

SUMMARY

Antelope Coal Company (ACC) has applied to the BLM for a lease for federal coal adjacent to ACC's existing Antelope Mine. The tract proposed for leasing is called the Antelope Lease-By-Application (LBA) tract.

This environmental assessment characterizes and quantifies the environmental impacts that would likely result from leasing the Antelope LBA tract. It considers the existing coal mining in the basin and the pending and previously issued LBAs in evaluating the cumulative impacts of leasing this tract of coal.

In preparation of this environmental assessment, six alternatives were considered as follows:

- Alternative 1 Lease the tract as applied for as a maintenance tract for an existing mine. This alternative assumes that the applicant is the successful bidder.
- Alternative 2 Expand the lease tract to square up the existing leases. Lease the modified tract as a maintenance tract for an existing mine. This alternative also assumes that the applicant is the successful bidder.
- Alternative 3 Reduce the size of the lease tract to enlarge the opening between existing leases and the LBA tract. Lease the modified tract as a maintenance tract for an existing mine. This alternative also assumes that the applicant is the successful bidder.
- Alternative 4 The no action alternative. This alternative assumes that the coal would not be leased.
- Alternative 5 Lease the coal for a new mine start. This alternative assumes that the coal is acquired by someone other than the applicant. This alternative was not analyzed in detail because the amount of coal under consideration in any of the first three alternatives would not include sufficient reserves on which to base a new mine.
- Alternative 6 Postpone the lease sale to wait for higher coal prices. This alternative was not analyzed in detail because the environmental impacts would be similar to Alternative 1, 2, or 3 if ACC acquired the lease; or similar to Alternative 4 if the sale was held after the time ACC could logically mine the coal.

Under alternatives 1, 2 and 3, the tract would be offered for lease at a competitive sale, with the coal rights going to the company or individual submitting the highest qualified bonus bid that meets or exceeds the Fair Market Value for the property as determined by the BLM. Table S-1 compares the area that would be impacted under the existing mine plan and the three alternate tract configurations.

Table S-1. Comparison of Impacts of Alternative LBA Tracts on Existing Mine Disturbance Area

Mine Configuration	Additional area to be mined (acres)	Additional coal to be mined (1) (million tons)	Total area to be mined (acres)	Percent increase in area to be mined	Total area to be disturbed (acres) (2)	Percent increase in area to be disturbed
Existing Mine Permit	--	--	4,301	--	4,896	
Alternative 1	462	57	4,763	11	5,358	9.4
Alternative 2	668	82	4,969	16	5,564	13.6
Alternative 3	300	37	4,601	7	5,196	6.1
Notes:	<p>(1) These values are based on a coal recovery efficiency of 95%, which WDEQ/LQD documents indicate is a typical value for Powder River Basin mines.</p> <p>(2) Areas disturbed by activities other than mining include the mine facilities area, haulroads and access roads, the mine railroad loop, stockpiles, and miscellaneous other areas.</p>					

Under Alternative 1, the proposed action, the tract as applied for by ACC would be offered for lease. This is the preferred alternative of the BLM. This alternative assumes that ACC acquires the tract, which is located between the existing Antelope coal leases and the Burlington Northern/ Chicago Northwestern Gillette-Orin main railroad line, as a maintenance lease. Coal would be recovered from beneath about 462 acres of land within the tract as applied for. The tract contains approximately 60 million tons of minable coal. Assuming that 95% of the estimated coal reserves are recoverable (57 million tons), the reserves requested in the application for the Antelope LBA tract would increase the time that coal could be recovered at the currently permitted maximum rate of 12 million tons per year. If the coal in this tract is not included in the Antelope Mine, it would potentially be permanently bypassed because of its location between the existing mine and the railroad line.

The environmental impacts of Alternative 1 would not significantly increase the impacts that would result from the mining of the current Antelope Mine leases. Most of the LBA area is already within the approved mining permit boundary issued by the Wyoming Department of Environmental Quality, Land Quality Division (WDEQ/LQD). The area of disturbance would increase by about 9.4% over the currently permitted disturbance area. Water level drawdowns in the overburden have not been considered significant at the Antelope Mine because there are few water-bearing sandstone units in the overburden in this area, and this would not change with the addition of the LBA tract. Water-level drawdowns in the coal aquifer would be extended approximately

1,300 feet further northward than without the LBA. This is approximately the incremental distance over which mining would occur in this direction. Water-level drawdowns due to mining of the LBA area have been considered in the mining permit application submitted to WDEQ/LQD. Soils and vegetation are similar to those on the existing Antelope Mine, where reclamation has begun. They have been studied as a part of the baseline investigations because the tract is already included in the Antelope Mine permit area. Wildlife has also been monitored in the LBA area because it is within the current permit area. Addition of the LBA would increase the area of mining impacts to wildlife. Currently approved plans for mitigating impacts to wildlife, including raptors and the mountain plover, would have to be revised if ACC acquires the LBA. There are no cultural resources eligible for the National Register of Historic Places located on the tract, and no significant paleontologic resources have been identified on the tract. Visual impacts would not be different from those under the current mine plan at Antelope Mine. Air quality would be affected to approximately the same degree with or without mining of the LBA tract. Economic benefits would be realized from the bonus bid, from royalty payments, taxes and fees on the additional coal reserves, and from an extended period of maximum employment for the mine.

Alternative 2 would add approximately 206 acres to the LBA tract to provide for recovery of approximately 25 million additional tons of federal coal located west of the tract as applied for. Much of this area is not within the current Antelope Mine permit area. Under Alternative 2, the area of disturbance would be increased 13.6% over what is currently permitted. This coal could logically be mined as an extension of the Antelope LBA tract, and the coal added under this alternative, like the LBA tract as applied for, could potentially be bypassed if not mined as part of the Antelope Mine. According to the currently approved mining plan, this coal would probably not be mined until late in the life of the mine, which would potentially reduce its fair market value if it is leased at this time. This alternative was not selected because of the potentially low present value of the coal to the mine, and because the coal could be added to the Antelope Mine in the future to avoid a bypass.

The environmental impacts of Alternative 2 are similar to those for Alternative 1. Additional surface would be disturbed by mining, but as long as reclamation continues to keep pace with mining and the currently permitted production rate does not change there would not be a significant change in the magnitude of the impacts. Economic benefits would increase proportionately due to the additional 25 million tons of coal to be mined under this alternative.

Alternative 3 would reduce the size of the LBA tract by about 162 acres and remove about 20 million tons less coal. This alternative assumes that development of unleased coal resources north of the Antelope Mine would be economically feasible in the future. The area that would be removed from the LBA under Alternative 3 would provide a potential low overburden entry point for development of higher overburden coal to the north. If the coal to the north is not leased in the future, the coal removed from the LBA tract as applied for could be bypassed. Although this tract would be smaller than the tract that was applied for, the environmental impacts

might not be proportionately smaller due to complications associated with mining and reclaiming the Horse Creek drainage. Economic benefits would be decreased in proportion to the amount of coal removed from the LBA tract. This alternative was not selected because it would be more efficient to mine and reclaim this coal with the rest of the LBA.

Alternative 4, the No Action Alternative, would leave the Antelope LBA tract essentially as it now exists. A portion of the south edge of the tract would be disturbed by overstripping along the existing lease boundary according to the current Antelope mine plan. Economic and employment benefits associated with the mining of the LBA tract would be foregone.

Alternative 5 assumes that someone other than the applicant acquires the lease for the purpose of starting a new mine when the competitive lease sale is held. This alternative was not analyzed in detail because there are insufficient coal resources in the LBA tract to justify building a new mine, and the unleased coal resources north and northwest of the Antelope Mine are not currently economically attractive because of increasing overburden in that direction.

Alternative 6, postponement of the lease sale, would delay leasing on the premise that if the price of coal in the region increases, the government could receive a larger bonus from the lease sale. The LBA tract could potentially be applied for as an emergency bypass lease if the LBA lease sale is postponed. This alternative was not analyzed in detail because the impacts of issuing the lease at a later date could be the same as or slightly greater than the impacts for alternatives 1, 2, 3 or 4. If leasing is not delayed beyond the time when the tract could be mined with the existing Antelope leases, the impacts would be similar to Alternatives 1, 2 or 3. There might be a slight increase in environmental impacts if the sale is postponed because there would be less time to design and implement an efficient coal recovery plan. The impacts of delaying the lease sale could be the same as Alternative 4, the No Action Alternative, if the delay extends beyond the time that ACC can reasonably incorporate the LBA tract into the Antelope mine plan. In that case, the coal could be permanently bypassed because of its location.

