 W.,	
sec. 1, S $\frac{1}{2}$ SW $\frac{1}{4}$	40.00
sec. 2, lots 3 and 4, S $\frac{1}{2}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ E	484.30
sec. 3, lots 2 and 3, S $\frac{1}{2}$ NE $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$	284.72
sec. 11, NE $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$	560.00
sec. 12, W $\frac{1}{2}$, S $\frac{1}{2}$ E	480.00
sec. 15, S $\frac{1}{2}$ SW $\frac{1}{4}$	80.00
Total	1,969.02

Private Surface/Private Mineral

Sixth Principal Meridian, Colorado

T. 31 S., R. 65 W.,	
sec. 1, lots 1, 2, and 3, S $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$;	482.46
sec. 3, lots 3 and 4, S $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$;	325.12
sec. 4, lot 1, S $\frac{1}{2}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$;	362.80
sec. 5, S $\frac{1}{2}$ S $\frac{1}{2}$;	160.00
sec. 6, lots 3 and 4, S $\frac{1}{2}$ NW $\frac{1}{4}$, S $\frac{1}{2}$;	497.39
sec. 8, N $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$,	360.00
sec. 9, W $\frac{1}{2}$;	320.00
sec. 13, N $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$;	160.00
sec. 16, all;	640.00
sec. 17, NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$;	360.00
sec. 18, lots 1 and 2;	91.40
sec. 19, NE $\frac{1}{4}$;	160.00
sec. 20, NW $\frac{1}{4}$.	160.00
T. 31 S., R. 66 W.,	
sec. 1, SE $\frac{1}{4}$ SE $\frac{1}{4}$;	40.00
sec. 12, W $\frac{1}{2}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$;	120.00
sec. 13, NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$.	200.00
	<hr/>
Total	4,439.17

Federal Mineral Estate

Sixth Principal Meridian, Colorado

T. 31 S., R. 65 W.,	
sec. 1, W $\frac{1}{2}$ SW $\frac{1}{4}$;	80.00
sec. 2, lots 3 and 4, S $\frac{1}{2}$ NW $\frac{1}{4}$, S $\frac{1}{2}$;	484.30
sec. 3, lots 1 and 2, S $\frac{1}{2}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$;	284.72
sec. 11, N $\frac{1}{2}$, SW $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$;	560.00
sec. 12, N $\frac{1}{2}$, SE $\frac{1}{4}$;	480.00
sec. 15, N $\frac{1}{2}$ NE $\frac{1}{4}$.	80.00
	<hr/>
Total	1,969.02



COLORADO

FOR RELEASE APRIL 30, 1984
CONTACT L. Mac Soria, 375-7176

BLM

News Release

UNITED STATES DEPARTMENT OF THE INTERIOR

BLM NEWS RELEASE

The Royal Gorge Resource Area, Bureau of Land Management, Grand City District, has announced plans to amend the Grand Gorge Management Framework Plan and apply suitability criteria in accordance with 43 CFR 1601. The Sandstone Coal Company of Trinidad, Colorado, has made an application to lease 1,349.01 acres of Federal coal in Las Animas County, Colorado. The study area lies approximately 2 miles south of Aguilar, Colorado. Preliminary information indicates the land has good potential for subsurface mining.

APPENDIX B

News Release/F.R. Notice

The use-based and suitability criteria will determine whether the area is suitable for consideration for coal leasing," said Royal Gorge District Area Manager L. Mac Soria. "All will provide an environmental assessment to ensure that environmental factors are considered," Soria adds.

A scoping period, during which the public is invited to express concerns, will end May 16, 1984. The planning criteria for this plan include the suitability criteria listed in 43 CFR 1601. Comments should be addressed to L. Mac Soria, Area Manager, BLM, Royal Gorge Resource Area, P.O. Box 1478, Canon City, Colorado 81102.

According to Soria more information is available from the Royal Gorge Resource Area at 375-7176.



COLORADO

BLM
BUREAU OF LAND MANAGEMENT

UNITED STATES

FOR RELEASE April 30, 1984
CONTACT L. Mac Berta, 275-7578

News Release

DEPARTMENT OF THE INTERIOR

BLM NEWS RELEASE

The Royal Gorge Resource Area, Bureau of Land Management, Canon City District, has announced plans to amend the Raton Basin Management Framework Plan and apply unsuitability criteria in accordance with 43 CFR 1600. The Sundance Coal Company of Trinidad, Colorado, has made application to lease 1,969.02 acres of Federal coal in Las Animas County, Colorado. The study area lies approximately 2 miles south of Aguilar, Colorado. Preliminary information indicates the land has good potential for subsurface mining.

"The amendment and unsuitability criteria will determine whether the area is acceptable for consideration for coal leasing," said Royal Gorge Resource Area Manager L. Mac Berta. "BLM will prepare an environmental assessment to ensure that environmental factors are considered," Berta added.

A scoping period, during which time the public is invited to express concerns, will end May 18, 1984. The planning criteria for this plan amendment are the unsuitability criteria listed in 43 CFR 3461. Concerns should be addressed to L. Mac Berta, Area Manager, BLM, Royal Gorge Resource Area, P.O. Box 1470, Canon City, Colorado 81212.

According to Berta more information is available from the Royal Gorge Resource Area at 303-275-7578.

District Manager at the above address by May 29, 1984.

Summary minutes of the meeting will be maintained in the District Office and be available for public inspection and reproduction (during regular business hours) within thirty days following the meeting.

Gerald E. Magnuson,
District Manager.

April 19, 1984.

FR Doc. 84-11378 Filed 4-25-84, 8 45 am)

BILLING CODE 4310-04-M

Colorado; Canon City District, Royal Gorge Resource Area; Intent To Amend the Raton Basin Management Framework Plan

AGENCY: Bureau of Land Management, Interior.

ACTION: Amendment to Raton Basin Management Framework Plan and Application of Unsuitability Criteria on 1,909.02 acres of Federal Coal in Las Animas County, Colorado.

SUMMARY: In accordance with 43 CFR 1600 the Bureau of Land Management, Canon City District, Colorado is beginning the process of amending the Raton Basin Management Framework Plan (MFP). The Sundance Coal Company of Trinidad, Colorado, has made application to lease 1,969.02 acres of Federal coal in Las Animas County, Colorado. The purpose of the MFP amendment is to determine if the area is suitable for coal leasing. The effects of designating areas as suitable or unsuitable for coal development will be assessed in the plan amendment/environmental assessment document. Following the determination of areas that are suitable, BLM will analyze the impacts of leasing and development of any suitable areas.

DATE: The scoping period runs for 30 days from the date of this notice. Written concerns must be submitted within this 30-day period.

ADDRESS: Concerns should be addressed to: L. Mac Berta, Area Manager, Royal Gorge Resource Area, Bureau of Land Management, P.O. Box 1470, Canon City, Colorado 81212. Telephone: 303-275-7578.

SUPPLEMENTARY INFORMATION: The geographic area for the Raton Basin MFP coal amendment will be approximately 1,969.02 acres of land with 160 acres of Federal surface and minerals and the remaining 1,809.02 acres private surface with Federal minerals. The lease area is located in Las Animas County, Colorado, within the Royal Gorge Resource Area. The

study area lies approximately 2 miles south of Aguilar, Colorado. Following is a legal description of the study area:

Sixth Principal Meridian, Las Animas County, Colorado

T. 31 S., R. 65 W.,
Sec. 1. W $\frac{1}{2}$ SW $\frac{1}{4}$;
Sec. 2, lots 3 and 4, S $\frac{1}{2}$ NW $\frac{1}{4}$, S $\frac{1}{2}$;
Sec. 3, lots 1 and 2, S $\frac{1}{2}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$;
Sec. 11, N $\frac{1}{2}$, SW $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$;
Sec. 12, N $\frac{1}{2}$, SE $\frac{1}{4}$;
Sec. 13, N $\frac{1}{2}$ NE $\frac{1}{4}$.

Planning criteria will involve application of the coal unsuitability criteria (43 CFR 3460). Preliminary information indicates the land has good potential for subsurface mining.

The plan amendment will be prepared through the use of an interdisciplinary team with experience and knowledge in the following areas: Lands, minerals, hydrology, wildlife, recreation, cultural resources, visual resources, vegetation, and economics.

Copies of the amendment and the environmental assessment will be available for review at the Royal Gorge Resource Area Office, 831 Royal Gorge Boulevard, and at the Canon City District Office, 3000 East Main Street, Canon City, Colorado.

Stewart A. Wheeler,
Acting District Manager.

FR Doc. 84-11382 Filed 4-25-84, 8 45 am)

BILLING CODE 4310-10-M

[A-17000-Y]

Arizona; Termination of Segregative Effect

April 18, 1984.

1. On December 16, 1982, the State of Arizona filed application to select certain public lands in lieu of school lands that were encumbered by other rights or reservations before the State's title could attach (43 U.S.C. 851-852). Upon filing of the application, the selected lands were segregated from appropriation under the public land laws, including the mining, but not the mineral leasing laws.

On July 22, 1983, the State withdrew its application as to the following described lands:

Gila and Salt River Meridian, Arizona

T. 4 N., R. 19 W.,
Sec. 22, W $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$, W $\frac{1}{2}$ E $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$;
Sec. 23, part SW $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$;
Sec. 26, part NE $\frac{1}{4}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ NE $\frac{1}{4}$;
Sec. 27, SE $\frac{1}{4}$;
Sec. 34, W $\frac{1}{2}$.
T. 9 N., R. 19 W.,
Sec. 1, E $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$.
T. 10 N., R. 19 W.,

Sec. 34, lot 7, S $\frac{1}{2}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$.
T. 16 N., R. 20 $\frac{1}{2}$ W.,
Sec. 14, part SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$;
Sec. 15, part S $\frac{1}{2}$ S $\frac{1}{2}$ S $\frac{1}{2}$;
Sec. 22, part N $\frac{1}{2}$ N $\frac{1}{2}$ N $\frac{1}{2}$ N $\frac{1}{2}$ N $\frac{1}{2}$, S $\frac{1}{2}$ N $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$;
Sec. 23, part NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$.
T. 3 N., R. 22 W.,
Sec. 21, SE $\frac{1}{4}$ SW $\frac{1}{4}$;
Sec. 22, lot 8.

The area described aggregate approximately 1,165 acres in La Paz and Mohave Counties.

2. Subject to all valid existing rights, the provisions of existing withdrawals, and the requirements of applicable law, the lands described in paragraph 1 were opened to the operation of the public land laws including the mining laws (Ch 2, Title 30 United States Code) on July 22, 1983.

Appropriation of lands under the general mining laws between December 16, 1982 and July 22, 1983 was unauthorized. Any such attempted appropriation, including attempted adverse possession under 30 U.S.C. 38 vested no rights against the United States. Acts required to establish a location and to initiate a right of possession are governed by State law where not in conflict with Federal law. The Bureau of Land Management will not intervene in disputes between rival locators over possessory rights since Congress has provided for such determination in local courts.

3. The lands have been and will continue to be open to applications and offers under the mineral leasing laws.

4. Inquiries concerning the lands should be addressed to the Bureau of Land Management, Department of the Interior, 2400 Valley Bank Center, Phoenix, Arizona 85073, (602-261-4774) Mario L. Lopes,
Chief, Branch of Lands and Minerals Operations.

FR Doc. 84-11380 Filed 4-25-84, 8 45 am)
BILLING CODE 4310-32-M

[A 4184, A 5882]

Arizona; Termination of Classifications of Public Lands for Transfer Out of Federal Ownership

April 18, 1984.

1. Pursuant to the authority delegated by BLM Manual, Section 1203, Delegation of Authority (48 FR 85), I hereby terminate the Bureau of Land Management Classification of Public Lands for Transfer Out of Federal Ownership (A 4184) dated December 2, 1969, and published in the Federal Register December 9, 1969, Vol. 34, page 19473 and Classification of Public Lands

April 4, 1961

Colorado Department of Natural Resources
1313 Sherman St.
Denver, CO 80203

Attention: Energy Assistant to the Director

Dear Sir:

We are in the process of updating and amending a portion of our land use plan in response to a federal coal lease application by Sundance Coal Company. Most of the affected lands are federal mineral estate/private surface estate. Only 150 acres of federal mineral estate/federal surface estate is covered in the application. One of the affected lands located just south of Aguilar, Colorado, is enclosed.

APPENDIX C

Consultation Letters and Responses

Will you please review the enclosed to see whether or not the estate has any pending management designations or prescriptions that would be impacted by coal development in this area. Please bear in mind that any coal development in this area will utilize underground mining. Only support facilities such as access roads, storage buildings, and portal areas will appear and be visible on the surface.

If you have any questions, please contact Dennis Radtman or Kevin Anderson in our office.

Sincerely yours,

Area Manager

Enclosure - 1

ccp

Dickman/Ch

United States Department of the Interior

1601
4112
(161)DZ

April 6, 1984

Colorado Department of Natural Resources
1313 Sherman St.
Denver, CO 80203

Attention: Energy Assistant to the Director

Dear Sir:

We are in the process of updating and amending a portion of our land use plan in response to a federal coal lease application by Sundance Coal Company. Most of the affected lands are federal mineral estate/private surface estate. Only 160 acres of federal mineral estate/federal surface estate is covered in the application. A map of the affected lands (located just south of Aguilar, Colorado) is enclosed.

Will you please review the lands and reply in writing to us whether or not the state has any pending management designations or prescriptions that would be impacted by coal development in this area. Please bear in mind that any coal development in this area will utilize underground mining. Only support facilities such as access roads, storage buildings, and portal areas will impact and be visible on the surface.

If you have any questions, please contact Dennis Zachman or Kevin Andersen in our office.

Sincerely yours,

Area Manager

Enclosure - 1
map

DZachman/db

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Royal Gorge Resource Area
P. O. Box 1470
Canon City, Colorado 81212
(303) 275-7578

April 19, 1984

Mr. Bruce McCloskey
Southeast Region Manager, DOW
2126 N. Weber Street
Colorado Springs, CO 80907

Subject: Amendment of the Raton Basin MFP for Coal Lease Application
C-37838 submitted by Sundance Coal Company

Dear Mr. McCloskey:

We are currently amending the Raton Basin Management Framework Plan (MFP) to determine whether a parcel submitted for coal leasing by the Sundance Coal Company is acceptable for further consideration for leasing. The enclosed map and legal description shows the area being reviewed for unsuitability criteria and multiple use considerations. Our findings will be documented in an MFP amendment and an Environmental Assessment to be completed in June of this year.

The applicant has applied for 1,969.02 acres of federal coal in Sections 1, 2, 3, 11, 12, and 15, T. 31 S., R. 65 W., 6th P.M., in Las Animas County. Only 160 acres are BLM surface with the remaining being private lands with federal minerals.

The parcel will be mined using the underground long-wall method. Preliminary plans call for portals to be located at the outcrop of the coal seam in the southeast quarter of Section 12. It is anticipated that approximately 20 acres of surface disturbance will occur with construction of the portals. Access to the portals will be across Sundance property in Section 13. It is presently planned that coal mined from this seam will be trucked to the Animas Mine near Trinidad for processing and customer loading. Surface facilities in support of the proposed mine will be located on Sundance property in Section 13 or on other private lands in the immediate vicinity.

Our review of BLM and Colorado Division of Wildlife data indicates that suitable habitat exists for raptor nesting (specifically golden eagle and prairie falcon) on the cliffs to the east and north of the lease area. Inventory data from previous surveys indicates active nests, potential nest sites, and abandoned sites in this area (see map). We would like your comments and current information on whether or not these sites are active. We do not anticipate adverse impacts to these habitats or populations with underground mining, however, if impacts are identified they will be mitigated by stipulation if the tracts are leased.

We would also appreciate any information you may have on other species of high interest to the State which might be of concern in the lease area.

As provided in 43 CFR 3461, Federal Coal Regulations, we request your review and comment regarding application of Unsuitability Criteria 9 through 15 to the parcel (see attachment).

Contact Erik Brekke at the above number if you have any questions. We will anticipate your written reply within the 30 days provided for by regulation.

Sincerely yours,

Area Manager

Enclosures - 3
maps (2)
criteria

STATE OF COLORADO
 Richard D. Lamm, Governor
 DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE



James B. Ruch, Director
 6060 Broadway
 Denver, Colorado 80216 (297-1192)

Southeast Regional Office
 2126 North Weber
 Colorado Springs, Colorado 80907
 Telephone: 473-2945

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May 17, 1984

Mr. L. MacBerta, Area Manager
 Bureau of Land Management
 Royal Gorge Resource Area
 PO Box 1470
 Canon City, Colorado 81212

Dear Mr. MacBerta:

D.O.W. field and staff personnel have reviewed your letter reference the Amendment of Raton Basin MFP for Coal Lease Application C-37838 by Sundance Coal Company.

As this is an underground mine, we do not feel there are any major problems or conflicts. The eagle nest to the north was active in 1982 and is active again this year. This is year round turkey range and a herd of elk is beginning to use this general area in the winter. We do request that the company avoid disturbance of these, and all wildlife for that matter, as much as possible.

Thank you.

Sincerely,

Bruce McCloskey by
Tom Martin acting Regional Manager
 Bruce McCloskey, 5-17-84
 Regional Manager

BM/ME/cas



United States Department of the Interior

IN REPLY REFER TO

1601
(161)EB

BUREAU OF LAND MANAGEMENT

Royal Gorge Resource Area
P. O. Box 1470
Canon City, Colorado 81212
(303) 275-7578

April 19, 1984

Robert D. Jacobsen
U.S. Fish and Wildlife Service
1311 Federal Building,
125 South State Street
Salt Lake City, UT 84138

Subject: Amendment of the Raton Basin MFP for Coal Lease Application
C-37838 submitted by Sundance Coal Company

Dear Mr. Jacobsen:

We are currently amending the Raton Basin Management Framework Plan (MFP) to determine whether a parcel submitted for coal leasing by the Sundance Coal Company is acceptable for further consideration for leasing. The enclosed map and legal description shows the area being reviewed for unsuitability criteria and multiple use considerations. Our findings will be documented in an MFP amendment and an Environmental Assessment to be completed in June of this year.

The applicant has applied for 1,969.02 acres of federal coal in Sections 1, 2, 3, 11, 12, and 15, T. 31 S., R. 65 W., 6th P.M., in Las Animas County. Only 160 acres are BLM surface with the remaining being private lands with federal minerals.

The parcel will be mined using the underground long-wall method. Preliminary plans call for portals to be located at the outcrop of the coal seam in the southeast quarter of Section 12. It is anticipated that approximately 20 acres of surface disturbance will occur with construction of the portals. Access to the portals will be across Sundance property in Section 13. It is presently planned that coal mined from this seam will be trucked to the Animas Mine near Trinidad for processing and customer loading. Surface facilities in support of the proposed mine will be located on Sundance property in Section 13 or on other private lands in the immediate vicinity.

Our review of BLM and Colorado Division of Wildlife data indicates that suitable habitat exists for raptor nesting (specifically golden eagle and prairie falcon) on the cliffs to the east and north of the lease area. Inventory data from previous surveys indicates active nests, potential nest sites, and abandoned sites in this area (see map). We do not anticipate adverse impacts to these habitats or populations with underground mining, however, if impacts are identified they will be mitigated by stipulation if the tracts are leased.



As provided in 43 CFR 3461, Federal Coal Regulations, we request your review and comment regarding application of Unsuitability Criteria 9 through 15 to the parcel.

Contact Erik Brekke at the above number if you have any questions. We will anticipate your written reply within 30 days.

Sincerely yours,

Area Manager

Robert D. Jacobson
U.S. Fish and Wildlife Service
1111 Federal Building
122 South State Street
Salt Lake City, UT 84138

Enclosures - 2
maps

Subject: Amendment of the Nation Basin-MT for Coal Lease Application
C-37838 submitted by Sundance Coal Company

Dear Mr. Jacobson:

We are currently amending the Nation Basin Management Framework Plan (NMF) to determine whether a parcel submitted for coal leasing by the Sundance Coal Company is acceptable for further consideration for leasing. The amended map and legal description show the area being reviewed for unsuitability criteria and criteria are considerations. Our findings will be documented in an NMF assessment and an Environmental Assessment to be completed in June of this year.

The applicant has applied for 1,989.01 acres of federal coal in Sections 1, 2, 3, 11, 12, and 13, T. 31 S., R. 65 W., 4th P.M., in Garfield County. Only 180 acres are BLM surface with the remaining being private lands with federal minerals.

The parcel will be staked using the underground long-wall method. Preliminary plans call for portals to be located at the outcrop of the coal seam in the southeast quarter of Section 12. It is anticipated that approximately 30 acres of surface disturbance will occur with construction of the portals. Access to the portals will be across Sundance property in Section 12. It is presently planned that coal mined from this seam will be trucked to the Animal Mine near Tintic for processing and customer loading. Surface facilities in support of the proposed mine will be located on Sundance property in Section 12 or on other private lands in the immediate vicinity.

Our review of BLM and Colorado Division of Wildlife data indicates that suitable habitat exists for greater sage-grouse (specifically golden eagle and greater falcon) on the cliffs to the east and north of the lease area. Inventory data from previous surveys indicates active nests, potential nest sites, and abandoned sites in this area (see map). We do not anticipate adverse impacts to these habitats or populations with underground mining, however, if impacts are identified they will be mitigated by stipulation if the leases are issued.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
COLORADO SUBOFFICE
730 SIMMS STREET, SUITE 292
GOLDEN, COLORADO 80401

R.G.R.A.
Bureau of Land Management
JUN 1 1984

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June 1, 1984

MEMORANDUM

TO: Area Manager, Bureau of Land Management
Canon City, Colorado

FROM: Energy Project Leader, Colorado

SUBJECT: Amendment of Raton Basin MFP for Coal Lease Application
C-37838 - Sundance Coal Co.

Pursuant to your request of April 19th we have reviewed the information you provided on the proposed amendment.

From the information available we would concur with your statement that adverse impacts are not anticipated for golden eagle or prairie falcon habitats or populations from the underground mining proposal. However, given the previous existence of active nests and potential and existing sites, we would recommend that a site specific survey be conducted prior to leasing. Areas surveyed should at minimum include potential surface disturbance areas and access routes.

Any active nests identified can hopefully be afforded protection through siting alternatives and/or seasonal surface occupancy/disturbance stipulations.

As the FWS has no recent site specific survey information on the areas involved we can provide no additional information at this time. If we could provide technical and/or field assistance in conducting future surveys we would be glad to assist.

Although threatened/endangered species are not specifically identified in your letter, we assume that an analysis of any potential impacts will be included in the forthcoming MFP amendment and EA. Any questions or assistance in this regard should be directed to: Mr. Fred Bolwahn, U.S. Fish and Wildlife Service - Endangered Species, 1406 Federal Building, 125 So. State Street, Salt Lake City, Utah, 84138-1197.

Thank you for apprising us of the proposed activities. Again, if we can assist in the acquirement of updated information do not hesitate to call.

L. Ronald Finley



United States Department of the Interior

IN REPLY REFER TO

1601
(161)EB

BUREAU OF LAND MANAGEMENT

Royal Gorge Resource Area
P. O. Box 1470
Canon City, Colorado 81212
(303) 275-7578

April 19, 1984

J. Scott Peterson
Colorado Natural Heritage Inventory
1550 Lincoln Street, Suite 110
Denver, CO 80203

Subject: Amendment of the Raton Basin MFP for Coal Lease Application
C-37838 submitted by Sundance Coal Company

Dear Mr. Peterson:

We are currently amending the Raton Basin Management Framework Plan (MFP) to determine whether a parcel submitted for coal leasing by the Sundance Coal Company is acceptable for further consideration for leasing. The enclosed map and legal description shows the area being reviewed for unsuitability criteria and multiple use considerations. Our findings will be documented in an MFP amendment and an Environmental Assessment to be completed in June of this year.

The applicant has applied for 1,969.02 acres of federal coal in Sections 1, 2, 3, 11, 12, and 15, T. 31 S., R. 65 W., 6th P.M., in Las Animas County. Only 160 acres are BLM surface with the remaining being private lands with federal minerals.

The parcel will be mined using the underground long-wall method. Preliminary plans call for portals to be located at the outcrop of the coal seam in the southeast quarter of Section 12. It is anticipated that approximately 20 acres of surface disturbance will occur with construction of the portals. Access to the portals will be across Sundance property in Section 13. It is presently planned that coal mined from this seam will be trucked to the Animas Mine near Trinidad for processing and customer loading. Surface facilities in support of the proposed mine will be located on Sundance property in Section 13 or on other private lands in the immediate vicinity.

We request that you review your information for the proposed lease area and comment as to the possibilities of plant or animal species of concern occurring in the area. The latest information we have concerning plants is the BLM Endangered, Candidate, and Sensitive Plant Species List (February, 1984). Preliminary review of this data does not indicate any species of concern occurring in this area.



We would appreciate your comments and anticipate your written reply within 30 days. Contact Erik Brekke at the above number if you have any questions.

Sincerely yours,

Area Manager

Enclosure -
map

J. Scott Peterson
Colorado Natural Resources Inventory
1520 Lincoln Street, Suite 110
Denver, CO 80202

Subject: Amendment of the Raton Basin MFP for Coal Lease Application
C-37818 submitted by Sandance Coal Company

Dear Mr. Peterson:

We are currently amending the Raton Basin Management Framework Plan (MFP) to determine whether a parcel submitted for coal leasing by the Sandance Coal Company is acceptable for further consideration for leasing. The enclosed map and legal description show the area being reviewed for suitability criteria and multiple use considerations. Our findings will be documented in an MFP amendment and an Environmental Assessment to be completed in June of this year.

The applicant has applied for 1,589.02 acres of federal coal in Sections 1, 2, 3, 11, 12, and 13, T. 21 N., R. 62 W., 6th T.M., in Las Animas County. Only 180 acres are BLM surface with the remaining being private lands with federal minerals.

The parcel will be mined using the underground long-wall method. Preliminary plans call for portals to be located at the outcrop of the coal seam in the southeast quarter of Section 12. It is anticipated that approximately 10 acres of surface disturbance will occur with construction of the portals. Access to the portals will be across Sandance property in Section 13. It is presently planned that coal mined from this seam will be trucked to the Animas Mine near Trinidad for processing and customer loading. Facilities in support of the proposed mine will be located on Sandance property in Section 13 or on other private lands in the immediate vicinity.

We request that you review your information for the proposed lease area and comment as to the possibilities of plant or animal species of concern occurring in the area. The latest information we have concerning plants in the BLM Raton Basin, and Sensitive Plant Species List (February, 1984). Preliminary review of this data does not indicate any species of concern occurring in this area.



COLORADO NATURAL HERITAGE INVENTORY

1550 Lincoln Street, Room 110 Denver, Colorado 80203 (303) 866-5887

16 May 1984

Mr. L Mac Berta, Area Manager
Royal Gorge Resource Area
Bureau of Land Management
P.O. Box 1470
Canon City, Colorado 81212

Subject: Amendment of the Raton Basin MFP for Coal Lease Application
C-37838 submitted by Sundance Coal Company.

Dear Mr. Berta:

Thank you for giving us an opportunity to review and comment on the proposed lease application. Our records do not show any significant occurrences of Special Concern plant or animal species or plant associations within or near the proposed project site; although paucity of information in an area often reflects the lack of field work there, not necessarily the absence of rare or exemplary features.

I hope this information (or lack thereof) is useful to your planning efforts. I'll be sending along a package of our recently updated lists and publications later this week for your information. Please contact me if I can be of further assistance on this or future projects.

Sincerely yours,

Tamara Naumann

Tamara Naumann
Data Manager

Bureau of Land Management		R.G.R.A.	
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D. H. EMLING COMPANY
MINING ENGINEERS AND GEOLOGISTS
7800 EAST UNION AVENUE, SUITE 420
DENVER, COLORADO 80237

(303) 779-9448

May 11, 1984

Mr. Kevin Anderson
 BLM
 P.O. Box 1470
 Canon City, Colorado 81212

Re: Federal Coal Lease Application
 Serial No. C-37838

Dear Kevin:

I am writing to you on behalf of Sundance Coal Company in regard to your question concerning Sundance's current opinion as to whether the Sundance private coal holdings can be mined alone without the adjoining federal coal lands applied for. Sundance representatives and I discussed the project this morning and concluded that the federal coal lands are not only a part of a logical mining unit with the Sundance private property, but may be the key to an economical access to the Sundance holdings. Therefore, Sundance does not feel, at this time, that it can make a statement that its lands can be mined alone.

Our conclusion, at this time, is based upon our current understanding of the geology and the location of the two properties relative to the outcrop of the primary target seam, the Hastings.

Very truly yours,

D. H. EMLING COMPANY

Dale H. Emling
 Dale H. Emling

DHE/s

cc: Art VanSant

Bureau of Land Management
 R.G.R.A.
 MAY 16 '84

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Bureau of Land Management
Library
Bldg. 50, Denver Federal Center
Denver, CO 80225

Form 1279-3
(June 1984)

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The Coal Amendment to
Management Framework

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Division of Land Management
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616 20 Denver Federal Center
Denver, CO 80225