

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

Environmental Assessment MT-030-94-08
March 26, 2009

Dakota Westmoreland Corporation Coal Lease Modification NDM 041765

Location: T. 143 N., R. 88 W., 5th P.M
Section 20: NWNW, S2NW, N2SW, NWSE;
240 acres; Mercer County, N.D.

Applicant/Address: Dakota Westmoreland Corporation

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In cooperation with:
The Office of Surface Mining Reclamation and Enforcement
Denver, CO



CHAPTER 1

INTRODUCTION AND NEED FOR THE PROPOSED ACTION

INTRODUCTION

This environmental assessment (EA) analyzes the environmental impacts resulting from adding 240 acres of Federal coal through a lease modification(LM) at the Beulah Mine, an operating coal mine. On March 12, 2008, Dakota Westmoreland Corporation (DWC), operator of the Beulah Mine, filed an application to modify Federal Lease NDM 041765 which was issued on July 20, 1961 to include:

T. 143 N., R. 88 W., 5th P.M
Section 20: NWNW, S2NW, N2SW, NWSE;
Mercer County, N.D.

The lease modification tract is contiguous to the lease NDM 041765 that includes the following lands:

T. 143 N., R. 87 W., 5th P.M
Section 20: W2, S2SE;
Section 30: NENE;
Oliver County, N.D.

T. 143 N., R. 88 W., 5th P.M
Section 14: NE, NENW;
Section 10: NENE, S2NE, NESE;
Section 22: N2;
Section 24: NENW, N2SE;
Mercer County, N.D.

This application has been reviewed by the Bureau of Land Management (BLM), Montana State Office, Branch of Solid Minerals. That office determined that the lease application met the regulatory requirements for a lease modification 43 CFR 3432. Before Federal lease NDM 041765 is modified, the BLM will prepare an environmental assessment of the impacts to mining the LM tract as part of the existing operation as shown in Figure 1-1. IF the LM is not approved and the tract is not mined along with the adjacent coal reserves, it will be bypassed.

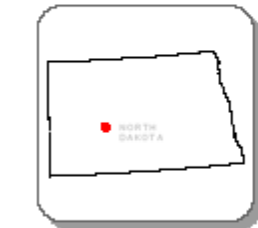
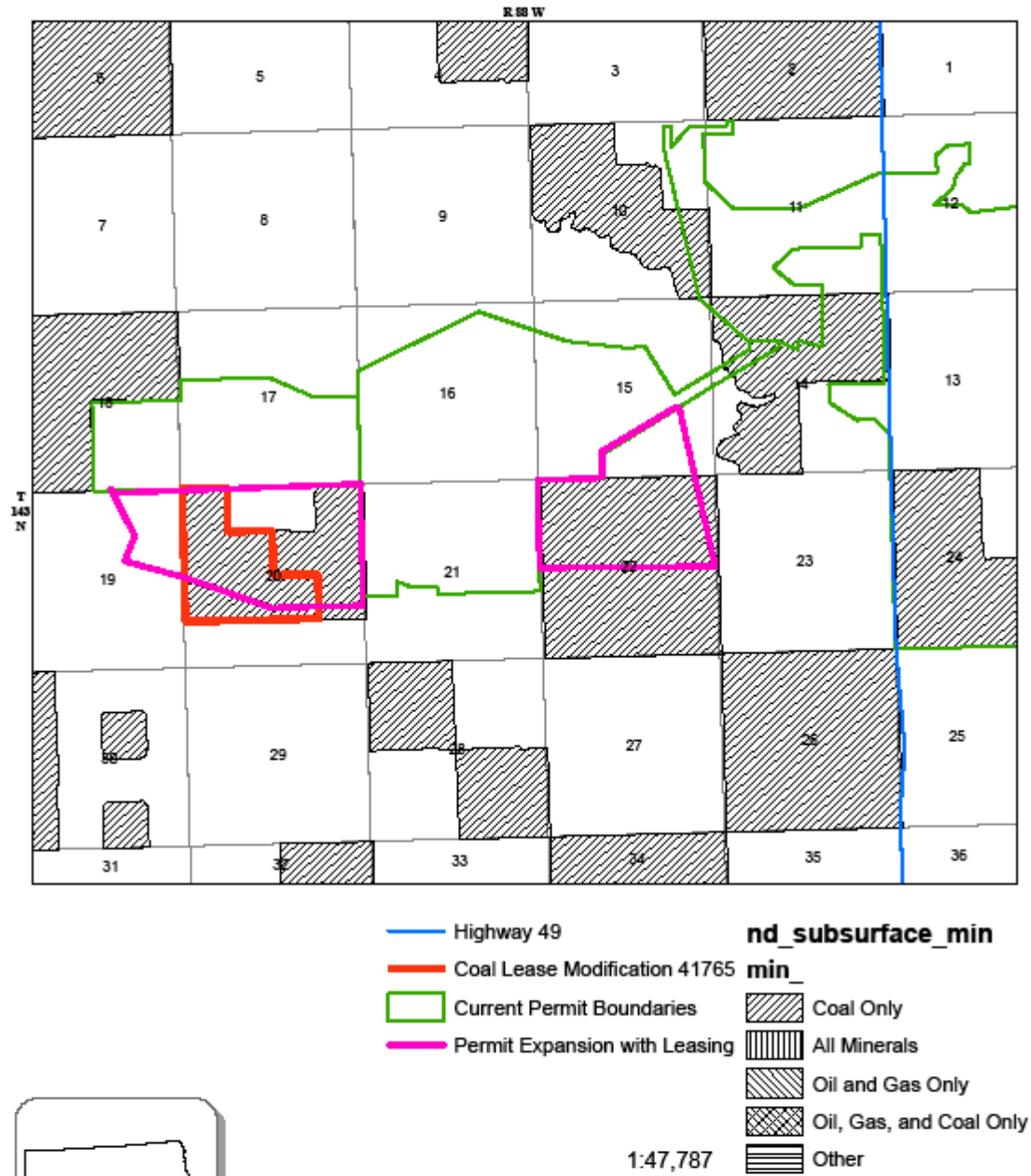
This parcel is adjacent to the mining permit boundary KRSB-8603, granted by the Public Service Commission. The approved Beulah Mine permit includes 1,775.7 acres. Dakota Westmoreland also holds the mining permit KRSB-8802 which includes 5,647.8 acres and lies just east of permit KRSB-8603. On February 13, 2006, the North Dakota Department of Health, Environmental Health Section, approved the Beulah Mine's

current air quality permit. The Beulah Mine produces about three million tons of coal per year.

The LM area is within or adjacent to the existing Beulah Mine mining operation that has been evaluated in several federal and state environmental analyses. These documents contain a description of the existing environment and analysis of the impacts to be expected as a result of surface coal mining and related development activities in this area. The referenced documents are as follows:

- North Dakota Resource Management Plan and Environmental Impact Statement (Record of Decision, signed April 1988)
- Fort Union Coal Region, Draft EIS, July 1982
- Fort Union Coal Region Schoolhouse Tract Analysis Site Specific Analysis, September 1981
- Fort Union Coal Region, Final EIS, 1983
- Permit Application Package KRSB-8603 Revision 21, submitted to PSC by Dakota Westmoreland Corporation, 2006
- Draft West-Central North Dakota Regional Environmental Impact Study on Energy Development (1978)
- Final West-Central North Dakota Regional Environmental Impact Study on Energy Development (1978).

This EA references the above documents and addresses issues that may have changed or that arose from the current scoping process.



CAUTION:
 Land ownership data is derived from less accurate data than the 1:24000 scale base map. Therefore, land ownership may not be shown for parcels smaller than 40 acres, and land ownership lines may have plotting errors due to source data.

No warranty is made by the Bureau of Land Management for the use of the data for purposes not intended by the BLM.



United States Department of the Interior
 Bureau of Land Management
 Montana/Dakotas State Office
 Map created on Mar 10, 2009

Figure 1-1. Map of Project Area and Adjacent Mine

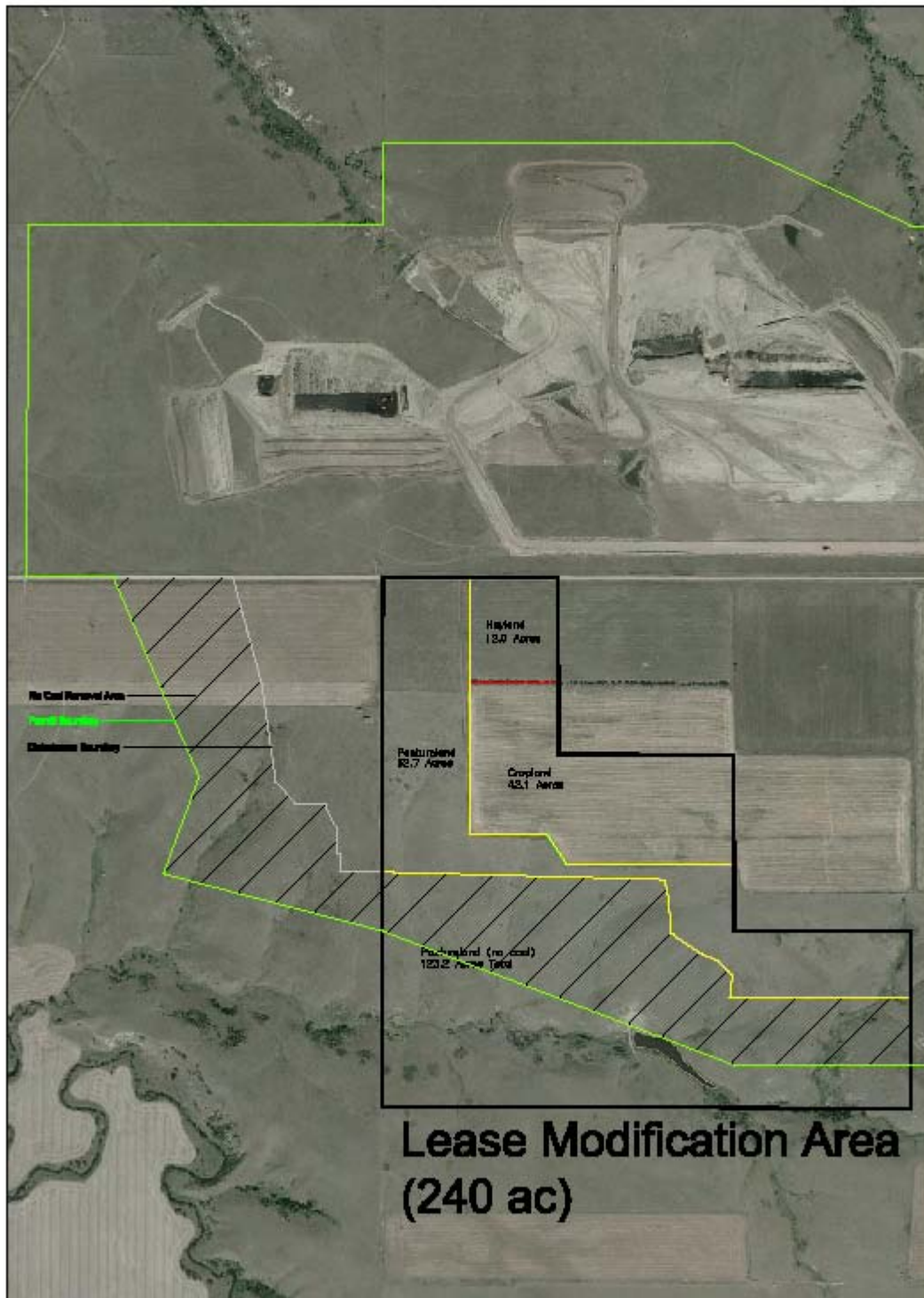


Figure 1.2. Aerial Photo of Proposed Mining Disturbance.

PURPOSE AND NEED FOR THE PROPOSED ACTION

DWC has applied for the coal reserves in order to extend the life of the Beulah Mine. DWC is proposing to mine approximately 1.85 million tons of the 2.67 million tons of in situ coal contained in the tract. Based upon the current projected annual coal production over the life of the mine, the applicant estimates that the existing recoverable reserves at the Beulah Mine will be depleted within approximately three years at an average production rate of three million tons per year within the current permit boundary. Acquiring the LM would add approximately seven months of life to the mine.

This EA analyzes the environmental impacts of leasing and mining the federal coal in the LM as required by the National Environmental Policy Act (NEPA) and associated rules, regulations, and guidelines. The BLM's decision is whether or not to approve the lease modification. If the lease modification is approved, in order to mine the tract, DWC would need to revise an existing permit from the North Dakota Public Service Commission (PSC). Additionally, a mining plan approval, recommended by the Office of Surface Mining Reclamation and Enforcement (OSM), may be needed from the Assistant Secretary of Mining and Minerals for the federal coal. An analysis of the proposed site-specific mining and reclamation plan will occur at that time. Authorities and responsibilities of the BLM and other concerned regulatory agencies are described in the following sections.

CONFORMANCE WITH BLM LAND USE PLAN(S)

The North Dakota Resource Management Plan/EIS (RMP/EIS) identifies those tracts of federal coal available for further consideration for leasing through the application of four land use planning screens: (a) coal-development potential; (b) unsuitability criteria; (c) multiple-use tradeoffs; and (d) surface-owner consultation. The North Dakota RMP/EIS objectively evaluated reasonable alternatives that addressed impacts of coal mining adequately to determine which lands within the coal study areas are suitable for leasing. The selected alternative in the *North Dakota RMP/EIS* (ROD 1988) identified 573,868 acres of coal suitable for leasing using the coal screens (pg. 22, ND Final RMP). The LM tract was considered suitable for leasing with no stipulations identified.

The Environmental Consequences chapter of the *Draft North Dakota RMP/EIS* describes the environmental impacts using a generic mine scenario and end-user facility (p. 74, Appendix H, Appendix I).

A site-specific analysis of leasing and development was completed in the *Fort Union Coal Region Schoolhouse Tract Analysis* (1981). The tract is approximately 3 miles west of the tract boundary of the Schoolhouse analysis. The Knife River Beulah Mine (now operated by DWC) was identified as producing 2.2 million ton per year with the expectation that it would increase to 3.1 million tons per year and have a 50-year mine life. The environmental consequences section will be referenced as appropriate including topography, geology and minerals, soils and reclamation potential, vegetation and

agricultural production, hydrology, and air quality that are still judged to be valid in light of new information and circumstances. Wildlife will need to be analyzed for changes in endangered species listings and updated lists of BLM sensitive species. Cultural resources also will be analyzed in this document with new inventory data. Air quality and water quality will be further evaluated with data from the applicable regulatory agencies to make sure that all standards are being met. Soils will be further analyzed for reclamation potential. The impacts to the local and regional economy will be analyzed and climate change will be discussed in the Cumulative Effects Section.

These documents are readily available to BLM resource specialists, BLM decision makers, and the public at the BLM office in Dickinson, N.D. Copies of relevant portions of these documents are also available on request at (701)-227-7700.

RELATIONSHIPS TO STATUTES, REGULATIONS AND OTHER PLANS

The LM was submitted and will be processed and evaluated under the following authorities:

- Mineral Leasing Act (MLA), as amended
- Multiple-Use Sustained Yield Act of 1960
- National Environmental Policy Act of 1969 (NEPA)
- Federal Coal Leasing Act Amendment of 1976 (FCLAA)
- Federal Land Policy and Management Act of 1976 (FLPMA)
- Surface Mining Control and Reclamation Act of 1977 (SMCRA)
- Energy Policy and Conservation Act of 2005
- National Historic Preservation Act (NHPA) of 1966, as amended

The BLM is the lead agency responsible for leasing federal coal lands under the MLA as amended by FCLAA and is also responsible for preparation of this EA to evaluate the potential environmental impacts of issuing a coal lease.

The Office of Surface Mining (OSM) is a cooperating agency on this EA. The Surface Mining Control and Reclamation Act of 1977, as amended (SMCRA), gives the OSM primary responsibility for administering programs that regulate surface coal mining operations and the surface effects of underground coal mining operations in the United States. Pursuant to Section 503 of SMCRA, the Public Service Commission (PSC) developed, and the Secretary of the Interior approved, North Dakota's permanent regulatory program authorizing the PSC to regulate surface coal mining operations on private and state lands within North Dakota. Pursuant to Section 523 of SMCRA, the PSC entered into a cooperative agreement with the Secretary of the Interior authorizing the PSC to regulate surface coal mining operations on federal lands within the state (30 CFR Part 934).

Pursuant with this cooperative agreement, a federal coal lease holder must submit a permit application package (PAP) to OSM and the PSC for any proposed coal mining and reclamation operations on federal lands in the state. OSM obtains input from BLM in regard to the Resource Recovery and Protection Plan. The mine operator must publish

notice when applying for a mining permit, a revision, or a renewal. The notice is published once a week for four consecutive weeks in the official county newspaper. Any person with an interest that is or may be adversely affected by the application may petition the PSC to designate areas as unsuitable for mining. The operator must contact the surface owner and ask the landowner for a written preference statement regarding post-mining land use.

If the PAP does comply, the PSC issues the applicant a permit to conduct coal mining operations. The OSM, BLM, and other federal agencies review the PAP to ensure that it contains the necessary information for compliance with the coal lease; the Mineral Leasing Act of 1920 as amended (MLA); the National Environmental Policy Act of 1969, as amended (NEPA); Endangered Species Act of 1973, as amended (T&E); National Historic Preservation Act of 1966, as amended (NHPA); and other applicable federal laws and their attendant regulations.

Depending on the situation (30 CFR 746) OSM under the MLA recommends to the Assistant Secretary of the Interior, Land and Minerals Management (1) approval of the mining plan; (2) approval of the mining plan with conditions; or (3) disapproval of the mining plan. Before making a recommendation on the mining plan, OSM would obtain input from other federal agencies, including the BLM.

The PSC enforces the performance standards and permit requirements during the mine's operation and has primary authority in environmental emergencies. The OSM retains oversight responsibility for the state program. The BLM has authority to take action in emergency situations when PSC or OSM inspectors cannot act before environmental harm or damage occurs.

In addition to the acts listed above, guidance and regulations for managing and administering public lands are set forth in 40 CFR 1500 (Protection of the Environment) and 43 CFR 3400 (Coal Management).

The BLM is also responsible for consulting with and obtaining comments and assistance from other state and federal agencies that have jurisdiction by law or special expertise with respect to potential environmental impacts.

The proposed action is consistent with all federal laws and regulations and all known state, and local plans, programs and policies.

Decision to be Made

The decision to be made by the BLM is to modify or not modify the federal coal lease NDM 41765 by adding a 240 acre tract of contiguous reserves to the Beulah Mine. The decision will be based on the analysis of physical, biological, economic, and social factors and environmental consequences of both alternatives.

CHAPTER 2 DESCRIPTION OF ALTERNATIVES

INTRODUCTION

This chapter describes the proposed action and alternative to this action. The proposed action is to modify federal coal lease NDM 41765 by adding a 240 acre tract of contiguous reserves at the Beulah Mine.

The Beulah Mine's leases are summarized in the following tables:

Table 2.1 Acres of Leased Coal Within the Beulah Mine Permit Areas

Permitted Area (All Leased, Includes Bond Released Areas)						
Permit #	Mineral Lessee	No Coal/ Facilities	Mined Out	Future Mining	Bond Released	Total
KRSB-8603	USA	0	0	0	0	0
	State of ND	353.6	299.5	33.1	0	686.2
	Private	404	317.6	367.9	0	1089.5
	Total	757.6	617.1	401	0	1775.7
KRSB-8802	USA	345.7	137.7	223.6	63.6	770.6
	State of ND	0	160	0	0	160
	Private	1323.2	2536.2	125	732.8	4717.2
	Total	1668.9	2833.9	348.6	796.4	5647.8

Table 2.2 Acres of Leased Coal outside the Beulah Mine Permit Areas

Non-Permitted Area							
Permit #	Mineral Lessee	No Coal/ Facilities	Mined Out	Future Mining	Bond Released	Total	
KRSB-8603	USA Leased		44	--	436	--	480
	USA Lease Pending		128.3	--	111.7	--	240
	USA No Lease		0	--	320	--	320
	State of ND		0	--	160	--	160
	Private		311.7	--	295.8	--	607.5
	Total		484	--	1323.5	--	1807.5
KRSB-8802	USA Leased		0	--	0	--	0
	USA Lease Pending		0	--	0	--	0
	USA No Lease		0	--	0	--	0
	State of ND		0	--	0	--	0
	Private		6.9	--	0	--	6.9
	Total		6.9	--	0	--	6.9

There have been about 3,451 acres that have been mined through the year 2008, and about 2,700 acres have been reclaimed but are still under bond. Approximately 796.4 acres have been mined, reclaimed, and released from bond.

PROPOSED ACTION

This alternative is to modify federal coal lease NDM 41765 by adding a 240 acre tract of contiguous reserves at the Beulah Mine. The BLM will use this EA to help decide whether to approve the federal lease modification in accordance with 43 CFR 3432. The tract would be mined as a maintenance tract for the DWC Beulah Mine.

The proposed tract contains an estimated 1.85 million tons of lignite coal that would be added to existing reserves of the Beulah Mine. Through year 2008, about three million tons of lignite coals have been extracted from the Beulah Mine annually. Annual coal production from the proposed addition will continue at approximately three million tons depending on demand.

Approximately 116.8 of the 240 acres will be disturbed with mining operations. Of the 116.8 acres, 36 percent is cropland, 10.3 percent is haylands, and 53.7 percent is leased pastureland.

DWC is under a coal supply contract with Coyote Station and Montana Dakota Utility's Heskett Power Station. Approximately 2.5 million tons of coal is sold to the Coyote Station annually. About .5 million tons of coal is sold to the Heskett Station in Mandan annually. DWC is not under contract with any other coal companies; however, it is seeking other opportunities.

DWC has enough leased reserves in its current mining permit, KSRB-8603, to last until 2012. Coal within the tract will be produced from the Beulah-Zap seam, which averages 11-12 feet thick inside the permit area. If a lease is issued and the PSC approves the mine permit revision, coal removal in this parcel could begin in mid-2010 and continue through 2015.

NO ACTION

The No Action alternative provides a baseline to analyze and compare the impacts of the proposed action. In this alternative, the lease modification would not be approved. The federal coal reserves in the lease modification area would be bypassed by the current mining operation.

The tract being analyzed will not be disturbed if the proposed action does not occur. Mining operations would still occur, however they would just be moved to a different area west, south or east of the project area. The life of the mine would not be altered, but federal recovery of coal would not take place.

ALTERNATIVES THAT WERE CONSIDERED BUT ELIMINATED

Leasing the Parcel with Special Stipulations

This alternative was considered, but due to the lack of resource concerns for specific areas within the parcel, it was eliminated.

Table 2.3 Summary Comparison of Alternatives

	No Action (No Additional BLM Minerals Leased)	Proposed Action (Lease Modification including federal Minerals)
Lease Modification (acres)	0	240
Center Mine Current Leases (acres):		
• Federal coal	• 1250.6	• 1490.6
• Private coal	• 6421.1	• 6421.1
• State coal	• 1006.2	• 1006.2
Total Surface Disturbance	8677.9	8917.9
Estimated production from lease by application	0	6.8 million tons
Estimated total mine production	3 million tons/year	3 million tons
Estimated life of mine extension	0 years	7 months

CHAPTER 3

AFFECTED ENVIRONMENT/ENVIRONMENTAL IMPACTS

INTRODUCTION

This chapter describes the current conditions of the physical, biological, cultural, economic, and social resources that could be affected by the Proposed Action and No Action alternatives discussed in Chapter 2.

The affected environment of the Proposed Action and No Action alternatives were considered and analyzed by an interdisciplinary team. The critical element checklist indicates which resources of concern are present, not present, or would not be impacted to a degree that requires detailed analysis within the project area.

Critical elements of the human environment are those elements that are subject to the requirements specified in statute, regulation, or executive order, and must be considered in all EAs (BLM H-1790-1). The existing condition and potential impacts are described for resources, including critical elements, which are potentially affected by the proposal.

The affected environment and environmental effects have been analyzed in depth in *DWC's Permit Application Package, KRSB-8603*. The following sections will summarize and reference data from the application package along with other data available, particularly other environmental documents prepared for the project area. A copy of the Permit Application Package document may be obtained from the North Dakota Public Service Commission.

GENERAL SETTING

The Beulah Mine is located in the glaciated portion of the Missouri Plateau in the Great Plains physiographic province. The topography of the area is characterized by gently rolling to hummocky upland surfaces with occasional prominent buttes rising up to 200 feet above the surrounding land surface. These uplands are dissected by a series of generally northwesterly to southeasterly trending glacial melt-water channels which often contain small underfit intermittent streams which are tributaries of the Knife River. The Knife River is a major river in this area with a northeasterly flow to its confluence with the Missouri River about twenty miles northeast of the town of Beulah. The maximum relief in the area is on the order of 400 feet. (Permit Application Package 2.1).

The parcel being evaluated is in Mercer County, N.D., about 4 miles south and 3.5 miles west of Beulah, N.D. Communities within 50 miles include Beulah, Zap, Hazen, Hanover, Golden Valley, Dodge, Washburn, New Salem, Judson, Halliday, Pick City, Riverdale, Stanton and Center.

The climate of west-central North Dakota is classified as a semi-arid continental climate. The annual temperature patterns associated with this type of climate are more extreme than most places in the world. The passage of mid-latitude storm systems is typical of the

climate of this area, and the day-to-day weather changes can also be quite extreme because of the migrating systems. Perhaps the most dramatic feature of this area's weather and climate is its variability; extreme values of temperature and precipitation are often seen in the region. Outdoor operations must be protected from a rapidly changing environment, both on a day-to-day and a season-to-season basis. (Permit Application Package 2.11).

Mean monthly high and low temperatures in Mercer County are typical of the extremes associated with a continental climate. January daily minimums are about 1°F with daily maximum near 21 degrees F. July daily low temperatures average 55 degrees with highs near 85 degrees F. A change of 50°F within a 24-hour period can be noted with the passage of arctic cold fronts in winter or with the sudden development of warm, strong westerly winds (called chinooks) generally in late winter or spring. The length of the growing season also varies dramatically from year to year, but the average length is near 120 days for the region. (Permit Application Package 2.11).

Precipitation is determined by the warm, moist air that comes from the south. The mean annual precipitation in Mercer County is 16 inches per year, with the majority occurring from April through June, usually in through locally heavy showers and thunderstorms. Winters tend to be relatively dry, with most months having one inch or less precipitation, usually through snowfall. Heavy snowfalls seldom occur in the area, but several incidences of 10 inches or more during springtime blizzards. (Permit Application Package, 2.11).

According to the United States Geological Survey, the mean wind speed for the Bismarck area (the closest weather station) is 10.8 miles per hour from a west north-westerly direction. The highest wind speed is 72 miles per hour, which has been clocked in both July and August (USGS, 2006).

Summarizing the Beulah Mine Permit Application, the geology of the area is controlled by the Williston Basin, a shallow structural basin that has accumulated sediment from the early Paleozoic Era to the Cenozoic Era. The coal modification area lies within the southeastern portion of the basin with 11,000 to 12,000 feet of underlying sedimentary rocks which have a general regional dip of about one degree to the northwest. The sedimentary column consists of sandstone, shale, dolomite, limestone, and evaporates of varying thickness. (Carlson and Anderson, 1970).

DWC is currently mining one lignite seam, the Beulah-Zap Seam. The Beulah-Zap Seam has a recoverable portion in the proposed mining area that averages about 11-12 feet thick. There are various smaller coal seams throughout the stratigraphic section in the permit area, but are not considered economically important (Permit Application Package, 2.1). The proposed tract of the Beulah-Zap seam is approximately 11-12 feet thick and has approximately 50 feet of overburden comprised of sandstone and silt.

The Williston Basin contains large reserves of fossil fuels including coal, oil, and natural gas, all of which are currently being produced. In addition, uranium, bentonite, sand, gravel and scoria have historically or are presently being mined in the Williston Basin. According to BLM’s oil and gas GIS data, the nearest active production of oil and gas is eight miles from the parcel being studied. No known uranium, bentonite, sand, gravel, or scoria reserves exist on the parcel being studied.

ENVIRONMENTAL IMPACTS

Environmental impacts of both alternatives are analyzed below and summarized in Appendix A.

Proposed Action

In this alternative, the lease modification would be approved for lease sale. Approximately 116.8 of the 240 acres will be disturbed with mining operations. Reclamation would occur after mining has occurred in accordance to the PSC requirements. A discussion of impacts that will occur in the proposed action alternative is described below and in the other documents listed in the relevant publications provided in Chapter 1.

No Action Alternative

In this alternative, the lease modification for the proposed tract would not be approved for lease sale. Federal coal reserves would be bypassed by the current mining operation. The life of the mine would not be altered, but the recovery of federal coal would not take place. There would be no impacts to the tract being applied for because operations would be moved to another area of the mine.

CRITICAL ELEMENTS

CRITICAL ELEMENTS		
Determination*	Resource	Rationale for Determination
PI	Air Quality	Pollutants would continue to be emitted with the proposed action from mining for an additional 2-3 years. It is not expected that any air quality standards will be exceeded.
NP	Areas of Critical Environmental Concern	There are no ACECs within the North Dakota Field Office Planning Boundary
NI	Cultural Resources	Two sites were found on the parcel, but the BLM determined and the SHPO concurred that “no historic properties affected” at one of the sites and “no significant impacts and no significant sites affected” at the other site.
NI	Environmental Justice	Executive Order 12898 requires Federal agencies to “identify and address the disproportionately high and adverse human health or environmental

		effects of its programs, policies, and activities on minority populations and low-income populations.” The proposed alternatives is not expected to have a disproportionately high and adverse human health or environmental effects on these communities.
PI	Farmlands (Prime or Unique)	There is no prime farmland within the project area.
NP	Floodplains	The parcel being studied is not within any floodplains.
PI	Invasive, Non-native Species	There could be an increase in noxious weed presence associated with disturbance.
NP	Native American Religious Concerns	None were found during the scoping process.
NP	Threatened, Endangered or Candidate Plant or Animal Species	A USFWS letter concurred with BLM’s finding that no T&E species were present.
NP	Wastes (hazardous or solid)	There are no known waste sites.
PI	Water Quality (drinking/ground)	Water issues will be analyzed in this EA.
NI	Wetlands/Riparian Zones	The parcel being reviewed contains riparian zones but the riparian area will not be mined or disturbed.
NP	Wild and Scenic Rivers	There are no federal Wild and Scenic Rivers within the North Dakota Field Office Planning Boundary
NP	Wilderness	There is no designated Wilderness or Wilderness Study Areas within the North Dakota Field Office Planning Boundary.

*Possible determinations:

NP = not present in the area impacted by the proposed or alternative actions

NI = present, but not affected to a degree that detailed analysis is required

PI = present and may be impacted to some degree. Will be analyzed in affected environment and environmental impacts. (NOTE: PI does not mean impacts are likely to be significant in any way).

AIR QUALITY

The air quality of any region is controlled primarily by the magnitude and distribution of pollutant emissions, and the regional climate. The transport of pollutants from source areas is strongly affected by local topography. Coal mining and processing at end-user facilities are sources of particulate and gaseous air pollutants. Fugitive dust is generated by mining, hauling, processing, and storing coal and is mitigated by dust suppression practices. Gaseous pollutant emissions are generated by engine exhaust from mining equipment.

The basic framework for controlling air pollutants in the United States is mandated by the 1970 Clean Air Act and its amendments, and the 1999 Regional Haze Regulations. The Clean Air Act addresses criteria air pollutants, state and national ambient air quality standards for criteria air pollutants, and the Prevention of Significant Deterioration program. The Regional Haze Regulations address visibility impairment.

The North Dakota Department of Health, Environmental Health Section, governs air quality in North Dakota. State air quality standards must be just as stringent as National Ambient Air Quality Standards (NAAQS), and allowable increments for the prevention

of significant deterioration (PSD) of air quality. Air quality in North Dakota is under the jurisdiction of the Air Pollution Control Rules of the State of North Dakota under Chapter 23-25 of the Century Code. The North Dakota Department of Health, Environmental Health Section approved by the Environmental Protection Agency (EPA) administers the program under the Clean Air Act. The state air quality standards can be found at the following website: <http://www.legis.nd.gov/information/acdata/pdf/33-15-02.pdf>.

The PSD program classifies air quality of a region as Class I, II or III. The Beulah Mine and the surrounding area is a Class II zone, which allows a moderate increase in concentration and new sources of air pollution, although the concentrations are not allowed to exceed the concentrations set forth by the state of North Dakota or federal standards (NDAAQS and NAAQS).

DWC currently holds air pollution control permit 081011 from the North Dakota Department of Health, Environmental Health Section, with a source unit permit which expires on May 22, 2011. A copy of this permit may be obtained by contacting the North Dakota Department of Health. The Department of Health monitors the mine for a number of years after the permit is originally issued using on-site monitoring stations. If the applicant proves that it is not exceeding air quality standards air monitoring is not longer required on-site, and monitoring defers to statewide ambient air quality monitoring. DWC no longer has on-site air quality monitoring. Consultation with the North Dakota Department of Health reports that there are currently no known violations of air quality by the DWC mine or any of its end-user facilities.

The North Dakota Department of Health operates seven ambient air quality monitoring sites and industry operates eight source-specific air quality monitoring sites. The National Park Service maintains a monitoring site at the Theodore Roosevelt National Park – South Unit’s Painted Canyon Overlook. The ambient monitoring data from these sites are included in the North Dakota Department of Health’s *North Dakota Air Quality Data Summary* report. According to this report, there were no sulfur dioxide, nitrogen dioxide, ozone or particulate matter exceedances of either the state or federal ambient air quality standards measured during 2007. The North Dakota Department of Health cites that North Dakota is one of thirteen states that are in attainment for all criteria pollutants. North Dakota also has been designated attainment for both the fine particulates and the 8-hour ozone standards (North Dakota Air Quality Data Summary Report, 2007).

No Action Alternative

Mining operations on adjacent lands would still occur that would continue to produce emissions at their current rate. The Beulah Mine would be expanded to include state, private, and other federal coal. Approximately 3 million tons of coal would be mined and processed each year with DWC following the same mining practices it currently uses, so it is not expected that operations would exceed air quality standards if it follow its current mining practices.

PROPOSED ACTION

Direct and Indirect Impacts of the Proposed Action

DWC operates the Beulah Mine under authority granted by the North Dakota Department of Health, Environmental Health Section, under Air Pollution Control Permit to Operate #081011. The area being studied is covered under the existing permit with coal production of approximately 3 million tons of coal per year. Through the air quality permit, North Dakota Department of Health sets standards that ensure the project meets requirements of state and federal air-quality regulations.

Mining must comply with state ambient air-quality standards and the Class II annual standards. During peak production the relatively small gaseous emissions, from diesel and gasoline engines associated with mining operations would not violate air-quality standards. Potential airborne dust particles cannot exceed air quality standards. Air quality monitoring will ensure that DWC stays within its permitted specifications.

In the *Draft North Dakota RMP/EIS* Appendix H evaluates a generic mine scenario. The generic mining scenario is summarized in the following statements. The generic mining scenario assumes a 5.5 million ton per year operation, which is larger than DWC's production of 3 million tons per year. The highest annual concentration of particulate matter would be $6.2 \mu\text{g}/\text{m}^3$ offsite with an annual background concentration of $24 \mu\text{g}/\text{m}^3$. This level does not exceed the state or federal Ambient Air Quality Standards of $50 \mu\text{g}/\text{m}^3$. In addition, North Dakota has a 24-hour standard of $150 \mu\text{g}/\text{m}^3$ that cannot be exceeded more than once per year off the mine site. The predicted highest 24-hour values associated with the proposed action during peak production is $47 \mu\text{g}/\text{m}^3$. With the estimated 24-hour background concentration of $100 \mu\text{g}/\text{m}^3$ added, the ambient level would be $147 \mu\text{g}/\text{m}^3$. This level does not exceed the state and federal Ambient Air Quality Standards. Several small sources of gaseous pollutants are associated with surface coal mining operations. During peak production, these emissions are not expected to violate air quality standards.

Approximately 3 million tons of coal would be mined and processed each year with DWC following the same mining practices they currently use, so it is not expected that operations would exceed air quality standards if they follow their current mining practices. This alternative would extend the life of the mine for approximately seven months, so an additional seven months of emissions would be introduced to the environment.

SOILS

Using the NRCS Web Soil Survey, the major soil types in the project area are:

- Cabba loam, 15-35% slopes
- Krem loamy fine sand, 0-6% slopes
- Flaxton-Williams complex, 3-6% slopes

The other soil types in the area are:

- Flaxton-Williams complex, 6-9% slopes
- Flaxton fine sandy loam, 0-6% slopes
- Lihen loamy fine sand, 0-6% slopes

The Cabba series consists of shallow, well drained, moderately permeable soils on residual uplands. These soils formed in material weathered from soft loamy bedrock with slopes from 9-50%.

The Krem series consists of deep, well drained soils on sand-mantled glacial till uplands. These soils formed in material weathered from wind or water deposited sandy sediments and the underlying glacial till. Permeability is rapid in the upper part and moderately slow in the lower part with slopes ranging from 1-15%.

The Flaxton series consists of deep, well drained soils on uplands. These soils formed in material weathered from wind or water deposited loamy sediments and the underlying glacial till. Permeability is moderately rapid in the upper part and moderately slow in the lower part with slopes ranging from 1-15 percent.

The Lihen series consists of deep, somewhat excessively drained, rapidly permeable soils on terraces and uplands. These soils formed in material weathered from wind and water deposited sandy sediments with slopes ranging from 1-6 percent.

The project area contains no soils rated as prime farmland. There are also about 39.8 acres classified as farmland of statewide importance (NRCS Web Soil Survey, 2008). Prime farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion (7 U.S.C. 4201(c)(1)(A)). Farmland of statewide importance is defined as land identified by state or local agencies for agricultural use, but not of national significance (7 U.S.C. 4201(c)(1)(C)). Special reclamation standards apply to soils that have productivity that is defined as prime farmland.

No Action Alternative

The No Action alternative would not meet the need for the proposed action and federal coal reserves would be bypassed. The soils in tract being analyzed would not be disturbed because operations would be moved to other areas of the mine.

Proposed Action

Direct and Indirect Impacts of the Proposed Action

Topsoil is removed when mining operations commence and replaced during reclamation. Post-mining topsoil is a composite of pre-mining soils. Pre-mining soils occur as a soil series and are often combined into mappable units which are distinguished by physical and chemical characteristics, depths, location in the landscape, and other criteria. Prior to

mining, the operator is required to map the soils, test them for physical and chemical suitability for growth, and provide a plan for salvage and replacement.

The table that follows illustrates the amount of soil that will be removed from 2010-2015 if leasing occurs:

Table 2.4. Removal of Topsoil and Subsoil

Year	Topsoil Removed, yd ³	Subsoil Removed, yd ³	Topsoil Replaced, yd ³	Subsoil Replaced, yd ³
2010	219,136.0	371,866.3		
2011	232,668.5	378,240.1		
2012	246,071.2	389,610.3	219,136.0	371,866.3
2013	149,341.2	228,553.1	232,668.5	378,240.1
2014			246,071.2	389,610.3
2015			149,341.2	228,553.1

Soils are impacted by mining operations potentially changing soil structure, texture, organic content, infiltration, permeability, water-holding capacity, soil plant nutrient level, soil microbial composition and activity, and soil fertility. Mining exposes lower soils to overburden material that could contain chemical components at levels which could be harmful to plants and animals. Stockpiling soil for several years before it is redistributed can degrade biological, chemical, and physical properties. It may lower organic content, microbial activity, viability of plant seeds, nutrient cycles, and increase near-surface bulk density. The exposure, compaction, and stockpiling of salvaged soil material can increase the potential for soil erosion by both wind and water.

A short-term loss of soil productivity would occur during mining; productivity would be restored with proper reclamation and management. Topsoil and subsoil removed during early stages of mining would provide an adequate layer of productive material to be replaced and averaged on reshaped overburden during reclamation. The PSC's "Rules Governing Reclamation of Surface-Mined Land" (April 2007) require all soils within mine permit areas to be intensively surveyed, with depths of topsoil and subsoil layers to be saved, identified and marked prior to lifting. Soil material would either be stockpiled for later redistribution or hauled directly to reshaped overburden that is ready for soil replacement.

Soil instability and erosion problems associated with reclamation would be kept to a minimum with proper handling techniques and adherence to regulatory guidelines as promulgated in the above-referenced PSC rules. All runoff from disturbed areas would be required to pass through sedimentation ponds on the mine permit areas, thus trapping water-eroded soil materials before they move offsite. Vegetative cover would be restored on re-spread soils as quickly as possible to stabilize sites and reduce erosion. Reclaimed lands would remain under bond with the PSC until such time that successful reclamation is demonstrated under its standards.

Disturbance of any identified prime farmland would require operations in accordance with performance standards stipulated in the PSC rules. It is expected that the entire area

will be successfully reclaimed. The reclamation will create soil conditions that are different than pre-mining conditions due to soil mixing and disturbance but proper reclamation practices will return soils to productivity.

WATER

A detailed study of water resources is included in DWC Permit Application KRSB-8603 and is summarized below.

Surface Water

The Beulah Mine area is located within the Knife River basin, approximately 23 miles south of Lake Sakakawea. The Knife River's headwater is located in west central North Dakota near Fairfield. The river generally runs east in its course to the Missouri River. In the Beulah-Zap area, runoff from open pit coal mining operations also reach the Knife River after passing through sedimentation ponds.

The Knife River has a drainage area of approximately 1408 square miles just downstream of Brush Creek. In the vicinity of the permit area, the river flows generally northeasterly across Mercer County, discharging to the Missouri River near Stanton, ND.

Runoff from the Beulah Mine area discharges to five tributaries; a northeast tributary which discharges to Brush Creek, a north and two northwest tributaries each discharging into the Knife River, and a southwest tributary which discharges west to Coyote Creek.

Brush Creek, located east of the application area, flows in a northerly direction. It has a total drainage area of approximately 33 square miles.

Coyote Creek, located west of the application area, flows in a northerly direction. Coyote Creek has a drainage area of 65.2 square miles at a point south of Zap and 0.8 miles upstream from the mouth.

The quality of surface waters in the area varies considerably with flow. During snowmelt periods, when high flows occur, water quality is relatively good. During low flow periods, however, quality of the surface water deteriorates significantly. Exhibit 2.2.3 contains statistical summaries of water quality analyses taken from both USGS gage stations located on the Knife River, and from the USGS gage located on Brush Creek and Coyote Creek. Total dissolved solids (TDS) for the Knife River at Golden Valley report a high of 1560 mg/l and a low of 259 mg/l with a mean of 795 mg/l out of a total of six samples taken at the site. Total dissolved solids for the Knife River at Hazen show a high of 1890 mg/l and a low of 128 mg/l with a mean of 1011 from a total of 133 samples. Total dissolved solids for Brush Creek range from 2540 mg/l to 180 mg/l with a mean of 1187 mg/l out of a total of 86 samples. Coyote Creek exhibits similar TDS values having a range of 2420 mg/l to 159 mg/l with a mean of 1204 mg/l with a sample size of 51.

Because of wide seasonal and annual fluctuations of stream flow, the uses of the streams near the permit area including the Knife River, Brush Creek, and Coyote Creek are limited. (Permit Application Package 2.2)

No alluvial valley floors or floodplains are present.

Groundwater

The groundwater is analyzed in the Permit Application Package 2.1 and is summarized below:

There are three shallow aquifers of concern within the permit area. These aquifers include the Upper Hell Creek and Lower Cannonball-Ludlow Aquifer, the Fox Hills-Basal Hell Creek Aquifer, and the Lower Bullion Creek Aquifer.

The fine to medium grain sandstone in the upper of the Hell Creek and lower part of the Cannonball-Ludlow Formations form a regional aquifer. Wells tapping this unit should produce from 5 to 100 gallons per minute.

Sandstone units in the Upper Fox Hills and Basal Hell Creek Formations form an extensive regional aquifer which underlies the permit area from about 1,000 to 1,300 feet with a total aquifer thickness from about 150 to 350 feet. Water production average .3 gallons per minute per foot.

The lowest known aquifer is the Lower Bullion Creek Aquifer which is restricted to the Knife River Basin and adjacent areas to the north and south. The lower part of the Bullion Creek Formation consists of discontinuous sand units and the total thickness of the aquifer varies from 0-200 feet. Water produces about 10 gallons per minute.

No Action Alternative

The No Action alternative would not meet the need for the proposed action and federal coal reserves would be bypassed. Water quality may be impacted by other mining operations outside the project area, but following current mining practices it is not expected that water quality standards would be exceeded.

Proposed Action

Direct and Indirect Impacts of the Proposed Action

Existing ephemeral drainages could be altered during mining, but they would be restored to a stable state during reclamation. Any surface runoff from storm-flow would be diverted around the site and into sediment ponds. Releases from these ponds would meet all requirements of the National Pollution Discharge Elimination permit and all downstream beneficial uses of water would be maintained.

There is an intermittent stream that is in the southern edge of the project area, but this stream will not be disturbed by mining, because mining will not occur that far south.

Surface coal mining impacts groundwater quantity in two ways: (1) aquifers are removed and replaced with unconsolidated backfill, and (2) groundwater levels in aquifers adjacent to the mines are lowered as a result of seepage and dewatering into the open pit. There are no groundwater aquifers that will be affected by the proposed action because all of the aquifers in the area are deeper than proposed mining operations.

Disturbances from mining might reduce water quality in shallow groundwater aquifers. If this were to make any existing well unusable, DWC would provide replacement water from a deeper aquifer. Water quality in replaced overburden would be similarly impacted reducing its value as a future source of ground water.

The proposed action is not expected to violate any water quality standards.

VEGETATION

The use of aerial photography and a field investigation concluded that the proposed lease tract is rangeland with a mixture of tame grass and native species, cropland, a riparian area, and hayland. Land uses and vegetation characteristics are similar to the surrounding lands where cropland is intermixed with native and tame prairie. Land uses and vegetation patterns reflect local and regional economic conditions along with climatic, geologic, and soil factors.

No special-status plant species have been found in the tract. A complete list of vegetation can be found in the DWC Permit Application Project 2.6 (Permit Application Package KRSB-8603, 2.6).

The vegetative survey of the area determined that non-native noxious weeds are known to be within the permit boundary. These include Absinth wormwood, leafy spurge, field bindweed, and Canada thistle (Permit Application Package KRSB-8603, 2.6). However, the BLM weed specialist did not note any noxious weeds in the project area during the field examination, indicating that they are well controlled.

No Action Alternative

The No Action alternative would not meet the need for the proposed action and federal coal reserves would be bypassed. Mining operations on adjacent lands would still occur, and the area would be used for haul roads, stockpiles, and other mining operations that would disturb and remove vegetation which could introduce noxious weeds and other invasive non-native species.

Proposed Action

Direct and Indirect Impacts of the Proposed Action

Vegetation would be removed by coal mining and the associated disturbance for haul roads, stockpiles, and other mining operations. DWC estimates that it will disturb approximately 117 acres during mining operations. After mining operations have moved through an area, lands will be reclaimed back into whatever land use type the landowner prefers. Reclamation is conducted in accordance with the approved permit and inspected by the PSC.

Noxious weeds may be introduced through mining operations and reclamation efforts. Some invasive, non-native noxious weeds would likely take root during reclamation. The lessee would be required to control weeds as part of the reclamation program, which would be overseen by the PSC.

As required by PSC Chapter 63-01.1 (Noxious Weed Control), within the current permit DWC has implemented a weed control program that suppresses or prevents the spread of noxious weeds on reclaimed lands which may include, but are not limited to, native grasslands, pastureland, hay land, cropland, sediment pond edges, stockpiles, and shelterbelts. Mechanical or chemical treatments will be used on noxious weeds depending on the nature of the problem and other site factors. Mechanical treatments will be carried out by a rotary mower before maturation of the weed seed population as a whole. Herbicide application will be conducted by a certified applicator and will occur during recommended periods for the major target weeds. The annually farmed areas will be treated by either cultivation (tillage) or herbicide application as normally practiced in the region (Permit Application Package KSRB-8603, 3.7).

FISHERIES AND WILDLIFE

Dakota Westmorland has conducted wildlife inventory/survey work in the proposed project area since the early 1980s with bi-annual reports submitted to the North Dakota Game and Fish Department for trend and impact information. Modifications to the survey areas have been made to stay current with mine expansions.

Several different habitat types are found throughout the survey area which directly influence the species composition and to some degree population numbers. Native grasslands make up the majority of the proposed lease area. Range condition is reported to be in fair to good condition with smaller grazing parcels showing a downward trend that varies from poor to fair. Pasturelands tend to be dominated by crested wheatgrass and smooth brome and are reported to be in poor to fair condition, reflecting a downward trend.

The influence of heavy, season long grazing by domestic livestock and the invasion of non-native undesirable cool season plants have a direct effect on wildlife usage and overall population totals. Tillage for small grain crops has also influenced wildlife usage within the proposed lease area.

Surveys have identified 23 different mammal species within the permit boundary including 3 game species, 9 furbearers, and 11 small mammals. The predominate

mammalian species are white-tailed deer. Observation records indicate the white-tailed deer utilize the tall shrub areas approximately 37 percent of the time followed by native grass areas 16 percent and finally revegetated areas 20 percent of the time. Pronghorn antelope utilize native rangeland approximately 60 percent of the time and small mammalian usage is the highest in ungrazed shelterbelts.

Avian surveys indicate approximately 98 species of birds are located within the permit boundary area, compared to 264 different species for Mercer County. Ungrazed shelterbelts showed the highest species diversity followed by woody draws. Avian diversity is lacking in the native grasslands, most likely due to lack of residual cover, species composition, as well as structural height concerns. The structural height concerns are shortened grass height due to cattle grazing.

Surveys resulted in 12 different raptor species being identified, including Swainson's hawk, American kestrel, marsh hawk, and burrowing owl. Sharp-tailed grouse are also present within the permit boundary area. An active lek is located approximately .5 miles to the north/northwest of the proposed lease site.

There is no anticipated disturbance to aquatic environments.

Detailed lists of wildlife observed in and around the proposed lease area can be found in Dakota Westmoreland's Permit Application Package submission to the PSC in Section 2.5, Wildlife Inventory Plan.

The BLM consulted with the U.S. Fish and Wildlife Service (FWS) regarding threatened and endangered species on October 20, 2008. The FWS responded with a letter dated November 20, 2008, concurring with the BLM that the proposed lease area was absent of any non migratory T&E species and, therefore, would not have any effect on non migratory species. However, the FWS did determine the proposed LM "may affect, not likely to adversely affect" the migratory population of the whooping crane.

The Aransas Wood Buffalo Population (AWBP) of endangered whooping cranes is the only self-sustaining migratory population of whooping cranes in the wild. Whooping cranes in the AWBP annually migrate through North Dakota during their spring and fall migrations. They make numerous stops along their migration route to feed and roost before moving on. The proposed lease area is located in the primary whooping crane migration corridor where most confirmed whooping crane sightings have occurred. There is suitable roosting and feeding habitat for whooping cranes in the project area.

The FWS concurs that impacts could be effectively minimized by stopping work on the proposed site if a whooping crane is identified within the lease area for the duration of the time the whooping crane is present. Also, Dakota Westmorland has proposed not to mine approximately 123 acres along the southern boundary of the 240 acre lease (see Figure 1.2). This mesic area is considered the most suitable roosting and feeding habitat. These mitigation measures would adequately address potential impacts to the Aransas Wood Buffalo Population of whooping cranes.

Public comments were requested in a NEPA scoping letter and no comments were received concerning the U.S. Fish and Wildlife Service determination for the whooping crane.

No Action Alternative

The No Action alternative would not meet the need for the proposed action and federal coal reserves would be bypassed. Mining operations on adjacent lands would still occur. Adjacent habitat will be removed at a rate of about 200 acres per year.

Wildlife habitat within the proposed lease tract has already been altered to varying degrees by tillage for small grain farming and haying. Remaining intact areas of native prairie have been converted and/or degraded by different grazing practices since early European settlement, therefore reducing wildlife value considerably.

Proposed Action

Direct and Indirect Impacts of the Proposed Action

As coal mining takes place, habitat will be removed at a rate of about 200 acres per year. Ground nesting songbirds and large and small mammals will be temporarily displaced as the mining operation takes place. Mortality of some relatively small, immobile species would occur as a result of the mining operation. On a landscape scale, the mortality and displacement of certain wildlife species would not be significant to the overall populations. Reclamation of the post-mining operation with native grasses would replace some of the altered habitat. Reclamation is conducted in accordance with the approved permit and inspected by PSC.

Mitigation measures suggested by the FWS and Dakota Westmorland will minimize any concerns for the migrating population of whooping cranes utilizing the area.

CULTURAL RESOURCES

Cultural resources are defined as the physical remains of past human activity, generally inclusive of all manifestations more than 50 years old. Cultural resources can be classified as artifacts, features, sites, districts, or landscapes. The goal of cultural resource management is conservation of archaeological and historical remains and information for research, public interpretation and enjoyment, and for appreciation by future generations. Prehistoric resources are physical locations with remains that are the result of human activities occurring prior to written records. Historic period resources are remains left by human activity after written records were common. These resources are most commonly recorded as sites, clusters of artifacts, and/or features with definable boundaries (Williams 2008).

Known cultural resources will be protected pursuant to 36 CFR 60, the National Historic Preservation Act (1996, as amended)(NHPA), 36 CFR 800, Protection of Historic

Properties [section 106, (1966, as amended)], 16 U.S.C. 47aa-47mm, the Archaeological Resources Protection Act (1970, as amended), and 25 U.S.C. 3001, and the Native American Graves and Repatriation Act (1990), among others.

In 2005 a cultural resource survey was conducted of the additional 240 acres proposed for expansion by the University of North Dakota (UND), UNDAR-West (Kordecki et al 2007). Two sites were documented inside the 240 acre tract, 39ME2228 and 32ME2229. Site 32ME2228 is a historic farmstead site consisting of five historic, non-standing structural features. The site contains little integrity and a deeds search found no association with significant individuals or historic events. The report recommends the site is not eligible for consideration to the National Register of Historic Places. The BLM sent a letter to the State Historic Preservation Office (SHPO) requesting they review and comment on the findings. The North Dakota SHPO responded in a letter dated March 29, 2007, that it concurs with the findings of not eligible; therefore, site 32ME2228 is released from further consideration (Williams 2008).

Site 32ME2229 is a prehistoric lithic artifact scatter site that is located in a cultivated field. Archaeological investigations at the site in 2005 were inconclusive in determining the sites significance (Jackson et al 2007). The site contains two components, a possible plains village component, and a middle plains woodland affiliation. Additional investigation was recommended by the authors and the BLM in a letter dated March 29, 2007. The SHPO replied April 17, 2007 stating that it agreed additional evaluation was warranted.

Additional evaluative testing was completed by UND at site 32ME2229 in June 2007 and a report of findings was submitted to the BLM and North Dakota SHPO in January 2009 (Jackson and Toom 2009). Findings resulted in a determination the site could not contribute further under Criterion D of the National Register of Historic Places. Consequently a recommendation was made by the authors for a findings of no significant impacts and no significant sites affected for the proposed mine expansion. The BLM and SHPO both agree with these findings for site 32ME2229 and no further work is recommended (SHPO Letter 1-29-09, Project No. 82-0007p).

Scoping for the original project survey and site evaluations was conducted with Tribal Historic Preservation Offices from the Three Affiliated Tribes (Mandan, Hidatsa, and Arikara), Cheyenne River Sioux Tribe, Standing Rock Sioux Tribe, and the Fort Peck Assiniboine and Sioux Tribe (Williams 2008). Additional scoping for interest in the mine expansion project was sent out in a letter on October 27, 2008. One comment was received from the Tribal Historic Preservation Office at the Three Affiliated Tribe that requests notification if any Native American Graves Protection Resource Act (NAGPRA) issues arise in the boundary of the proposed project (Perry 'No Tears' Brady, November 12, 2008).

The proposed lease expansion will not affect cultural resources eligible for the NRHP. The BLM considers a findings of "no historic properties affected for site 32ME2228 and no significant sites affected for site 32ME2229, resulting in a determination for the

Dakota Westmoreland Corporation Lease Modification Expansion Area in T.143N, R.88W, Section 20: NWNW, S2NW, N2NW, NWSE, 240 acres Mercer County, ND, to proceed as planned.

The BLM considers a findings of no significant impacts and no significant sites affected for the proposed mine expansion to be appropriate for the undertaking. The North Dakota State Historical Preservation Office was consulted to meet obligations under NHPA and regulations found at 36CFR800, and agree with our findings (SHPO letter dated April 17, 2007, and SHPO Letter 1-29-09, SHPO Project No. 82-0007p).

No Action Alternative

The No Action alternative would not meet the need for the proposed action and federal coal reserves would be bypassed. There would be no environmental impacts to cultural resources, because there would be no ground disturbance.

Proposed Action

Direct and Indirect Impacts of the Proposed Action

There will be no impacts to cultural resources eligible for the National Register of Historic Places (NRHP). The BLM consulted with the North Dakota SHPO on this proposed lease sale and it concurred that the proposed lease sale will not affect cultural resources eligible for the NRHP.

RECREATION

Recreation opportunities within Section 20 are limited. The major recreational use of this area is for hunting purposes and permission must be obtained from DWC who is also the landowner.

No Action Alternative

The project area would not be disturbed and the current recreational uses would continue in their current limited capacity.

Proposed Action

Direct and Indirect Impacts of the Proposed Action

All of the recreational opportunities would be displaced from the parcel during mining. After reclamation the area would be returned to its original state and recreational opportunities would be returned to their original capacities.

WILDERNESS STUDY AREAS

No wilderness study areas are involved in the tract being considered for lease.

ECONOMIC FACTORS

Introduction

Removal of coal from the Dakota Westmorland Corporation (DWC) lease tract has the potential to affect local social and economic conditions. Certain defining features of every area influence and shape the nature of local economic and social activity. Among these are the local population, the presence of or proximity to large cities or regional population centers, types of longstanding industries, predominant land and water features, and unique area amenities. These characteristics of Mercer and the surrounding counties influence the relationship between BLM mineral estate and local social and economic activity.

Impact Area

In order to accurately portray the relationship to current BLM management, the social and economic geographic scope of analysis must be defined. The economic effects from coal removal feasibly extend beyond the immediate vicinity of the mine. The role of the DWC Lease Modification EA within the larger region must be addressed while not masking potential change within counties and communities in the area. In this manner, the area social and economic characteristics and effects on the social and economic environment are dependent on the extent of the area examined, thus area information is presented at two geographic scales based on available data: county and census county subdivisions (CCD) (Figure 1). Impacts and characteristics of Burleigh, Morton, Mercer and Oliver counties are presented alongside impacts and characteristics of just Mercer County given economic linkages between the counties. Environmental Justice is examined at both the county and CCD level.

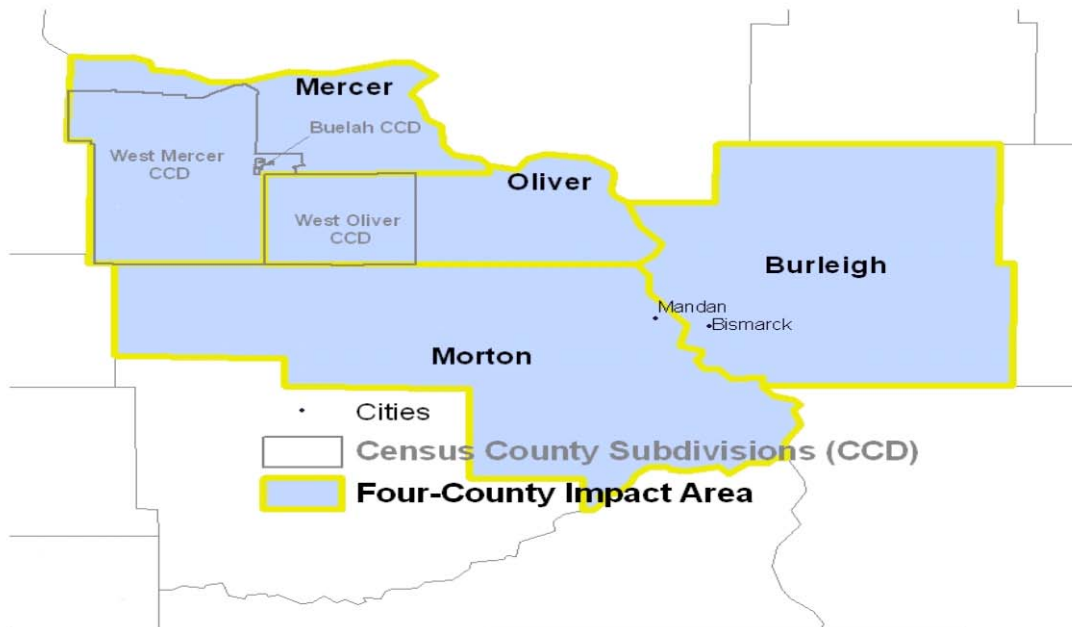


Figure 2.5. BEA Economic Area and the Impact Area

Affected Environment

Population Change

Population change in Mercer County between 1970 and 2006 increased by 1,831 people, a 30 percent increase, and increased in the four-county impact area by 41,367 people, a 59 percent increase. While growth in the four-county impact area over this period outpaced the state (3 percent) and the nation (47 percent), growth in Mercer County was slower than the nation but faster than the state (Figure 2). Mercer County has experienced a 37 percent decrease in its population since 1984, falling from 12,290 to 8,001 people.

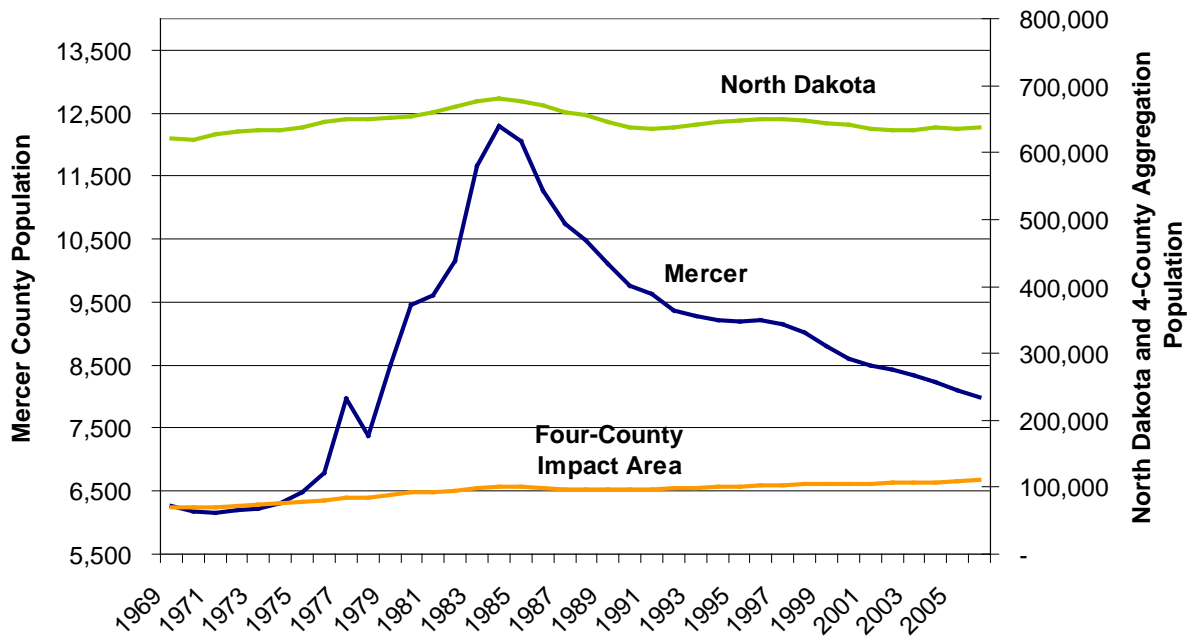


Figure 2. Population Change for Mercer County and the Four-county Impact Area (Source: US Department of Commerce, 2006)

Employment and Income

In 2006 employment within Mercer County made up 7 percent of total employment in the larger four-county impact area. Employment within both Mercer County and the larger four-county impact area is distributed amongst industry sectors and displayed below in Appendix B, Table 1. While the government (15 percent) and health and social services (15 percent) were the largest components of employment in the four-county impact area in 2006, the transport, warehousing and utilities (18 percent) and the construction (14 percent) sectors were the largest in Mercer County (IMPLAN, 2006). The Interior Columbia Basin Ecosystem Management Project identified communities that were specialized with respect to employment. Their method used the ratio of the percent employment in each industry in the region of interest (Mercer County) to an average percent of employment in that industry for a larger reference area (the four-county impact area). For a given industry, when the percent employment in the analysis region is greater than in the reference area, local employment specialization exists in that industry

(USDA Forest Service, 1998). Using this criterion applied with 2006 data, Mercer County can be characterized as specialized with respect to several industries (Appendix B Table 1). In order of their degree of specialization (most to least specialized) these industries are: transport, warehousing and utilities, mining, construction, and agriculture, forestry, fishing and hunting (IMPLAN, 2006).

There are three major sources of personal income: (1) labor earnings or income from the workplace, (2) investment income, or income received by individuals in the form of rent, dividends, or interest earnings, and (3) transfer payment income or income received as Social Security, retirement and disability income or Medicare and Medicaid payments. In 2006 labor earnings were the largest sources of income accounting for 73 percent of all income within Mercer County and 69 percent in the four-county impact area. Non-labor sources of income, such as (2) investment income and (3) transfer payments, accounted for 27 and 31 percent, respectively in both Mercer County and the four-county impact area. While the government (19 percent) and health and social services (15 percent) were the largest sources of labor income in 2006 within the four-county impact area, the transport, warehousing and utilities (33 percent) and the Mining (21 percent) sectors were the largest sectors in Mercer County (IMPLAN, 2006). Utilizing the same criterion used above to examine employment specialization, Mercer County can be characterized as specialized with respect to labor income in the transport, warehousing and utilities, mining, construction, and agriculture, forestry, fishing and hunting (Appendix B, Table 2).

Mining

In 2007 North Dakota was the tenth largest coal producer in the nation (EIA, 2007). Coal-fired plants provide nearly all of North Dakota’s electricity generation and North Dakota brings in only small amounts of coal from other states (EIA, 2009). Sixty percent of the state’s production came from Mercer County in 2007 which amounted to 1.56 percent of national production (Table 3). While coal mining is important to North Dakota’s economy, federal coal production has accounted for less than nine percent of the total state production over the last decade. Annual coal removal from the Beulah Mine has averaged 3 million tons and was 3.046 million tons in 2008; which was 10.3 percent of the state’s total production. This included removal from both state and private mineral estate.

Table 2.6. Coal Production and Number of Mines 2007

State and County	Number of Mines	Production (Thousand Short Tons)
North Dakota	4	29,606
McLean	1	7,789
Mercer	2	17,923
Oliver	1	3,894
U.S. Total	1,374	1,146,635

Source: - Energy Information Administration (EIA), 2007

Coal mining and coal conversion are basic industries which bring money into the state and support and create jobs in other sectors of the local and regional economy (Coon and Lestritz, 2007). Given the small number of mining operations in the state (Table 3) data on mining employment and labor income are not available from the U.S. Department of Commerce at a county level¹ however, estimates are available from the Economic Profile System (EPS, 2009). From 1977 to 2000, estimated mining employment as a share of total employment went from 8.6 to 10.1 percent in Mercer County while decreasing in the larger four-county impact area (from 1.6 percent to 1.4 percent). Over this period estimated mining income as a share of TPI increased from 15.7 to 19.7 in Mercer County while again slightly decreasing in the larger four-county impact area (from 2.4 to 2.3 percent) (EPS, 2009). In the year 2006, average annual mining wages in the state were \$64,644 which was more than twice the average wage of all private and public sectors (\$31,316) in the state (US Department of Commerce, 2006b). Data for 2006 presented in Tables 1 and 2 in Appendix B show that mining made up 1.1 and 11.1 percent of employment and 2.7 and 20.7 percent of labor income in the four-county impact area and Mercer County, respectively (IMPLAN, 2006). Despite the relatively few mining operations in the area, these data indicate Mercer County can be considered specialized with respect to the mining industry.

Revenue Sharing and Distributions to Counties

The coal mining industry contributes substantially to local and state tax revenues including personal and corporate income taxes, sales and use taxes, energy conversion taxes, and coal severance taxes. Coal severance taxes are a particularly important source of revenue at the county level. The tax is currently 37.5 cents per ton, of which 70 percent is distributed to the coal-producing counties. The remaining 30 percent is deposited in a permanent trust the state makes available to counties as loans for infrastructure development. Since 2001, the tax revenue is further apportioned as follows: 40 percent to the county general fund; 30 percent to the cities within the county; and 30 percent to the school districts (North Dakota Office of the State Tax Commissioner, 2006).

A portion of the revenues received by BLM from the sale of coal and the lease of land is distributed back to counties in the area. Fifty percent of fees received by the BLM for leasing and 25 percent of federal royalties from sales of coal are returned to counties where activities occur (1920 Mineral Lands Leasing Act, 41 Stat. 437; North Dakota Century code, 15.1-27-25). Since 2001, federal royalties from the sales of coal in the state have increased by 30 percent from \$788,994 to \$1,024,774 in 2008 (DOI, 2009).

Methodology for Analysis

The analysis of economic effects considers job and labor income in an economic impact analysis. Economic impact analysis is used to evaluate potential direct, indirect, and

¹ Information has been suppressed by the U.S. Department of Commerce to avoid disclosure of confidential information relating to firms in the area.

induced effects on the economy. The analytical technique used by the BLM to estimate employment and income impacts is "input-output" analysis using the IMPLAN Pro software system. Input-output analysis (Miernyk, 1965) is a means of examining relationships within an economy both between businesses and between businesses and final consumers. It captures all monetary market transactions for consumption in a given time period. The resulting mathematical representation allows one to examine the effect of a change in one or several economic activities on an entire economy, all else constant. This examination is called economic impact analysis. IMPLAN translates changes in final demand for goods and services into economic effects, such as labor income and employment of the affected area's economy. The IMPLAN modeling system requires one to build regional economic models of one or more counties for a particular year. The regional model for this analysis uses 2006 IMPLAN data – it was determined that the economic impact area for this EA will include Mercer County and a comparison to the larger four-county area that encompasses Burleigh, Mercer, Morton and Oliver counties.

The economic impacts to the local economy affected by the treatments proposed are measured by estimating the employment (full- and part-time jobs) and labor income generated by the 1) removal of coal from the proposed lease tract at the Beulah Mine, and 2) payments to counties associated with production from BLM managed mineral estate. The direct employment and labor income benefit employees and their families and therefore directly affect the local economy. Additional indirect and induced multiplier effects (ripple effects) are generated by the direct activities. Together the direct and multiplier effects comprise the total economic impacts to the local economy (Table 6). The multiplier effects tied to the coal removal were estimated using IMPLAN. Potential limitations of these estimates are the time lag in IMPLAN data and the data intensive nature of the input-output model.

No Action

If the lease was not approved, no direct or indirect effects on the local economy would occur under the No Action Alternative. The life of the mine would be shorter than under the Proposed Action. The No Action alternative contributes no jobs nor income because there are neither activities nor payments associated with federal coal removal under this alternative.

Proposed Action

Economic Impact Analysis

Table 6 displays both direct, indirect and total estimates for employment (part and full-time) and labor income that may be contributed to the area from the Proposed Action. Since coal removal from BLM mineral estate will occur over a six-year period, the estimated impacts of jobs and labor income would be spread out over the period from 2010 to 2015. It is important to note that these are not new jobs or income, but rather jobs and income that can be attributed to this project. Within Mercer County, the Proposed Action could contribute 260 direct part and full-time jobs associated with coal removal in addition to 169 indirect and induced part and full time jobs (for a total of and 429 part and full time jobs) spread over six years. Payments to Mercer County from

federal royalty disbursements and coal severance taxes could contribute roughly 41 direct, and 5 indirect and induced (for a total of 46) part and full-time jobs spread over six years in Mercer County.

In total, coal removal from BLM mineral estate and associated payments under the Proposed Action are expected to contribute approximately 301 direct and 475 total part and full-time jobs and \$32.9 million of total labor income in Mercer County spread over the years from 2010 to 2015. As we increase the size of the impact area to include Burleigh, Morton and Oliver counties in addition to Mercer County, employment and labor income impacts also increase to 308 direct jobs, 739 total jobs and \$41.5 million in labor income. The increase in indirect and induced employment can be attributed to the larger secondary expenditures of mining related activity and the salary related purchases of employees in the larger impact area.

Table 2.8. Employment and Labor Income generated from Federal Coal Removal and County Payments under the Proposed Action (IMPLAN, 2006)

	Employment (# Jobs)			Labor Income (\$)		
	Total	Direct	Indirect & Induced	Total	Direct	Indirect & Induced
Mercer County Impact Area						
Minerals	429	260	169	\$31,500,386	\$24,993,010	\$6,507,376
Payments to Counties	46	41	5	\$1,365,603	\$1,256,933	\$108,670
Mercer County Total	475	301	174	\$32,865,989	\$26,249,943	\$6,616,046
Four-county Impact Area						
Minerals	686	265	421	\$39,884,842	\$25,470,950	\$14,413,892
Payments to Counties	53	43	10	\$1,614,992	\$1,324,379	\$290,613
Four-county Total	739	308	431	\$41,499,834	\$26,795,329	\$14,704,505

ENVIRONMENTAL JUSTICE

Executive Order 12898 requires federal agencies to “identify and address the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” According to the Council on Environmental Quality’s (CEQ) Environmental Justice Guidelines for NEPA (1997) “minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.....a minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above stated thresholds.”

Thus, the ethnic and racial composition of North Dakota, the four-county impact area, and the CCDs surrounding the Beulah mine (Figure 1) are of interest. The shares of 2000 population by race and ethnicity are displayed in Table 4 below.² In the year 2000, the share of population described as white was greater than the state in counties and CCDs in the impact area. In Beulah City CCD the shares of native Hawaiian and other Pacific Islander, some other race, those identified with two or more races and Hispanics were greater than Mercer County in 2000. West Mercer CCD population shares of these groups were also greater than the county except those identifying with two or more races. Beulah City and West Mercer CCD population shares of native Hawaiian and other Pacific Islanders were also greater than the four-county impact area. In addition, the share of Hispanics was greater than both the state and the four-county impact area in West Oliver CCD (US Census Bureau, 2000). While the difference in shares between the different geographies is sometimes small and may not be considered “meaningful” as defined by the CEQ, larger concentrations of these groups likely exists at smaller scales within each CCD. Thus, it is safe to say that populations in impact area can likely be defined according to the CEQ’s definition of minority populations.

Table 2.9. Population by Race and Ethnicity (2000)

	White	Black or African American	American Indian & Alaska Native	Asian	Native Hawaiian & Other Pacific Islander	Some other race	Two or more races	Hispanic (of any race)
North Dakota	92.4%	0.6%	4.9%	0.6%	0.04%	0.4%	1.2%	1.2%
Four County Area	95.4%	0.2%	2.9%	0.4%	0.1%	0.2%	1.0%	0.6%
Mercer County	96.0%	0.05%	2.0%	0.3%	0.4%	0.1%	1.2%	0.4%
Buelah City CCD	95.8%	0.03%	1.7%	0.3%	0.6%	0.2%	1.4%	0.5%
West Mercer CCD	97.7%	0.0%	0.5%	0.0%	0.8%	0.2%	0.8%	0.5%
West Oliver CCD	98.8%	0.0%	0.4%	0.4%	0.0%	0.0%	0.4%	1.4%

Source: US Census Bureau, 2000 SF1 Tables P7 and P8

In addition to race, concentrations of people living under the poverty level are of interest when considering the environmental justice implications of the Proposed Action. CEQ guidance on identifying low-income populations states “agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.” In 1999 shares of the population living below poverty in West Mercer and West Oliver CCDs (11 and 24 percent) were greater than shares in their respective counties (Mercer County 8 percent and Oliver County 15 percent). Shares of those living below poverty in these CCDs were also greater than shares in the four-county impact area (8 percent). Only West Oliver CCDs share was greater than the state’s share (12 percent) (US Census Bureau, 2000b). Thus, the census data indicate that low income populations, as defined by CEQ, likely exist within the impact area.

² Race and ethnicity shares do not add to 100 percent because Hispanics can be of any race.

While minority and low-income populations may exist in the area, the alternatives are not expected to have a disproportionately high and adverse human health or environmental effects on these communities. Impacts to local communities are expected to be negligible, and there is no reason to suspect that any impacts will disproportionately affect minority and low income populations. In addition, employment and income contributions of the Proposed Action could support employment and income in the area which could benefit area minority and low-income populations.

CLIMATE CHANGE

Ongoing scientific research has identified the potential impacts of anthropogenic (man-made) greenhouse gas (GHG) emissions, changes in biological carbon sequestration, and other changes due to land management activities on the global climate. Through complex interactions on a regional and global scale, these changes cause a net warming effect of the atmosphere, primarily by decreasing the amount of heat energy radiated by the earth back into space. Although natural GHG levels have varied for millennia, recent industrialization and burning of fossil carbon sources have caused carbon dioxide equivalent (CO₂(e)) concentrations to increase dramatically, and are likely to contribute to overall global climatic changes. The Intergovernmental Panel on Climate Change recently concluded that “warming of the climate system is unequivocal” and “most of the observed increase in globally average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations.”

Global mean surface temperatures have increased nearly 1.33°F from 1906-2005. Models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. Northern latitudes (above 24° N) have exhibited temperature increases of nearly 2.1°F since 1900, with nearly a 1.8°F increase since 1970 alone. Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of GHGs are likely to accelerate the rate of climate change.

In 2001, the IPCC indicated that by the year 2100, global average surface temperatures would increase between 2.5°F and 10.4°F above 1990 levels, depending on the assumptions made in the predictive model. The National Academy of Sciences has confirmed these findings, but also has indicated there are uncertainties regarding how climate change may affect different regions. Computer model predictions indicate that increases in temperature will not be equally distributed, but are likely to be accentuated at higher latitudes. Warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures are more likely than increases in daily maximum temperatures. Increases in temperatures would increase water vapor retention in the atmosphere, and reduce soil moisture, increasing generalized drought conditions, while at the same time enhancing heavy storm events. Although large-scale spatial shifts in precipitation distribution may occur, these changes are more uncertain and difficult to predict.

There are uncertainties associated with the science of climate change. This does not imply that scientists do not have confidence in many aspects of climate change science. Some aspects of the science are known with virtual certainty because they are based on well-known physical laws and documented trends (EPA 2008).

Several activities contribute to the phenomena of climate change, including emissions of GHGs (especially carbon dioxide and methane) from fossil fuel development, large wildland fires and activities using combustion engines; changes to the natural carbon cycle; and changes to radiative forces and reflectivity (albedo). It is important to note that GHGs will have a sustained climatic impact over different temporal scales. For example, recent emissions of carbon dioxide can influence climate for 100 years.

It may be difficult in some cases to discern whether global climate change is already affecting resources in the analysis area. However in most cases there is information about potential or projected effects of global climate change on resources. It is important to note that projected changes are likely to occur over several decades to a century. Therefore, many of the projected changes associated with climate change described below may not be measurable within the reasonably foreseeable future.

While North Dakota has not completed an emissions inventory based upon a comparison with its neighbors (Montana and South Dakota) it's believed that activities in North Dakota account for between 0.50 percent and 0.75 percent of total U.S. gross GHG emissions. It's clear that at a global scale, emissions from North Dakota would play an even smaller role as the entire United States contributes just 24 percent of the global emissions (<http://www.eia.doe.gov/oiaf/1605/archive/gg04rpt/emission.html>). The principal sources of North Dakota's GHG emissions are likely the use of electricity, agriculture, transportation, and fossil fuels. In addition to these sources, North Dakota's grass lands and wetlands would continue storing a substantial amount of carbon dioxide (an important GHG).

No data currently exists in respect to GHG emissions in the state of North Dakota.

No Action Alternative

GHGs would not be produced from the tract being developed. Mining operations on adjacent lands would continue at the same rate and greenhouse emissions would continue to be introduced into the environment.

Proposed Action

Direct and Indirect Impacts of the proposed Action

GHGs would be produced as part of mining operations and in end-user facilities. Emissions would be emitted at the present rate and would continue for an additional year with the leasing of federal coal.

CUMULATIVE IMPACTS

Cumulative impacts are those impacts resulting from the incremental impact of an action when added to other past, present, or reasonably foreseeable actions regardless of what agency or person undertakes such other actions. In this case, the immediate decision is whether to modify federal coal lease NDM 41765 by adding a 240 acre tract of contiguous reserves at the Beulah Mine. The cumulative impacts would be the impacts of the entire mining operation on the environment.

In addition to the proposed tract, DWC intends to add additional coal reserves to the Beulah Mine in the coming years. DWC has enough leased reserves in its current mining permits, KRSB-8603 and KRSB-8802, to last until 2012. If this area and the adjacent lands are leased and permitted it would extend the mine to 2014.

After 2014, DWC has several options currently under consideration. Option A is to continue mining south of the west reserves in Sections 20, 21, 22, and 29 (T. 143N., R. 88 W., Mercer County). Given current economic assumptions, Option A is the most logical scenario for future mining. Option A will include leasing 320 acres of unleased federal coal (south ½, Section 22). Option B is to lease property west of the current mining area (west of Coyote Creek). Option B is based on drilling information that will have to be verified, and includes no unleased federal coal. Option C is to move operations back to east reserves and open a new boxcut. Option C will include leasing 480 acres of unleased federal coal (Section 30, T. 143 N., R. 87 W., Oliver County).

Appendix H of the *Draft North Dakota RMP/EIS* identifies cumulative impacts for mining operations. This analysis considers a generic mine scenario considered to be a 5.5 million tons per year surface mine with a 40-year mine life. Mine operation would be expected to disturb land at a rate of 475 acres per year or 19,000 acres over 40 years. It would take approximately 10-13 years for completion of the full cycle from initial disturbance through mining, reclamation, and bond release for each acre. In full production, the total area out of production in any year would be 4,800-6,175 acres. Soils would be continuously replaced on mined out areas and brought back into production during the life of the mine.

The DWC Beulah Mine is currently operating at less than this capacity. The Beulah Mine has an average production rate of 3 million tons per year, averaging 200 acres of disturbance. Therefore, analysis of impacts contained in the Appendix H can be used to understand the cumulative impacts of leasing the proposed tract in regards to the entire mining operation. A summary and site-specific analysis of cumulative impacts is discussed below.

Topography

Following surface coal mining and reclamation, topography would be modified within the permit boundary of the Beulah Mine. The topography in the general area lacks diversity, mainly consisting of flat terrain with some rolling hills. When reclaimed, areas mined are generally smoothed out with more uniform slopes.

Reduced relief and subdued topography may result in increased infiltration of surface water and reduced peak flows from drainages. Reclaimed lands may be less visually attractive to some users, but this observation diminishes over time.

Soils

DWC estimates that it disturbs approximately 200 acres per year with mining operations. Reclamation of mined areas should support a stable and productive native vegetation community of cropland, rangeland, and wildlife habitat. Areas within the mine are progressively disturbed and reclaimed to restore soil productivity and prevent soil erosion. Additional but less extensive soil disturbance would be associated with the on-going and proposed development east and north of the parcel being studied.

Water

There should be little or no cumulative impacts to water resources. The mining in the project area does not intersect with any groundwater aquifers. Adjacent mining operations may intersect with groundwater aquifers or recharge zones, but the aquifers within the area are deeper than most mining.

Air Quality/Climate Change

Pollutants and GHGs would be emitted at the same rate that they are currently being produced, which is currently meeting all air quality standards. The duration of emissions would be extended by one year with the leasing of the parcel of federal coal.

Economics

Employment and labor income associated with federal coal removal and county payments would contribute directly as a result of labor required, and indirectly as purchases are made between industry sectors and households spend resulting income. These contributions would accrue to Mercer County and the larger four-county area alongside impacts from other projects occurring on public and private land in the area. For example, in 2006 total employment in the four-county impact area was 82,474 and labor income was \$3,043,132,000. If we assume contributions from federal coal removal will be distributed equally among the six years the annual employment contribution of 123 and labor income of \$6,916,639 would make up 0.15 and 0.23 percent of the 2006 four-county impact area totals, respectively. Annual contributions within just Mercer County would make up 1.4 and 1.9 percent of total employment and labor income in Mercer County. The economy can be affected by a variety of factors including population growth, changes in interest rates, recession, growth of new sectors, tax policy, state economic policy, etc. When compared to these factors, the DWC Coal Lease alternatives have a negligible cumulative effect on the county and larger regional economy. Because any changes in economic activity from the proposed action would be unnoticeable at these levels, there should be no cumulative economic effects.

CHAPTER 4

PERSONS, GROUPS, AND AGENCIES CONSULTED

Public Involvement Process

On October 27, 2008, a scoping letter was sent to 84 parties stating that we were preparing an environmental analysis and inviting comments.

Perry ‘No Tears’ Brady, Tribal Historic Preservation Officer of the Mandan Hidatsa Arikara Nations commented in a letter on November 12, 2008, that:

“The Mandan Hidatsa Arikara Nations maintains pre and post-historic contact ties to sacred and cultural resources in the proposed Project area and requests notification should any NAGPRA issues arise within the boundaries of the proposed Project area.”

The Bureau of Indian Affairs, Great Plains Regional Office, commented by letter on December 3, 2008 that it has no environmental objections to this action, as long as it complies with all pertinent laws and regulations.

Dr. Carson Murdy, Bureau of Indian Affairs, Aberdeen, South Dakota, requested further information on the project by mail. No further contact was made after materials were sent.

The BLM consulted with the U.S. Fish and Wildlife Service (FWS) regarding threatened and endangered species on October 20, 2008. The FWS responded with a letter dated November 20, 2008, concurring with the BLM that the proposed lease area was absent of any non migratory T&E species and, therefore, would not have any effect on non-migratory species. However, the FWS did determine the proposed lease “may affect, not likely to adversely affect” the migratory population of the whooping crane.

The FWS sent further documentation on April 9, 2009, concurring that impacts could be effectively minimized by stopping work on the proposed site if a whooping crane is identified within the lease area for the duration of the time the whooping crane is present. Also, Dakota Westmorland has proposed not to mine approximately 123 acres along the southern boundary of the 240 acre lease (see attached map). This mesic area is considered the most suitable roosting and feeding habitat. These mitigation measures would adequately address potential impacts to the Aransas Wood Buffalo Population of whooping cranes.

The Public Service Commission will further analyze the area with a technical review of the mining application before mining commences; this will include further public participation. A PSC fact sheet released in January 2008 describes this process:

The mine operator must publish notice when applying for a mining permit and

significant revision. The notice is published once a week for four consecutive weeks in the official county newspaper. Any person with an interest that is or may be adversely affected by the application may petition the PSC to designate all or part of the proposed mining operation as unsuitable for surface coal mining operations. The petition must be filed with the PSC within 30 days of the last publication of the notice. Copies of the permit applications are located in the County Auditor's Office and can be examined during regular working hours.” (PSC, 2008)

Table 4.1. List of Persons, Agencies and Organizations Consulted

- Charles Colombe, Rosebud Sioux Tribe, Rosebud, S.D.
- Aloma McGaa, Sisseton-Wahpeton Oyate, Agency Village, S.D.
- Center School District 18, Center, N.D.
- Clifford Peters, Flandreau Santee Sioux, Flandreau, S.D.
- Valentino White, Spirit Lake Sioux Tribe, Fort Totten, N.D.
- Elgin Crows Breast, Three Affiliated Tribes, New Town, N.D.
- Harold Frazier, Cheyenne River Sioux Tribe, Eagle Butte, S.D.
- Wayne Entze, Zap, N.D.
- Darrel Martin, Fort Belknap (Assiniboine and Gros Ventre), Harlem, Mont.
- Bureau of Indian Affairs, Rocky Mountain Regional Office, Billings, Mont.
- Marcus Wells, Three Affiliated Tribes, New Town, N.D.
- Tim Mentz, Sr., Standing Rock Sioux Tribe, Fort Yates, N.D.
- Ron His Horse is Thunder, Standing Rock Sioux Tribe, Fort Yates, N.D.
- Michael G. Jandreau, Lower Brule Sioux Tribe, Lower Brule, S.D.
- Madonna Archembeau, Yankton Sioux Tribe of SD, Marty, S.D.
- Peter Belgrade, Spirit Lake Sioux Tribe, Fort Totten, N.D.
- John Morales, Fort Peck Assiniboine and Sioux, Poplar, Mont.
- Francis Bernie, Yankton Sioux Tribe of SD, Marty, S.D.
- Russell Eagle Bear, Rosebud Sioux Tribe, Rosebud, S.D.
- Bureau of Indian Affairs, Perry Baker, New Town, N.D.
- Mark Allen, Flandreau Santee Sioux Tribe, Flandreau, S.D.
- Charles and Elaine Quiver, Oglala Sioux Tribe, Pine Ridge, S.D.
- Morris Belgarde, Fort Belgarde (Gros Ventre), Harlem, Mont.
- Torin Crow, Crow Creek Sioux Tribe, Fort Thompson, S.D.
- Harvey White Woman, Oglala Sioux Tribe, Kyle, S.D.
- Scott Jones, Lower Brule Sioux Tribe, Lower Brule, S.D.
- Cecilia Fire Thunder, Oglala Sioux Tribe, Pine Ridge, S.D.
- Albert M. Le Beau III, Cheyenne River Sioux Tribe, Eagle Butte, S.D.
- Audubon Society, Laura Munski, Grand Forks, N.D.
- Bureau of Indian Affairs, Standing Rock Agency, Fort Yates, N.D.
- Bureau of Indian Affairs, Cora Jones, Aberdeen, S.D.
- Cheyenne River Sioux Tribe, Raymond Uses the Knife, Eagle Butte, S.D.
- Congressman Earl Pomeroy, Ross Keys, Bismarck, N.D.
- North Dakota Game and Fish Department, Bismarck, N.D.

- National Trust for Historic Preservation, Washington D.C.
- Office of Surface Mining, Gene Hay, Denver, Colo.
- Public Service Commission, Dean Moos, Bismarck, N.D.
- U.S. Army Corps of Engineers, Omaha District, Riverdale, N.D.
- USDA-NRCS, State Conservationist, Bismarck, N.D.
- Bureau of Land Management, James Beaver, Billings, Mont.
- Bureau of Land Management, Gary Smith, Billings, Mont.
- Bureau of Indian Affairs, Fort Peck Agency, Poplar, Mont.
- Dakota Resource Council, Staff Director, Dickinson, N.D.
- North Dakota Historical Society, Mr. Paul Picha, Bismarck, N.D.
- North Dakota Historical Society, Duane Klinner, Bismarck, N.D.
- Senator Kent Conrad, Bismarck, N.D.
- Senator Byron Dorgan, Bismarck, N.D.
- U.S. National Park Service, Valerie Naylor, Medora, N.D.
- Governor John Hoeven, State of North Dakota, Bismarck, N.D.
- Cheyenne River Sioux Tribe, Deirdre Desmond, Eagle Butte, S.D.
- Bureau of Indian Affairs, Carson Murdy, Aberdeen, S.D.
- Ducks Unlimited, Paul Bultsma, Bismarck, N.D.
- North Dakota Wildlife Society, North Dakota Chapter, Bismarck, N.D.
- North Dakota State Land Department, Rick Larsen, Bismarck, N.D.
- Public Service Commission, Jim Deutsch, Bismarck, N.D.
- Sierra Club, Bismarck, N.D.
- U.S. Fish and Wildlife Service, Jeff Towner, Bismarck, N.D.
- Ronald Ness, Bismarck, N.D.
- Lyle Latimer, Hazen, N.D.
- Cross Ranch Nature Conservancy, Center, N.D.
- U.S. EPA, Region 8, Denver, Colorado
- Lee Lusfloen, Hensler, N.D.
- Andrea Stomberg, MDU, Bismarck, N.D.
- Jeff Buechler, Rapid City, S.D.
- Gerry Schlekeway, Pierre, S.D.
- Dr. John Hoganson, ND Geological Survey, Bismarck, N.D.
- Dave Pieper, USFS, Bismarck, N.D.
- Scott Jones, Lower Brule Sioux Tribe, Lower Brule, S.D.
- Oliver County Land Use, Center, N.D.
- Kent Albers, Hensler, N.D.
- Lyndon Bucher, Belle Fourche, S.D.
- Chance Davis, Heart Trail Ranch, Belle Fourche, S.D.
- Eric Rosenquist, Center, N.D.
- Carol Pavel, Whitewood, S.D.
- Dakota Westmoreland Corporation, Jesse Noel, Beulah, N.D.
- Dakota Westmoreland Corporation, Paula Gores, Beulah, N.D.
- Parry Brady, Three Affiliated Tribes, New Town, N.D.
- Dwaine Helmers, Hensler, N.D.

- Larry D. Dokken, Williston, N.D.
- Frank Bitterman, Golden Valley, N.D.
- Stanely Kohn, North Dakota Game and Fish Dept., Bismarck, N.D.
- Tobias Stroh, Dept. of Agriculture, Dickinson, N.D.
- Marian Atkins, BLM South Dakota Field Office, Belle Fourche, S.D.
- Peter Belgrade, Spirit Lake Sioux Tribe, Fort Totten, N.D.

The North Dakota State Historical Preservation Office was consulted to meet obligations under NHPA and regulations found at 36CFR800. The SHPO concurred with our finding of “no historic properties affected.”

List of Preparers/Reviewers

Table 4.1 is a list of preparers and reviewers that worked on the creation of this document.

Table 4.1. List of Preparers/Reviewers

Name (and agency, if other than BLM)	Title	Responsible for the Following Section(s) of this Document
Angela Wetz	Natural Resource Specialist	Originator; Soil, Water, Air, Noxious Weeds/Invasive Plants, WSA, Recreation
Mike Philbin	Hydrologist	Review of Soil, Water and Air Sections
Eugene Hay		OSM Review
Brenda Shierts	Archeologist	Cultural Resources
Tim Zachmeier	Wildlife Biologist	Wildlife
Ed Hughes	Supervisory Industry Economist	Economic Factors
James Beaver	Planning and Environmental Specialist	Review for NEPA compliance
Henry Eichman	Economist	Environmental Justice, Social and Economics

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Appendix A
Summary of Environmental Impacts

Resource	Proposed Action Alternative	No Action Alternative
Air Quality	Approximately 3 million tons of coal would be mined and processed annually on private, state, and federal coal that has already been leased and the proposed tract. The federal tract would add one year of life to the mine. Maintaining the current mining practices it is not expected that operations would exceed air quality standards.	Approximately 3 million tons of coal will be mined and processed annually on private, state, and previously leased federal coal. Maintaining the current mining practices, it is not expected that operations would exceed air quality standards.
Soils	847,217 cubic yards of topsoil and 1,368,270 cubic yards of subsoil would be removed for mining operations. Reclamation will occur after mining operations in accordance with PSC regulations.	No topsoil or subsoil would be removed in the project area. Mining operations would continue at other parts of the mine that would continue to remove topsoil and subsoil. Reclamation will occur after mining operations in accordance with PSC regulations.
Water Resources	Water quality would be slightly impacted by mining operations. With the use of sediment ponds and other mitigation measures required by PSC it is not expected that water quality standards would be exceeded.	Water quality would be slightly impacted by adjacent mining operations. With the use of sediment ponds and other mitigation measures required by PSC it is not expected that water quality standards would be exceeded. Adjacent mining operations could lower the water table and may reduce water quality.
Vegetation	Vegetation will be removed on approximately 117 acres during the mining operations. Lands will be reclaimed back to the land use type the surface owner prefers according to PSC standards.	Vegetation will not be removed on the project area. Other areas of the mine will be mined and disturbed. Lands will be reclaimed back to the land use type the surface owner prefers according to PSC standards.

<p>Fisheries and Wildlife</p>	<p>Ground nesting songbirds and large and small mammals will be temporarily displaced as the mining operation takes place. Mortality of some relatively small, immobile species would occur as a result of the mining operation. On a landscape scale, the mortality and displacement of certain wildlife species would not be significant to the overall populations.</p>	<p>Mining operations on adjacent lands would still occur and could displace a small amount of wildlife. Wildlife habitat within the proposed lease tract has already been greatly altered by some breaking of the native prairie for various agricultural practices. Remaining intact areas of native prairie have been converted and/or degraded by different grazing practices since early European settlement, therefore reducing wildlife value considerably.</p>
<p>Cultural Resources</p>	<p>There would be no environmental impacts with associated disturbance because there are no cultural resources of importance present.</p>	<p>There would be no environmental impacts with associated disturbance because there are no cultural resources of importance present.</p>
<p>Recreation</p>	<p>The disturbance of mine related activities will probably displaces the majority of all recreational opportunities. Recreational opportunities are limited in the project area.</p>	<p>The recreational opportunities would not be displaced from the parcel. There are limited opportunities available to the public.</p>
<p>Climate Change</p>	<p>GHGs would be produced as part of mining operations and in end-user facilities. Emissions would be emitted at the present rate and would continue for an additional 3 years with the leasing of federal coal.</p>	<p>GHGs would not be produced from the tract being developed. Mining operations on adjacent lands would continue at the same rate and greenhouse emissions would continue to be introduced into the environment.</p>

Appendix B

Table 1. Area Employment Distribution by Industry Sector, 2006 (Source: IMPLAN, 2006)

Sector	Four-county Impact Area		Mercer County	
	Percent	Absolute (full and part-time jobs)	Percent	Absolute (full and part-time jobs)
Accommodation & Food Services	6.4%	5,312	4.1%	242
Admin, Waste Mngt & Rem Services ³	3.5%	2,868	4.3%	252
Ag, Forestry, Fishing & Hunting	3.5%	2,858	7.7%	447
Arts, Entertainment, and Recreation	1.8%	1,505	1.4%	83
Construction	6.4%	5,309	13.6%	796
Educational Services	2.0%	1,625	0.0%	0
Finance, Insurance and Real Estate	6.8%	5,567	3.3%	194
Government	15.0%	12,392	11.0%	642
Health & Social Services	14.7%	12,122	6.5%	378
Information	1.8%	1,520	2.0%	114
Manufacturing	4.2%	3,455	1.0%	61
Mgmt of Companies & Wholesale Trade	5.1%	4,205	1.8%	108
Mining	1.1%	897	11.1%	648
Mining Services	0.02%	15	0.1%	6
Retail Trade	11.7%	9,674	8.0%	469
Services	10.7%	8,834	5.4%	318
Transport, Warehousing & Utilities	5.2%	4,316	18.4%	1,074
TOTAL	100.0%	82,475	100.0%	5,830

³ Admin, Waste Mngt & Rem Services refers to Administration, Waste Management and Remediation Services

Table 2. Area Labor Income Distribution by Industry Sector, 2006 (Source: IMPLAN, 2006)

Sector	Four-county Impact Area		Mercer County	
	Percent	Absolute (millions \$)	Percent	Absolute (millions \$)
Accommodation & Food Services	2.4%	\$77	0.8%	\$2
Admin, Waste Mngt & Rem Services ⁴	2.0%	\$62	1.6%	\$5
Ag, Forestry, Fishing & Hunting	1.4%	\$43	3.1%	\$9
Arts, Entertainment, and Recreation	0.4%	\$11	0.1%	\$0
Construction	7.3%	\$230	16.7%	\$49
Educational Services	1.3%	\$40	0.0%	\$0
Finance, Insurance and Real Estate	5.6%	\$179	1.5%	\$4
Government	19.0%	\$604	7.6%	\$22
Health & Social Services	14.5%	\$458	4.6%	\$14
Information	2.1%	\$66	2.2%	\$7
Manufacturing	7.7%	\$245	1.1%	\$3
Mgmt of Companies & Wholesale Trade	8.1%	\$257	1.2%	\$3
Mining	2.7%	\$85	20.6%	\$60
Mining Services	0.04%	\$1	0.24%	\$1
Retail Trade	7.1%	\$224	3.0%	\$9
Services	8.6%	\$274	2.3%	\$7
Transport, Warehousing & Utilities	10.0%	\$316	33.1%	\$96
TOTAL	100.0%	\$3,172	100.0%	\$291

⁴ Admin, Waste Mngt & Rem Services refers to Administration, Waste Management and Remediation Services