

## EXECUTIVE SUMMARY

Bluegrass Coal Development Company (Bluegrass) operates the North Rochelle Mine through its wholly owned subsidiary, Triton Coal Company, in southeastern Campbell County, Wyoming. Bluegrass has existing contract customers that require low sulfur coal to comply with the Clean Air Act amendments. Bluegrass currently has 186 million tons of federal coal leased at the North Rochelle Mine, which was permitted by the State of Wyoming in 1983. The North Rochelle reserves will be mined out by approximately 2010 under current mining plans. Without supplemental reserves, no additional coal will be available for new or existing contracts. Therefore, Bluegrass is proposing to lease additional federal coal reserves located adjacent to their permitted North Rochelle Mine (Figure ES.1). The lease application was initially reviewed by the Bureau of Land Management (BLM), Wyoming State Office, Division of Mineral and Lands Authorization, on November 17, 1992. The BLM ruled that the application and lands involved met the requirements of regulations governing coal leasing on application (43 CFR 3425). The North Rochelle coal lease application was also reviewed by the Powder River Regional Coal Team (PRRCT) at their June 16, 1993, meeting in Billings, Montana. At that time, the PRRCT recommended that the BLM process the North Rochelle coal lease application as a lease-by-application (LBA).

According to the PRRCT operational guidelines for coal LBAs, the BLM must prepare either an environmental assessment (EA) or an environmental impact statement (EIS) to address the site-specific and cumulative environmental impacts of leasing and developing the federal coal in the application area. For this lease application, the decision was made to prepare an EIS.

The BLM will use this analysis to make a decision whether or not to hold a competitive, sealed-bid lease sale and issue a federal coal lease. If a lease sale is held, the lease will be issued to the highest bidder if a federal sale panel determines that the high bid meets or exceeds the fair market value as determined by BLM's economic evaluation and if the U.S. Department of Justice determines that there are no antitrust violations if the lease is issued to the high bidder.

Other agencies, including cooperating agencies on this EIS (the U.S. Forest Service [USFS] and the Office of Surface Mining Reclamation and Enforcement [OSM]) will also use this analysis to make decisions related to leasing and mining the federal coal in this tract.

All of the lands in the North Rochelle coal lease application have been subjected to the four coal planning screens and determined acceptable for further lease consideration. The Proposed Action to lease and mine the federal coal lands in this application is in conformance with both the BLM Buffalo Resource Area Resource Management Plan and the USFS Thunder Basin National Grassland Land and Resource Management Plan.

The Proposed Action is to hold a competitive lease sale for the federal coal lands as applied for (approximately 1,440 acres of federal coal reserves containing an estimated 144 million tons of coal), subject to the standard coal lease stipulations and to special coal lease stipulations developed for the Wyoming Powder River Basin (PRB). The LBA process is, by law and regulation, an open, public, competitive sealed-bid process. Thus, if the decision reached as a result of this analysis is to hold a lease sale, Bluegrass may not be the high bidder. Nonetheless, the analysis presented in this

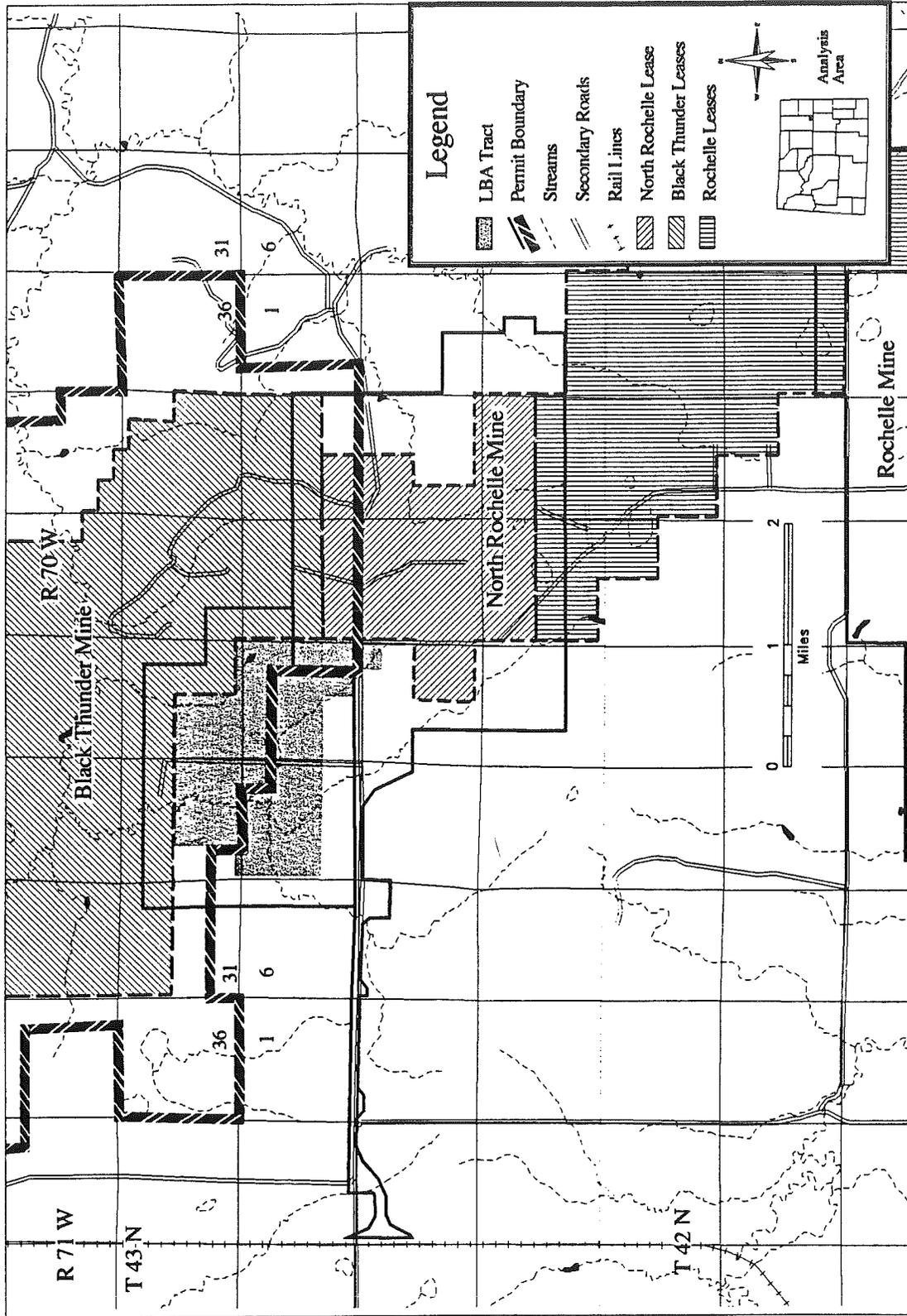


Figure ES.1 Proposed Action LBA Tract.

EIS assumes that the applicant (Bluegrass) would be the successful bidder and that they would mine the lands as a maintenance tract with their permitted North Rochelle Mine<sup>1</sup>, and no new facilities, equipment, or personnel would be needed to mine the LBA tract. The overburden and coal thickness on the LBA tract is similar to North Rochelle's existing lease, and Bluegrass does not propose to increase production above the currently permitted maximum rate; acquisition of the LBA tract would simply allow production to be extended for 11 years.

The analyzed lease lands are also adjacent to the Black Thunder Mine, operated by the Thunder Basin Coal Company (TBCC), a subsidiary of ARCO. TBCC is also in a position to mine the tract as a maintenance lease. If TBCC acquires the lease, the rate of coal production, mining sequence, equipment, and facilities may be slightly different than Bluegrass's. However, the impacts of TBCC mining the tract would be similar to the impacts of Bluegrass mining the tract, and company-specific mining and reclamation plans would not significantly alter the disturbed acreage and, thus, would not substantially alter the environmental analysis conducted in this EIS.

Several possible tract configurations were considered by the BLM with the goal of making the LBA tract attractive to other potential bidders, minimizing the risk of bypassing federal coal that would then become economically unrecoverable and enhancing the fair market value of remaining unleased federal coal in the area. After considering specific coal reserve data, overburden thickness, and other site constraints, the BLM developed an alternative tract configuration (Alternative A, which is BLM's preferred alternative). Under this alternative, approximately

80 acres with about 9 million tons of federal coal would be added to the northwestern corner of the tract to prevent a potential bypass situation, and approximately 40 acres with about 4 million tons of federal coal would be removed from the southeast corner of the tract to enhance the value of adjacent, unleased coal. The revised tract contains approximately 149 million tons of federal reserves covering approximately 1,482 acres (Figure ES.2).

The No Action Alternative analyzed in this EIS is to reject this coal lease application, and the area contained in the application would not be offered for competitive sale at this time. However, rejection of this application will not affect the previously permitted coal mining at the North Rochelle Mine.

Figure ES.3 presents the three alternative lease configurations analyzed in detail in this EIS, and Table ES.1 presents a summary comparison of coal production, surface disturbance, mine life, and projected state revenue for the three alternatives.

Critical elements of the human environment that could be affected by the proposed project include air quality, cultural resources, floodplains, Native American religious concerns, threatened and endangered (T&E) species, hazardous or solid wastes, water quality, and wetlands/riparian zones. Four critical elements (areas of critical environmental concern, prime and unique farmland, wild and scenic rivers, and wilderness) are not present in the project area and are not addressed further. In addition to the critical elements that are potentially present in the project area, this EIS discusses the status and potential effects of the project on topography and

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<sup>1</sup> The North Rochelle Mine has an approved 20 million ton per year surface mining permit and air permit. There are currently no support or rail facilities at the North Rochelle Mine; however, Triton Coal Company will initiate construction of these facilities in 1997. Triton Coal Company had a contract mining company, Fuller Construction Company, mining North Rochelle through November 1996, when the federal diligent development requirements were satisfied for the federal coal lease.

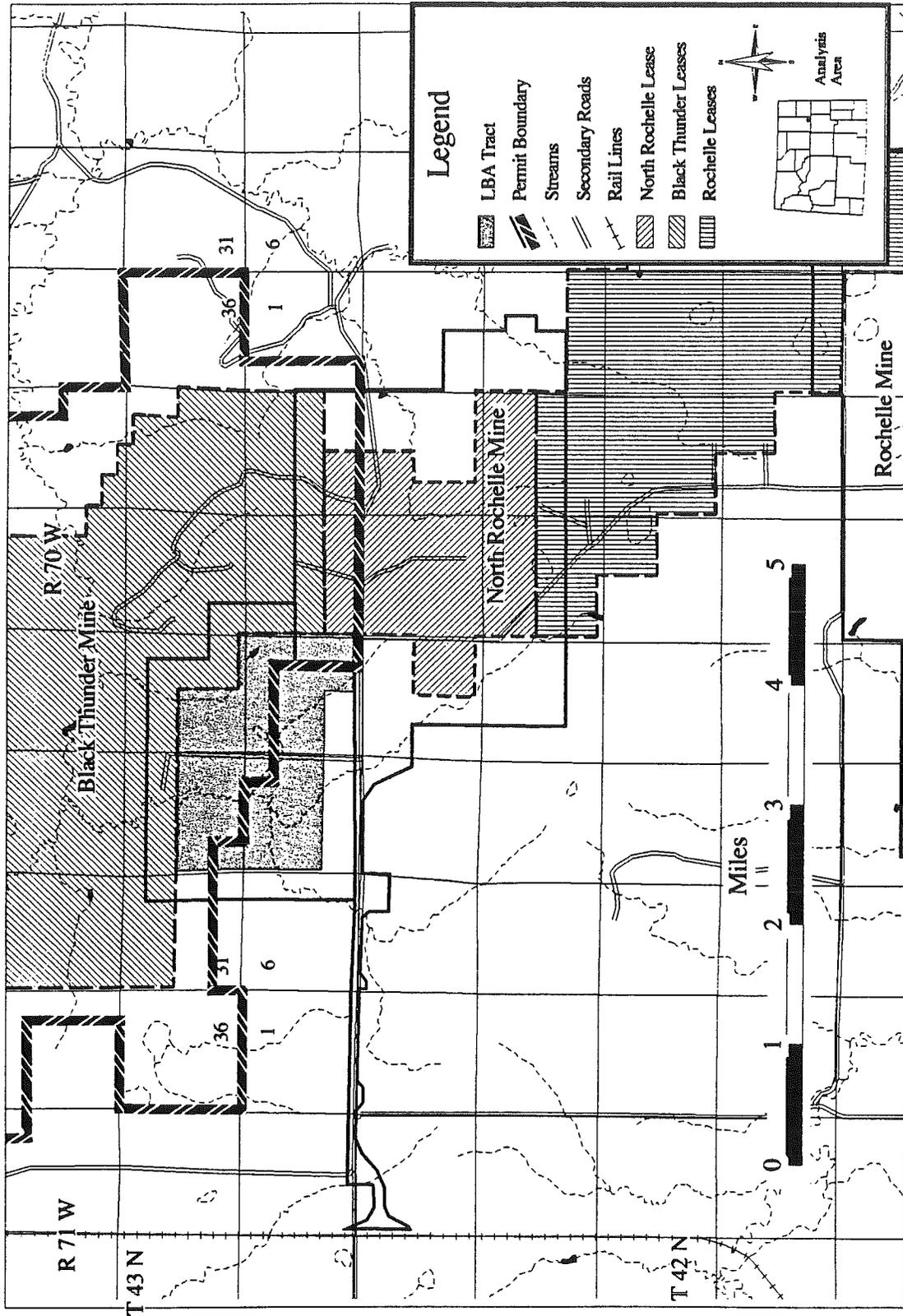


Figure ES.2 Alternative A LBA Tract.

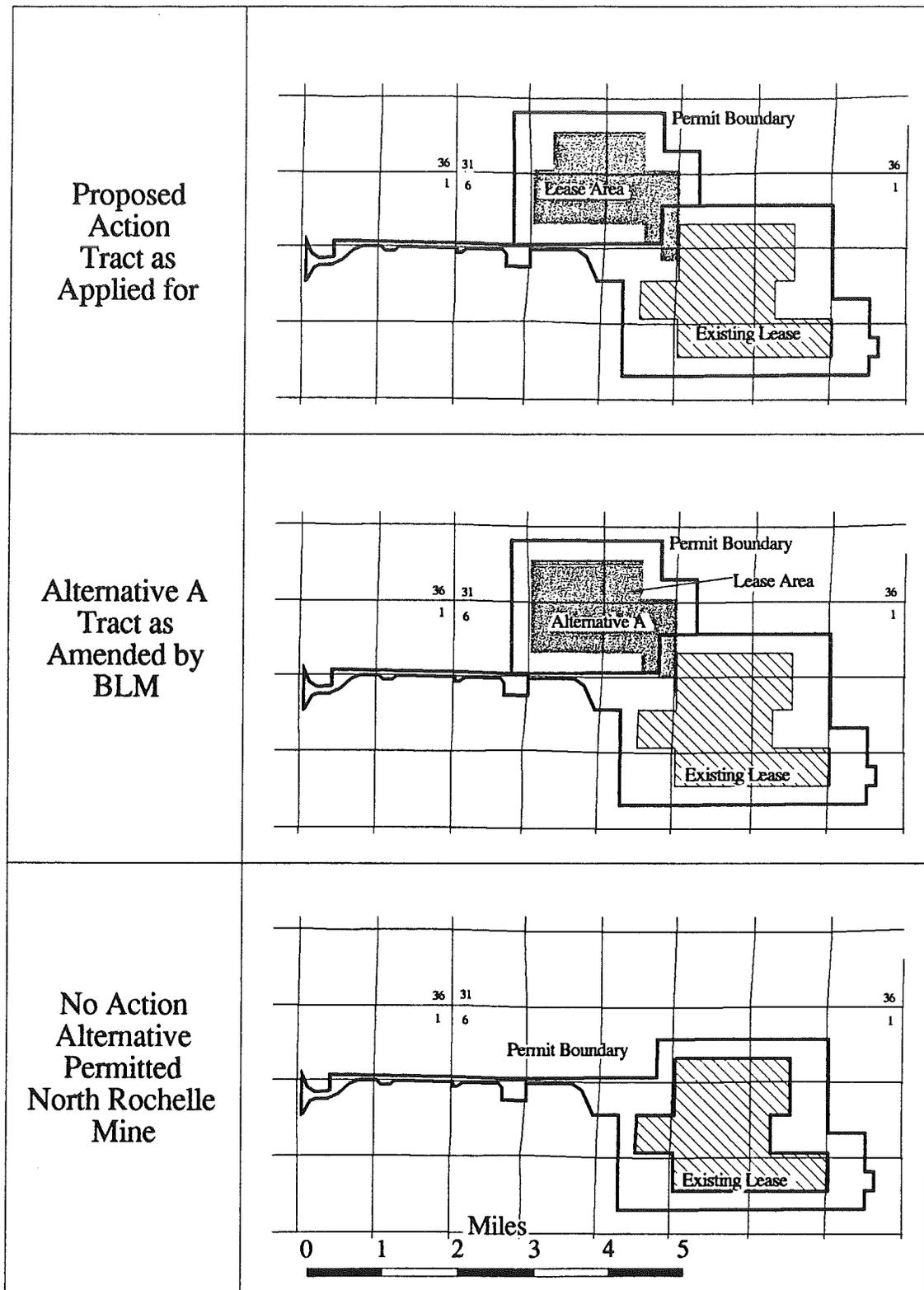


Figure ES.3 Alternative Tract Configurations Analyzed.

Table ES.1 Summary Comparison of Coal Production, Surface Disturbance, and Mine Life.

Item	Existing North Rochelle Mine	Existing Mine + LBA Tract	
	No Action Alternative	Proposed Action	Alternative A
Recoverable coal <sup>1</sup>	173 million tons	304 million tons	312 million tons
Total area to be disturbed <sup>2</sup>	3,193 acres	5,080 acres	5,160 acres
Average annual coal production	15 million tons	15 million tons	15 million tons
Life of mine	15 years	25 years	25 years
Average no. of employees	139	139	139
Total projected state revenue <sup>3</sup>	\$190 million	\$334 million	\$343 million

<sup>1</sup> Assumes 93% recovery of in-place coal reserves.

<sup>2</sup> Includes acreage affected by railroad corridor--258 acres in 1996.

<sup>3</sup> Projected revenue to the State of Wyoming assumes the state will receive \$1.10 per ton of coal sold (University of Wyoming 1994).

physiography, geology and mineral resources, soils, water availability or quantity, alluvial valley floors, vegetation, wildlife, land use and recreation, paleontological resources, visual resources, noise, transportation resources, and socioeconomics.

The project area is located in the PRB, a part of the Northern Great Plains, which includes most of northeastern Wyoming. The LBA tract is located in the south-central part of the PRB at an elevation of about 4,500 ft in an area of low rolling topography. The applicant's main mining objective is a lower Wyodak coal seam. The Upper Wyodak coal seam is present locally and will also be mined where it can be economically recovered. The main coal seam on the LBA tract is approximately 60 ft thick and the overburden ranges from about 150 ft to 250 ft thick.

The existing topography on the LBA tract would be substantially changed during mining. A 150- to 250-ft highwall would exist in the active pit, with

large volumes of spoil and topsoil stockpiled for later reclamation. Trussler Creek would be diverted into a temporary channel. The reclaimed land surface would contain fewer topographic features, but the basic drainage network would be retained. Both mining alternatives would lower the existing elevation by about 10 ft, due to removal of the coal. Even though the reclaimed land would be at a lower elevation, it would approximate premining contours, but lack some premining terrain diversity. This could contribute to reduced wildlife carrying capacity on the LBA tract. These topographic changes would not conflict with regional land use, and the postmining topography would adequately support anticipated land use.

The geology from the base of the coal to the land surface would be subject to considerable long-term change on the LBA tract under either action alternative. Mining would permanently remove 144 million tons of coal (Proposed Action) or 148 million tons (Alternative A).

Consequences to soils from mining the LBA tract would include changes in the physical, biological, and chemical properties. Following reclamation, the soils would be unlike premining soils in texture, structure, color, accumulation of clays, organic matter, and chemical composition. The soils would be much more uniform in type, thickness, and texture. However, the replaced topsoil would support a stable and productive vegetation community adequate in quantity and quality to support planned postmining land uses (i.e., wildlife habitat and rangeland).

Moderately adverse short-term impacts to air quality would occur as a result of mining the LBA tract. Visibility would continue to be slightly reduced due to blowing dust. Total suspended particulates (TSP) concentrations would continue to be elevated near the mine site, but would not violate federal or Wyoming primary and secondary standards, even when combined with emissions from adjacent mines. Concentrations of gaseous emissions would continue to remain within acceptable federal and state standards. Federal and state air quality standards have not been exceeded by all existing industrial development in the southeastern PRB, including the existing mines. This is not predicted to change as a result of mining the LBA tract.

Based on modeling conducted for the North Rochelle and Black Thunder Mines, dewatering of the coal seam by adjacent mines has and will lower the water level in the coal aquifer as much as 5 ft for a distance of approximately 5 to 8 mi from the mines. Mining of the LBA tract should not extend the distance of this drawdown, but it would extend the duration of the drawdown. Drawdowns in the coal aquifer will extend much further beyond the mine's boundaries than those in the overburden. About 305 acre-ft of groundwater would be used on the LBA tract each year. After mining, a period of approximately 100 to 200 years would be required for groundwater levels in the restored coal overburden (spoil) aquifer to reach equilibrium premining levels. Postmining water quality would be lower due primarily to increased total dissolved solids (TDS)

levels, but it would remain acceptable for anticipated postmining grazing and wildlife use. Surface water quality would remain about the same as at present. Total surface water discharge and sediment yield would also remain about the same following mining, but, because of the relocation of the Trussler Creek drainage, the timing and quantity of streamflow would be distributed differently.

Mining of the LBA tract would progressively remove the native vegetation on 1,440 acres (Proposed Action) or 1,482 acres (Alternative A). Reclamation and revegetation of this land would occur concurrently with mining. Initially, the reclaimed land would be dominated by grassland vegetation which would be less diverse than the premining vegetation. Estimates for the time it would take to restore sagebrush to premining density levels range from 20 to 100 years. An indirect impact of decreased big game habitat carrying capacity would be associated with this vegetative change. However, a diverse, productive, and permanent vegetative cover would be established on the LBA tract within about 10 years following reclamation. The decrease in plant diversity would not seriously affect the potential productivity of the reclaimed areas, and the proposed postmining land use (wildlife habitat and rangeland) should be achieved even with the changes in vegetation composition and diversity.

Mining of the LBA tract would reduce the acreage of habitat available for wildlife populations; however, the LBA tract does not contain any unique or crucial habitat, and habitat would be disturbed in parcels, with reclamation progressing as new disturbance occurs. Wildlife habitat quality has declined in the PRB due to a continuing trend of landscape fragmentation from roads, rail lines, oil and gas wells, coal mines, and fences. Mining of the LBA tract would add to this habitat fragmentation. However, since no defined crucial habitat occurs on the LBA tract and very little crucial habitat occurs in the highly developed corridor involving area coal mines, these consequences are not expected to cause significant impacts.

Mining the LBA tract would not be expected to jeopardize the existence of any T&E species, and no known critical habitat for T&E species exists on the LBA tract.

Active mining would preclude other land uses. Recreational use of the LBA tract would be severely limited during mining. Within 10 years after initiation of each reclamation phase, rangeland and wildlife use would return to near premining levels. The mine would also impact potential oil and gas development on the leased lands during active mining. The cumulative impacts of energy development (coal mining, oil and gas) in the PRB are and will continue to contribute to a reduction in hunting opportunities for some animals (pronghorn, mule deer, and sage grouse).

There are currently no oil and gas wells on the LBA tract; however, oil and gas exploration may occur on existing oil and gas leases on the LBA tract. Potential for development of coal bed methane resources on the tract would be lost with removal of the coal. Following reclamation, the land would be suitable for grazing and wildlife use, which are the historic land uses. Following reclamation bond release, management of the privately owned surface (80% of the LBA tract) would revert to the private surface owner.

Cultural resources will be impacted by mining, but adverse impacts will be mitigated through data recovery and/or avoidance of significant properties. A total of five prehistoric, historic, and multicomponent (consisting of both prehistoric and historic components) sites has been recorded within the LBA tract. All of the currently recorded sites are not presently considered eligible for inclusion on the National Register of Historic Places (NRHP); however, formal Wyoming State Historic Preservation Office (SHPO) consultation is required for concurrence with this evaluation. Class III surveys would be required for the uninventoried lands prior to mining; Class I reconnaissance to confirm the evaluation of unrecorded sites would also be required to

comply with legislation. If eligible cultural properties are found within the LBA tract and they cannot be avoided, a data recovery program would be implemented.

No sites of Native American religious or cultural importance are known to occur on the LBA tract; if such sites or localities are identified, they will be taken into consideration.

No unique or significant paleontological resources have been identified on the LBA tract, and the likelihood of encountering significant paleontological resources is small.

Mining activity on the LBA tract would not be visible from any major travel routes and would be partly concealed by surrounding terrain. Mining would affect landscapes classified by USFS as "common," and the landscape character would not be significantly changed following reclamation.

Impacts from noise generated by mining activities on the LBA tract are not expected to be significant due to the remote nature of the site.

No impacts to transportation facilities from leasing and subsequent mining of the LBA tract are anticipated.

Leasing and subsequent mining of the LBA tract would not create additional jobs if mined as a maintenance tract, but would extend the life of an already permitted operation by 11 years. The sale of coal under the Proposed Action is expected to generate over \$147 million to the state or almost \$153 million under Alternative A.

### Cumulative Impacts

Cumulative impacts result from the incremental impacts of an action added to other past, present, and reasonably foreseeable future actions, regardless of who is responsible for such actions. Cumulative impacts can result from individually minor, but collectively significant, actions occurring over time.

Wyoming coal production has increased 2.5 times in the last 15 years, from 94.0 million tons in 1980 to 236.9 million tons in 1994, according to records of the Wyoming State Inspector of Mines. 1995 coal production from Campbell and Converse Counties was approximately 246.5 million tons, according to the Wyoming State Geological Survey. Campbell and Converse Counties produce 85-95% of Wyoming coal each year. The increasing state production is primarily due to increasing sales of inexpensive low-sulfur PRB coal to electric utilities who must comply with requirements of the 1990 Clean Air Act Amendments. Increases in demand for electricity will probably result in a continuing demand for federal coal from Wyoming's PRB.

In 1996, the BLM completed a report titled *Coal Development Status Check Powder River Federal Coal Region Montana & Wyoming*. This report documents actual cumulative mineral development impacts in the PRB during the last 15 years and compares them with the cumulative mineral development impacts predicted in previously prepared regional EISs. A primary conclusion reached in the status check was that regional coal production levels are within predicted coal production levels, except for the southern group of mines, where production has exceeded predictions (The North Rochelle LBA tract is in this southern group of mines). The Wyoming status check also considers predictions that were made in *Cumulative Potential Hydrologic Impacts of Surface Coal Mining in the Eastern Powder River Structural Basin* (CHIA) (Martin et al. 1988).

There are currently 17 active surface coal mines and two inactive mines in Campbell and northern Converse Counties, Wyoming (Figure ES.4). The inactive mines are the Clovis Point/East Gillette Mine and the Rocky Butte Mine. The Clovis Point/East Gillette Mine was active from October 1986 through February 1988 and July 1994 through June 1996, to produce coal to meet federal diligent development requirements, which have been met at this time. The Rocky Butte Mine is still in the developmental stage. These mines lie

along a north/south line paralleling Highway 59 from just north of Gillette, Wyoming, south for about 75 mi. The mines are located just west of the outcrop of the thick Fort Union coal beds, where the coal is at the shallowest depth. The proposed North Rochelle LBA tract is situated in the middle of a nearly continuous corridor of six coal mines in southern Campbell and northern Converse Counties, Wyoming. This southern corridor is approximately 24 mi long and 8 mi wide. Four maintenance leases including about 8,900 acres of federal coal (Jacobs Ranch, West Black Thunder, North Antelope/Rochelle, and Antelope) have been issued to mines in this southern group since decertification, which has resulted in a 33% increase in the acres of leased federal coal in this group of mines since 1990 (see Figure ES.4). BLM is currently processing three maintenance leases including approximately 9,500 acres of federal coal in this group of mines (North Rochelle, Thundercloud, and Powder River). If these three maintenance leases are issued, the increase since 1990 in acres of leased federal coal in the southern group of mines would be 68%. Issuance of the 1,440-acre North Rochelle LBA tract under the Proposed Action (approximately 1,482 acres under Alternative A) would represent an increase of about 4% in acreage of leased federal coal in the southern group of mines. In May 1996, Evergreen Enterprises submitted a lease application for federal coal located north of the Jacobs Ranch Mine (Figure ES.4). This lease application is for a new mine start, not for maintenance of an existing mine. Kennecott also submitted an application in February 1997 for federal coal adjacent to their existing operations at the Antelope Mine. BLM has not yet started processing either of these new lease applications, which must still be reviewed by the PRRCT. There is also a potential for development of coal bed methane resources in a large area west of the coal mines (Figure ES.5). An EIS for coal bed methane development south of Gillette is in preparation and an EA for coal bed methane development north of Gillette was mailed to the public in December.

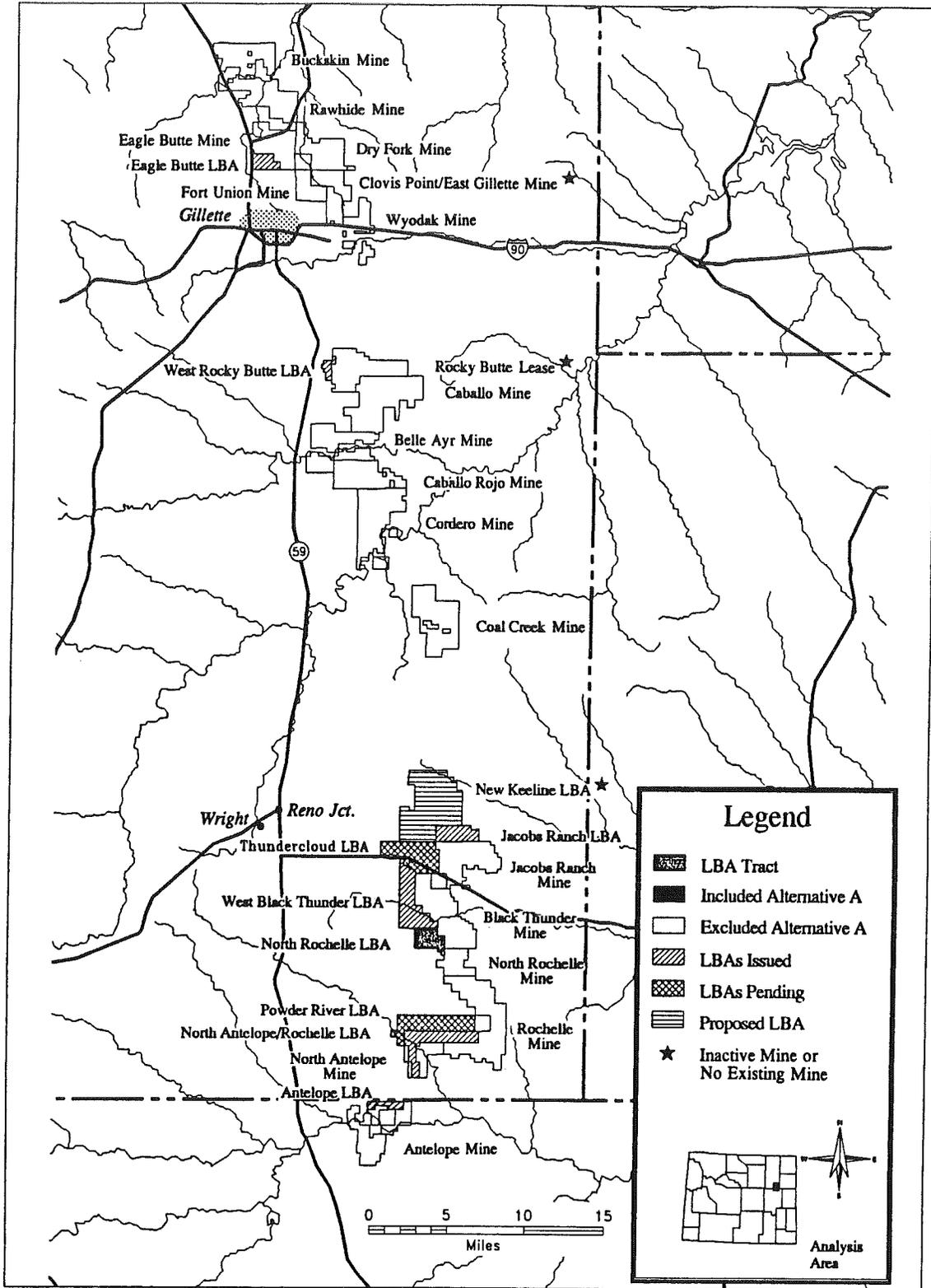


Figure ES.4 Existing and Proposed Federal Coal Leases.

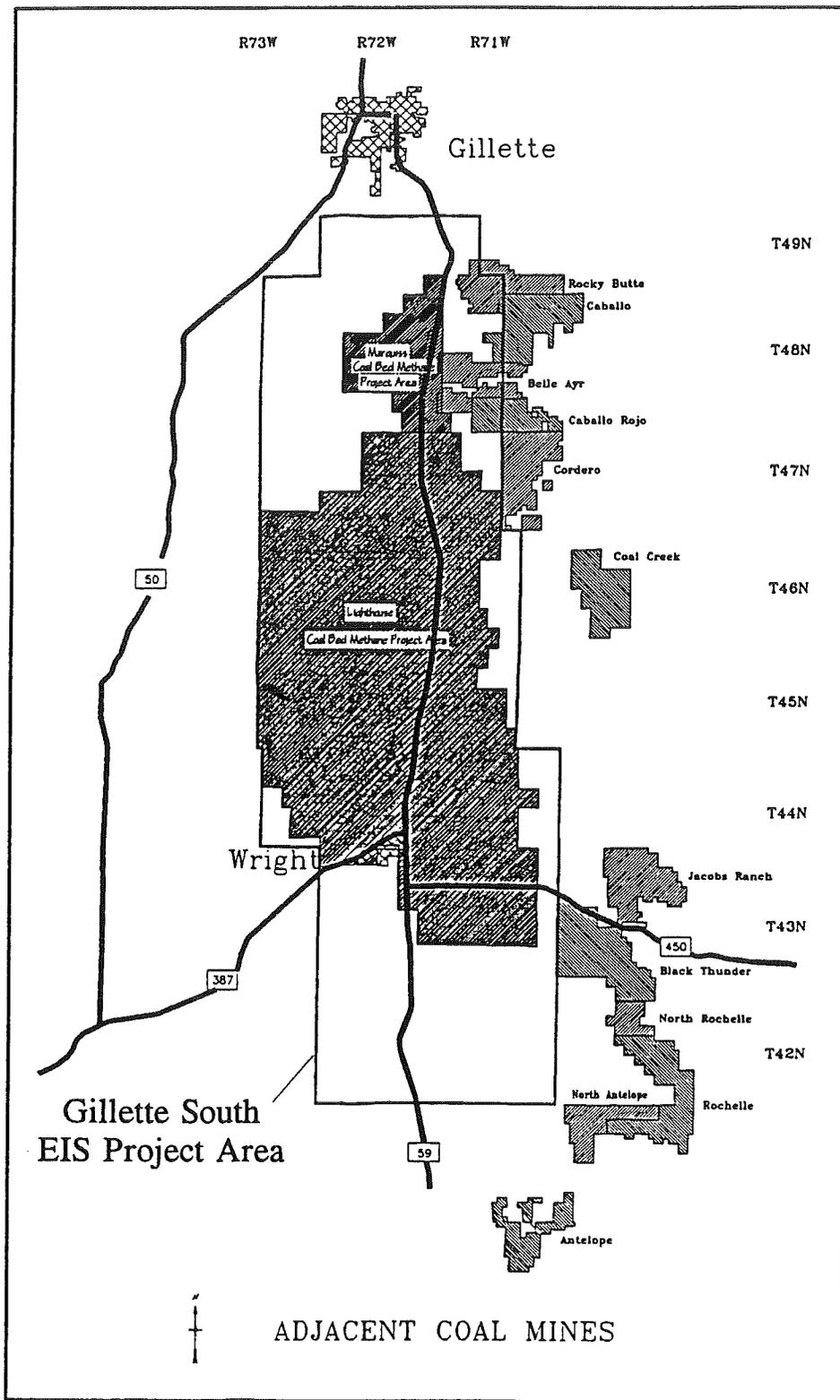


Figure ES.5 Coal Bed Methane Development Area (Taken from BLM 1996).

It is possible that construction may commence in 1997 on three projects in the vicinity of the North Rochelle LBA: 1) North Rochelle Mine facilities and rail loop (see Section 2.1.2); the ENCOAL Plant, which will be located within the rail loop at the North Rochelle Mine; and the Two Elk power plant, which will be located east of the Black Thunder Mine.

The PRB coal region encompasses an area of about 20,000 mi<sup>2</sup> and contains nearly 240 billion tons of sub-bituminous coal resources. Campbell County has a total surface area of about 4,760 mi<sup>2</sup>, of which approximately 4% is within current mine permit boundaries. Coal mining in this area disturbs about 2,000 acres annually with about 1,850 acres reclaimed annually. Mining and reclamation rates are expected to continue to increase through the year 2015, but the balance between reclamation and mining should remain about the same. Production of coal in the southern mine group began in 1977 at the Black Thunder Mine. The current maximum permitted production rate is 152 million tons per year from the six mines. An estimated 3 billion tons of leased coal underlies these six mines, and additional unleased deeper coal reserves are present adjacent to these mines. Approximately 52,000 acres are contained in the existing permit boundaries and will be disturbed--42,000 acres by mining and 10,000 acres by roads, railroads, facilities, temporary stockpiles, and other mine-related activities and structures.

The existing and proposed development in the PRB has and will continue to result in the introduction of additional roads, railroads, power lines, fences, mine structures, and oil and gas

production equipment. This area has already undergone change from a semi-agriculturally based economy to a coal mining and oil and gas economy. Environmentally, the open, basically treeless landscape has been visibly altered by construction, equipment, and human activities. Part of this intrusion will be in evidence long after coal mining and oil and gas production have ceased. Cumulative impacts vary by resource and range from being almost undetectable to being substantial. Cumulative impacts such as groundwater quantity and wildlife habitat (particularly antelope) have created the greatest concern. Monitoring of backfill areas indicates that reclaimed areas are being recharged with water generally suitable for livestock use (the premining use). Wildlife monitoring indicates that wildlife are using reclaimed areas.

This EIS presents the BLM's analysis of environmental impacts under authority of the National Environmental Policy Act (NEPA) and associated rules and guidelines. The BLM will use this analysis to make a leasing decision. If a lease sale is held, it will be based on a competitive, sealed bid. The successful bidder must not only submit the highest bid but the bid must equal or exceed an undisclosed amount determined by the BLM as the fair market value. The decision to lease these lands is a necessary requisite for mining, but is not in itself the enabling action that will allow mining. The most detailed analysis prior to mine development would occur after the lease is issued, when the lessee files an application for a surface mining permit and mining plan approval, supported by extensive proposed mining and reclamation plans, to the Wyoming Department of Environmental Quality (WDEQ).

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