CHAPTER 2: ALTERNATIVES, INCLUDING THE PROPOSED ACTION

INTRODUCTION

The basic goal in formulating alternatives is to identify combinations of management practices for, and uses of, the public lands and resources. This chapter describes the Proposed Action for completing this coal lease exchange as authorized by PL 95-554, and alternatives to the Proposed Action. The Proposed Action and the No Action alternative are analyzed in detail, two other alternatives were considered but they are not analyzed in detail in this document.

PROPOSED ACTION

Issue a coal lease on the lands proposed by BLM in exchange for coal lease rights retained by Enron (formerly Belco) on terminated lease W-0322794, anticipating the new lease to be mined with an existing mining operation.

On April 28, 1998, Enron asked that the BLM offer them a coal lease on all of sections 20 and 21, T. 52 N, R. 72 W. in Campbell County, Wyoming in exchange for federal coal lease rights that Belco retained when lease W-0322794 terminated in 1986. On January 26, 1999, after evaluating Hay Creek's coal geology and reserves, and in response to Enron's proposal, BLM proposed to exchange a coal lease on the following 599-acre tract of land for Enron's coal lease rights.

T. 52 N., R. 72 W., Sixth Principal Meridian, Campbell County, Wyoming

sec. 17: Lot 16;
sec. 20: Lot 1, E½E½ Lot 2, E½E½ Lot 7, Lot 8, Lot 9, E½E½ Lot 10, E½E½ Lot 15, Lot 16; and,
sec. 21: W½ Lot 3, Lot 4, Lot 5, W½ Lot 6, W½ Lot 10, Lot 11, Lot 12, Lot 13, Lot 14, Lot 15.

This legal description and acreage is based on approved BLM plats filed in Cheyenne, Wyoming.

In a letter dated February 16, 1999, Enron (Belco) stated they were willing to negotiate an exchange for a federal coal lease on the above-described lands. The location of the proposed exchange lease tract is shown on map 1-1 in chapter 1. This tract includes shallow coal along the outcrop within the portion of the Hay Creek tract south of the drainage channel of Hay Creek. The proposed tract contains approximately 106 million tons of minable coal and maximizes leasing of all of the coal along the outcrop of the coal seam in section 21. This is the highest value coal within the selected lands and would be the first logical area mined within the Hay Creek tract. The tract is shaped to avoid sharp corners in the lease boundary in order to maximize coal

recovery. It was purposely extended slightly into section 17 along the outcrop to avoid isolating coal in state section 16 and section 17, that, if not leased now, would be between the tract and the valley floor of Hay Creek.

Under the Proposed Action, it is assumed Enron would receive a federal coal lease on the above tract on the same terms and conditions as contained in W-0322794.[2] The government would receive a royalty when the lease is mined, and the lease would have to produce within the first ten years or it would terminate.[3] The lease would also be subject to standard and special lease stipulations under the Proposed Action. The boundaries of the tract would be consistent with the tract configuration proposed in the BLM's January 26 letter. The Proposed Action assumes that Belco (Enron) would assign its rights to mine the coal received in the exchange to an adjacent mining operation, but this is not a requirement or a prerequisite in consummating this exchange.

The following special lease stipulations are currently required when new coal leases are issued:

> In addition to observing the general obligations and standards of performance set out in the current regulations, the lessee shall comply with and be bound by the following stipulations. These stipulations are also imposed upon the lessee's agents and employees. The failure or refusal of any of these persons to comply with these stipulations shall be deemed a failure of the lessee to comply with the terms of the lease. The lessee shall require his agents, contractors and subcontractors involved in activities concerning this lease to include these stipulations in the contracts between and among them. These stipulations may be revised or amended, in writing, by the mutual consent of the lessor and the lessee at any time to adjust to changed conditions or to correct an oversight.
>
> **(a) Cultural Resources**
>
> (1) 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 office of the BLM or of the surface managing agency, if different, on portions of the mine plan area and adjacent areas, or exploration plan area, that may be adversely

---

[2]PL 95-554, 92 Stat. 2074 specifically states in Section 1(d) as follows: "Any exchange lease issued by the Secretary under the authority of this Act shall contain the same terms and conditions as those leases surrendered. . . . . ., the same terms and conditions as those to which the lease applicant would be entitled."

[3]Federal Coal Leasing Amendments Act of 1976.

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., archeologist, historian, historical architect, as appropriate), approved by the authorized officer of the surface managing agency (BLM, if the surface is privately owned), and a report of the inventory and recommendations for protecting any cultural resources identified shall be submitted to the Assistant Director of the Western Support Center of the Office of Surface Mining, the authorized officer of the BLM, if activities are associated with the coal exploration outside an approved mining permit area (hereinafter called Authorized Officer), and the Authorized Officer of the surface managing agency, if different. The lessee shall undertake measures, in accordance with instructions from the Assistant Director or Authorized Officer to protect cultural resources on the lease lands. The lessee shall not commence the surface disturbing activities until permission to proceed is given by the Assistant Director or Authorized Officer.

(2) The lessee shall protect all cultural resource properties within the lease area from lease-related activities until the cultural resource mitigation measures can be implemented as part of an approved mining and reclamation plan or exploration plan.

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

(4) If cultural resources are discovered during operations under this lease, the lessee shall immediately bring them to the attention of the Assistant Director or Authorized Officer, or the Authorized Officer of the surface managing agency. The lessee shall not disturb such resources except as may be subsequently authorized by the Assistant Director or Authorized Officer. Within two (2) working days of notification, the Assistant Director or Authorized Officer 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 BLM or of the surface managing agency, if different.

(5) All cultural resources shall remain under the jurisdiction of the United States until ownership is determined under applicable law.

(b) Paleontological Resources

If a paleontological resource, either large and conspicuous, and/or of significant scientific value is discovered during any surface disturbing activities, the find will be reported to the Authorized Officer immediately. Surface disturbing activities will be suspended within 250 feet of said find. An evaluation of the paleontological discovery will be made by a BLM approved professional paleontologist within five working days, weather permitting, to determine the appropriate action(s) to prevent the potential loss of any significant paleontological value. Operations within 250 feet of such a discovery will not be resumed until written authorization to proceed is issued by the Authorized Officer. The lessee will bear the cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils of significant interest discovered during the operation.

(c) Multiple Mineral Development

Operations will not be approved which, in the opinion of the Authorized Officer, would unreasonably interfere with the orderly development and/or production from a valid existing mineral lease issued prior to this one for the same lands.

(d) Oil and Gas/Coal Resources

The BLM realizes that coal mining operations conducted on Federal coal leases issued within producing oil and gas fields may interfere with the economic recovery of oil and gas; just as Federal oil and gas leases issued in a Federal coal lease area may inhibit coal recovery. BLM retains the authority to alter and/or modify the resource recovery and protection plans for coal operations and/or oil and gas operations on those lands covered by Federal mineral leases so as to obtain maximum resource recovery.

(e) Resource Recovery and Protection

Notwithstanding the approval of a resource recovery and protection plan (R2P2) by the BLM, lessor reserves the right to seek damages against the operator/lessee in the event (i) the operator/lessee fails to achieve maximum economic recovery (MER) (as defined at 43 CFR 3480.0-5(21)) of the recoverable coal reserves or (ii) the operator/lessee is determined to have caused a wasting of recoverable coal reserves. Damages shall be measured on the basis of the royalty that would have been payable on the wasted or unrecovered coal.

The parties recognize that under an approved R2P2, conditions may require a modification by the operator/lessee of that plan. In the event a coalbed or portion thereof is not to be mined or is rendered unminable by the operation, the operator/lessee shall submit appropriate justification to obtain approval by the authorized officer (AO) to leave such reserves unmined. Upon approval by the AO, such coal beds or portions thereof shall not be subject to damages as described above. Further, nothing in this section shall prevent the operator/lessee from exercising its right to relinquish all or portion of the lease as authorized by statute and regulation.

In the event the AO determines that the R2P2, as approved, will not attain MER as the result of changed conditions, the AO will give proper notice to the operator/lessee as required under applicable regulations. The AO will order a modification if necessary, identifying additional reserves to be mined in order to attain MER. Upon a final administrative or judicial ruling upholding such an ordered modification, any reserves left unmined (wasted) under that plan will be subject to damages as described in the first paragraph under this section.

Subject to the right to appeal hereinafter set forth, payment of the value of the royalty on such unmined recoverable coal reserves shall become due and payable upon determination by the AO that the coal reserves have been rendered unminable or at such time that the operator/lessee has demonstrated an unwillingness to extract the coal.

The BLM may enforce this provision either by issuing a written decision requiring payment of the MMS demand for such royalties, or by issuing a notice of non-compliance. A decision or notice of non-compliance issued by the lessor that payment is due under this stipulation is appealable as allowed by law.

(f) Public Land Survey Protection

The lessee will protect all survey monuments, witness corners, reference monuments, and bearing trees against destruction, obliteration, or damage during operations on the lease areas. If any monuments, corners or accessories are destroyed, obliterated, or damaged by this operation, the lessee will hire an appropriate county surveyor or registered land surveyor to reestablish or restore the monuments, corners, or accessories at the same location, using surveying procedures in accordance with the "Manual of Surveying Instructions for the Survey of Public Lands of the United States". The survey will be recorded in the appropriate county records, with a copy sent to the authorized officer.

If Belco (Enron) acquires the proposed lease exchange tract, this alternative assumes that the tract would be mined as part of an existing mining operation, not as part of a new mine. Previous BLM leasing evaluations have concluded that LBA tracts with reserves ranging from 56 to 166 million tons of coal did not include sufficient coal to justify the considerable initial capital expenses that a new mine start would require (BLM 1992, 1994, 1995, 1997). The approximately 106 million tons of coal included in the proposed lease exchange tract falls within this range of coal reserves. The neighboring Buckskin Mine would be in a position to mine the proposed lease exchange tract as part of their ongoing operations. This would require an assignment of operating rights to the operator of the Buckskin Mine, an action that could be initiated only if a lease were issued.

The Buckskin mining and reclamation plan would have to be revised to show a logical mining sequence into the acquired lease. The current Buckskin Mine mining and reclamation plan indicates that a total of 5,439 surface acres is currently permitted (map 1-2 and table 2-1). Of this total, an estimated 3,752 acres are planned for disturbance by the existing mine as a result of mining or mining-related activities such as overstripping, roads, and diversions. Because a portion of the lease exchange tract is included in the existing Buckskin permit area, whether or not the Proposed Action is selected, approximately 142 acres of the surface of the proposed exchange tract would need to be disturbed by overstripping to recover the coal in the existing lease, but this disturbance is not yet permitted in the existing mine permit.

If the exchange lease tract were mined as part of the Buckskin Mine, the currently permitted area would increase by approximately 2,165 acres. The total area of surface disturbance under the Proposed Action (the existing mine plus the proposed lease exchange tract) would be 4,592 acres (3,752 acres currently permitted for disturbance plus about 840 additional acres to mine the lease exchange tract).

The Buckskin Mine has a permit from the WDEQ/Air Quality Division (AQD) to produce up to 22 million tons of coal per year. In 1998, the mine produced 17 million tons of coal and in 1999, 18 million tons. The addition of the lease exchange tract would extend the life of the mine by about 5.5 years, assuming that all of the estimated 101 million tons of recoverable coal included in the tract are produced at the 18 million tons per year rate that the mine estimates they will produce. Employment is predicted to remain constant over the life of the mine, as the overburden ratio and haul distances will not change substantially from the current situation. Table 2-2 depicts the projected coal production, surface disturbance, and employment under the Proposed Action.

TABLE 2-1
CURRENT BUCKSKIN MINE PLAN

Item	No Action (existing mine)	Proposed Action
Total lease (acres)	4,402.00	5,011.00
Lease acres added	0.00	599.172
Coal mined through 12/98 (mm tons)	139.00	0.00
Minable coal as of 1/99 (mm tons)	289.00	395.00
Minable coal added (mm tons)	0.00	106.00
Recoverable coal as of 1/99, 95% recovery factor (mm tons)	275.00	876.00
Recoverable coal added, 95% recovery factor (mm tons)	0.00	101.00
Life of mine as of 1/99 (years)	16	21
Mine life added (years)	0	5
Total disturbance area (acres)	3,752.00	4,592.00
Disturbance area increase (acres)	0.00	840.00
Total permit area (acres)	5,439.00	7,604.00
Permit area added (acres)	0.00	2,165.00

NO ACTION (Alternative A)

Do not complete the proposed coal lease exchange.

Under this alternative, the BLM would not issue a lease as proposed for the coal lease exchange at this time. The exchange tract would remain available for further consideration for leasing at a later date. Unless the neighboring Buckskin Mine included the exchange tract in a future coal lease application, the area would not be mined in the foreseeable future. BLM's 1994 economic evaluation of the entire Hay Creek tract indicated that the tract would not receive a bid under competitive lease sale until 2014, 15 years in the future.

Table 2-3 depicts the projected coal production, surface disturbance, and employment under the No Action Alternative.

If this alternative were selected, it would delay completion of the coal exchange as mandated by PL 95-554.

TABLE 2-2
PROJECTIONS TO 2021 FOR THE PROPOSED ACTION

Year	Coal Production (mm tons)	Overburden Removal (mm yds^3)	Acres Affected	Acres Reclaimed	Average No. of Unit Trains per Month	Total Employees (salaried and operational)
Pre-1999	139	215	1,884	474	—	150
1999	18	24	48	126	120	150
2000	18	30	233	108	120	150
2001	18	35	125	233	120	150
2002	18	31	169	125	120	150
2003	18	31	72	169	120	150
2004	18	36	161	72	120	150
2005	18	27	190	161	120	150
2006	18	27	130	190	120	150
2007	18	27	95	130	120	150
2008	18	51	125	52	120	150
2009	18	51	99	102	120	150
2010	18	51	93	91	120	150
2011	18	47	149	215	120	150
2012	18	47	136	154	120	150
2013	18	47	136	154	120	150
2014	18	47	136	154	120	150
2015	18	46	136	154	120	150
2016	18	45	117	288	120	150
2017	18	45	117	288	120	150
2018	18	45	117	288	120	150
2019	16	45	117	288	120	150
2020	--	--	--	287	--	50
2021	--	--	--	287	--	50
Total	515	1,050	4,590	4,590	--	—

TABLE 2-3
PROJECTIONS TO 2017 FOR THE NO ACTION ALTERNATIVE

Year	Coal Production (mm tons)	Overburden Removal (mm yds^3)	Acres Affected	Acres Reclaimed	Average No. of Unit Trains per Month	Total Employees (salaried and operational)
Pre-1999	139	215	1,884	474	—	150
1999	18	24	48	126	120	150
2000	18	25	96	51	120	150
2001	18	48	193	45	120	150
2002	18	51	125	52	120	150
2003	18	51	99	102	120	150
2004	18	51	93	91	120	150
2005	18	47	149	215	120	150
2006	18	47	136	154	120	150
2007	18	47	136	154	120	150
2008	18	47	136	154	120	150
2009	18	46	136	154	120	150
2010	18	46	136	154	120	150
2011	18	45	136	154	120	150
2012	18	45	93	210	120	150
2013	18	45	93	210	120	150
2014	5	12	63	210	120	125
2015	--	--	--	348	--	60
2016	--	--	--	347	--	60
2017	--	--	--	347	--	60
Total	414	892	3,752	3,752	--	--

ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL IN THIS EA

Several alternatives were identified, reviewed, and analyzed. At the conclusion of the review, the EA team screened out the following as not feasible and not warranting further analysis in this EA.

Alternative B

Issue a coal lease on the lands proposed by BLM in exchange for coal lease rights retained by Belco (Enron) on terminated lease W-0322794, the new lease to be mined as part of a new mine start.

Under this alternative, a federal coal lease would be issued to Belco (Enron) on the lease exchange tract subject to the same terms and conditions as the relinquished lease. The same special lease stipulations described for the Proposed Action would be required for this alternative. The boundaries of the tract would be consistent with the tract configuration in alternative 1 (map 1-2 in chapter 1). This alternative assumes that the lessee would use the lease to open a new stand-alone surface mine on the tract. The lessee would have 10 years to produce 1% of the estimated coal reserves or lose the coal by failing to meet the diligence requirements of FCLAA.

A stand-alone mine would require new surface facilities including offices, shop facilities, warehouses, coal processing facilities, and a coal loadout that would not be required if the tract were developed as an extension of an existing mine. The cost of these facilities could exceed $100 million. A stand-alone mine would also require access to a rail line in order to haul the coal to its customers. The main rail line is several miles south of this tract. The estimated cost to build a rail line is $2 million to $3 million per mile.

If the capital and railroad constraints could be overcome, it is not likely that the exchange lease tract contains sufficient reserves to economically justify opening a new mine for the following reasons:

--- Acquiring the coal, permitting a mine, and constructing facilities are very expensive undertakings requiring years to complete. During this time, there would be no return on these investments.

--- Any operator acquiring this coal for a new start mine would have to compete with customers of established mines in a competitive market that is currently characterized by low coal prices.

--- Current regional trends are directly opposite a new mine start proposal. One factor is the current trend within the PRB towards consolidation. Currently there are three major producers within the basin--Arch, Kennecott, and Peabody. Another trend is the movement of coal mining to the south of Wright. Companies are generally idling or closing the mines north of Gillette (map 1-2 in chapter 1). If existing companies are struggling to maintain operations in the north and most growth is in the south, the feasibility of a new mine start on the northern edge of existing development is questionable.

The quality of coal in the Hay Creek tract would not justify the capitalization costs and mining costs without more than 106 million tons of reserves. There are also no railroad facilities to the Hay Creek site. These are major expenditures which would be required for a stand-alone mine.

It is reasonable to expect that the 106 million-ton proposed exchange tract reserve is insufficient to economically justify a new mine start in the current market. Enron would need to acquire additional federal lease reserves to the north and west of the exchange lease tract before opening a mine. In that event, an environmental analysis of the new federal leasing and potential opening of a new mine would be completed before a decision was made on additional leasing.

Consequently, the probability of this tract being developed by itself as a new mine start is very low. Therefore, alternative B was not analyzed in the same detail as the BLM's preferred alternative. The environmental impacts of alternative B would be greater than for the Proposed Action or alternative A because of new facilities, new employment, and an additional source of dust and blasting.

Alternative C

Issue a coal lease on lands in either the Calf Creek or Rockpile tract in exchange for coal lease rights retained by Belco (Enron) on terminated lease W-0322794.

Under this alternative, Belco (Enron) would surrender their lease rights on relinquished lease W-0322794 in exchange for a new coal lease in either the Calf Creek or Rockpile tract. The Calf Creek and Rockpile tracts are also potential coal leasing tracts identified by BLM and the coal industry during the regional leasing process in the early 1980s. Neither of these tracts is adjacent to existing operating mines.

The USDI, USGS, and Belco agreement that concluded on March 1, 1982, included the possibility that all or a portion of either the Calf Creek or Rockpile tracts would be an option for selected lands to be leased in exchange for Belco lease W-0322794 encumbered by I-90. The general environmental consequences of exchanging for a lease in Calf Creek or Rockpile were addressed in an EA started but not completed by BLM in 1986. There was no specific exchange proposal ever made in either tract.

Under this alternative, a new mine start would be needed to develop a new lease in either location. This is unlikely for the same reasons as a new mine start under alternative B, with the further complication that these tracts are more remote from existing rail service.

Given the lack of geologic data that would allow identification of an economically equivalent tract configuration for this alternative and the unlikelihood of a new mine start at these locations without leasing additional federal reserves, alternative C was

not analyzed at the same level of detail in this document. The economics of a new mine start and additional road construction would dictate against serious consideration of this as an alternative. It is unlikely diligence requirements could be met. The environmental impacts of alternative C would be greater than for the Proposed Action or alternatives A or B because of new facilities, new employment, an additional source of dust and blasting, and added rail construction.

Alternative D

Issue a coal lease on lands near or adjacent to the original Belco lease in exchange for coal lease rights retained by Belco (Enron) on terminated lease W-0322794.

The original Belco lease, W-0322794, was relinquished to BLM on December 31, 1986, but not its right to a coal lease exchange. Under this alternative, a lease tract would be configured to avoid the I-90 right of way, either entirely north or south of the interstate highway. Neither Belco (Enron) nor BLM have identified or evaluated a tract of land for lease exchange in the area of the original Belco lease, and no specific exchange proposal has ever been made in the original Belco area.

Under this alternative, a new mine start would be needed to develop the new lease. This is unlikely for the same reasons as a new mine start under alternative B or C, with the further complication that this tract is far removed from existing rail service in the PRB. A new mine in this area would produce a quality of coal that could not be marketed in the current Powder River Basin market.

Given the lack of geologic data that would allow identification of an economically equivalent tract configuration for this alternative and the clear unlikelihood of a new mine start at this location, alternative D was not analyzed in the same level of detail as the BLM preferred alternative in this document. The environmental impacts of alternative D would be greater than for the Proposed Action or alternatives B, or C because of new facilities, new employment, an additional source of dust and blasting, and added rail construction.

In 1992, during the public hearing and comment period, the Wyoming Game and Fish Department (WGFD) opposed consideration of leasing in the Buffalo area.