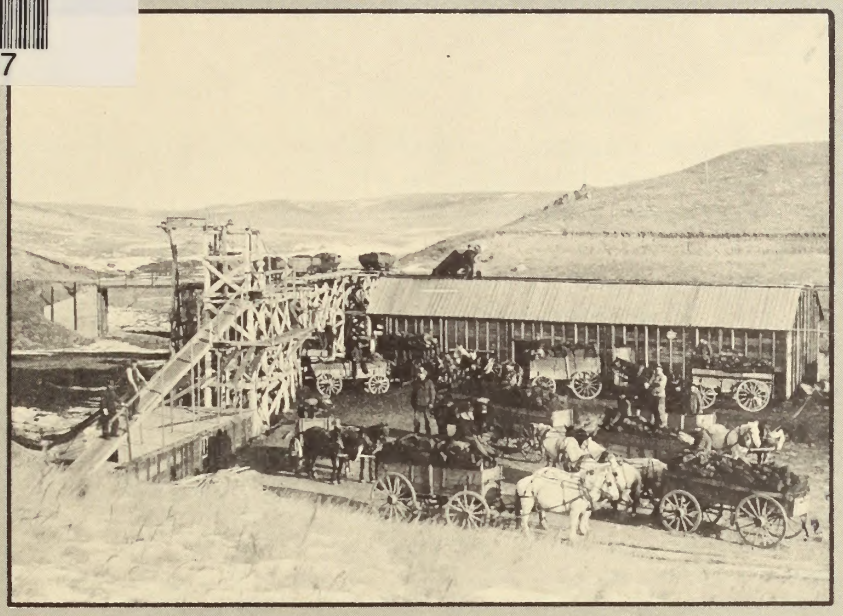
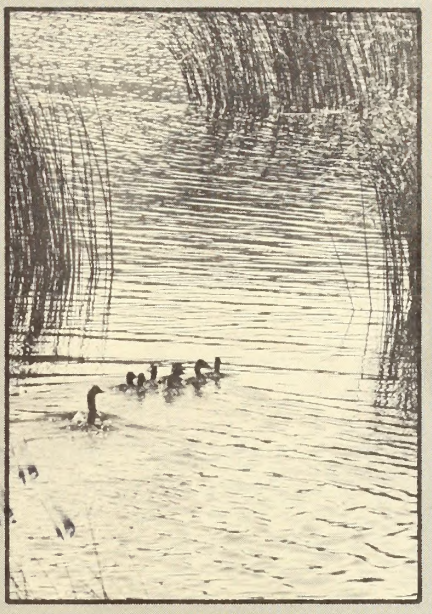
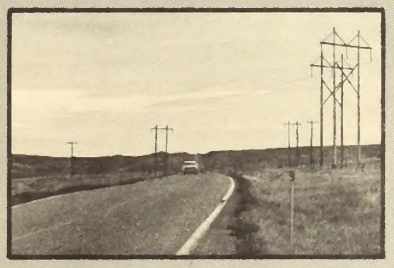
FORT UNION COAL REGION

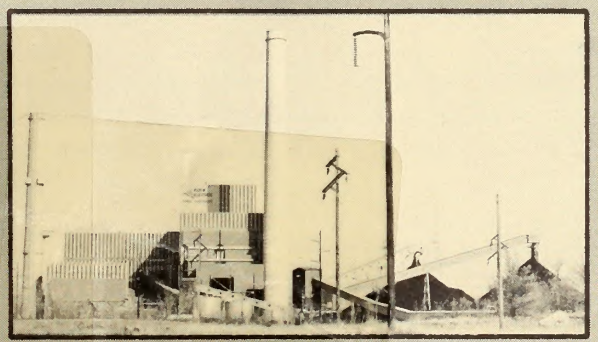
FINAL

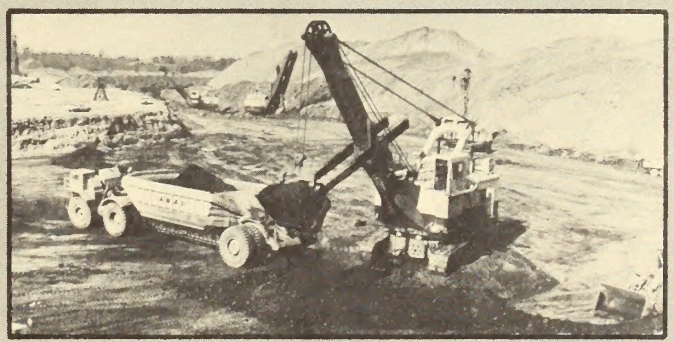
RONMENTAL IMPACT STATEMENT

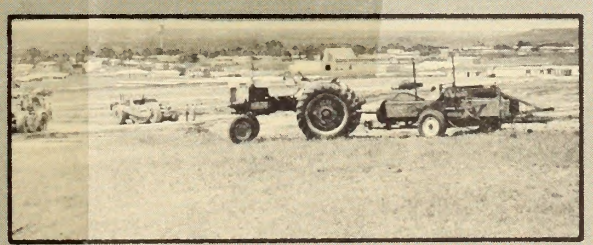












U.S. Department of the Interior
Bureau of Land Management

February 1983

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

ERRATA

Page 1-2, column 1, Federal Recoverable Reserves, Truax tract should read 28.2 million tons.

Historical mining cover photo courtesy of Mrs. Bess Stevens and the Nokota Company.

IN REPLY REFER TO:

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
222 North 32nd Street
P.O. Box 30157
Billings, Montana 59107

Dear Reader:

Two separate documents have been incorporated into the Final Fort Union Environmental Impact Statement (EIS). The Draft EIS was issued in July 1982. The Air Quality Informational Supplement to the Draft EIS was issued in September 1982. Both of these documents are incorporated by reference in this Final EIS, and both should be used in conjunction with this document.

The public review process did not result in changes requiring a major rewrite of either of the two documents. By incorporating them by reference, substantial cost savings are achieved.

In this Final EIS, all material in reference to air quality which had been included in the Draft EIS has been deleted. It is replaced by the Air Quality Supplement. All modifications, corrections, and responses in regard to air quality in this Final EIS pertain to the Air Quality Supplement.

The Draft EIS describes a proposed joint federal and state coal leasing program for the Fort Union Coal Region to be initiated on July 28,1983. The document analyzes six alternative levels of leasing, including a No Leasing or Production Maintenance/By-Pass Leasing and a Regional Coal Team (RCT) preferred alternative. The modifications and corrections to the Draft EIS and the Air Quality Supplement are in this final statement. Public comments received on the Draft EIS and Air Quality Supplement at public hearings and by letter are also included, along with the Bureau of Land Management's (BLM's) responses to those comments.

A limited number of copies of the Draft EIS and the Air Quality Supplement are available at the following locations:

Bureau of Land Management
Montana State Office
P.O. Box 30157
Billings, Montana 59107

Bureau of Land Management
Dickinson District Office
P.O. Box 1229
Dickinson, North Dakota 58601

Bureau of Land Management
Miles City District Office
P.O. Box 940
Miles City, Montana 59301

No final decision on leasing federal coal can be made until at least 30 days after the Final EIS is filed with the Environmental Protection Agency. Upon completion, filing, and release of this Final EIS, the RCT will recommend specific tracts for a lease sale and a lease sale schedule to be submitted to the Director of BLM. The Director will submit the Final EIS, the RCT's proposed lease sale schedule, and his recommendations for a leasing decision to the Secretary of the Interior. The Secretary, in consultation with the Governor of each affected state, surface management agencies, Indian tribes, and the Attorney General, as set forth in the Coal Management Regulations, 43CFR 3420.4, shall make a final decision on federal coal leasing. If the Secretary's decision is to lease the federal coal, he shall further determine the leasing level and adopt a final lease sale schedule.

We would like to thank the individuals and organizations whose comments and suggestions have helped us to prepare this final statement which will lead to more effective management of the public lands. Their interest is appreciated.

Sincerely yours,

Michael J. Penfold

Michael J. Penfold
State Director

United States Department of the Interior
Bureau of Land Management

FINAL

Fort Union Coal Regional Environmental Impact Statement

February 1983

(to be used with the Draft EIS and Air Quality Information Supplemental)

Prepared by

Bureau of Land Management
Montana State Office
Billings, Montana

Michael J. Penfold

STATE DIRECTOR

FORT UNION COAL REGION
ENVIRONMENTAL IMPACT STATEMENT

( ) Draft (X) Final

Lead Agency

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

Types of Action

1. Administrative (X) Legislative ( )

2. Abstract

This statement assesses the environmental consequences of six alternative levels of coal development, plus discussions of developing the Woodson PRLA and the Meridian Exchange Proposal. The alternatives range from leasing 203.2 million tons of federal coal (7 tracts) to leasing 1,803.2 million tons of federal coal (20 tracts). The statement analyzes the impacts that would occur in Custer, Dawson, Fallon, Garfield, McCone, Prairie, Richland, Roosevelt, Valley, and Wibaux counties in Montana and Burleigh, Dunn, Golden Valley, McKenzie, McLean, Mercer, Oliver, and Stark counties in North Dakota as a result of coal leasing and development associated with the alternatives.

3. The six alternatives and their analyses were present for public review in the Draft Environmental Impact Statement(EIS) issued in July 1982 and a supplemental report on air quality issued in September 1982. These documents are hereby incorporated into this Final EIS. The location of the Final EIS study area is shown on Map 1 in the map packet of the Draft EIS.

4. For further information regarding this statement or proposed alternative action contact:

Lloyd Emmons
Project Manager, Fort Union Coal Project
Bureau of Land Management
222 North 32nd Street
P.O. Box 30157
Billings, Montana 59107
(406) 657-6291

SUMMARY

This Final Environmental Impact Statement (EIS) hereby incorporates the Draft EIS and the Air Quality Information Supplemental documents which discuss the proposed leasing of 7 production maintenance/by-pass and 17 new production coal tracts in eastern Montana and west-central North Dakota. These tracts involve the leasing of federal coal administered by the Bureau of Land Management to meet the leasing target of .8 to 1.2 billion tons of federal coal established by the Secretary of the Interior.

The Regional Coal Team (RCT) formulated six alternatives, with the seven production maintenance/by-pass tracts being the first alternative. This alternative is included in each of the five remaining alternatives. The Woodson PRLA and the Meridian Exchange Proposal are also discussed in conjunction with Alternative 3. These alternatives are analyzed with emphasis on the significant issues and impacts. Site Specific Analyses (SSAs) and Preliminary Facility Evaluation Reports (PFERs) were prepared for each tract and served as the basis for tract ranking and alternative formulation by the RCT.

Alternative 1, leasing 203.2 million tons of new federal coal, would consist of seven production maintenance/by-pass tracts. No new mines or facilities are associated with these tracts. The Prevention of Significant Deterioration (PSD) Class I increment is considered to be consumed at the present. There are no major changes expected from the continued mining by existing operators for water, agriculture, land use, economic and social conditions, and recreation. Cultural sites in the Glenharold tract have regional significance and may require special attention. Wildlife habitat would be decreased. Alternative 1 would not significantly change the impacts associated with this alternative since mining would continue at existing operations.

Alternative 2, leasing 510.4 million tons of new federal coal, is also expected to show that the PSD Class I increment is consumed as it will be in the rest of the alternatives. The Dunn Center tract may be reduced to protect the Spring Creek alluvial valley floor and the groundwater supply. Dickinson, North Dakota will need additional community supply and storage. Individual agricultural operators may be severely impacted. Crop losses for the region will be less than one percent. Wildlife impacts become more severe as more coal acreage is mined. The Knife River Flint Quarries associated with the Dunn Center tract contain important and irreplaceable cultural information. Outdoor recreation demand would increase commensurate with population increase in all alternatives. Significant population influxes would cause inflationary pressures and cause fiscal problems with specific communities. Impacts to the social organization would be substantial, permanent, and intensive.

Alternative 3, leasing 790.2 million tons of new federal coal, would provide stress on transportation routes in North Dakota, add Fort Peck Reservoir as a water source, and cause additional economic impacts to specific communities in addition to those discussed in previous alternatives. Rapid development-related population increases could result in severe public service funding problems, accelerated impacts to the social organization, and hamper the ability of the communities to respond.

Alternative 4, leasing 822.4 million tons of new federal coal, would also have the impacts of previous alternatives. In addition, the Zenith tract could cause degradation of surface and subsurface water along the Heart River. Patterson Lake water quality will also be degraded. Economic and social impacts would be similar to previous alternatives except that the makeup of the individual communities affected would vary.

Alternative 5, leasing 1,031.6 million tons of new federal coal, would result in the decreased quality of runoff in the Redwater River. Impacts similar to previous alternatives would also occur.

Alternative 6, leasing 1,600.0 million tons of new federal coal, could force Circle, Montana to change their source of municipal water supply. The Redwater I tract would further impact the Redwater River valley. The impacts discussed in previous alternatives would also occur in this alternative.

The Woodson PRLA would provide for a slight increase in social and economic impacts over those of Alternative 3. The Meridian Exchange Proposal may force Circle, Montana to switch sources for its municipal water supply. Depending on the size of the conversion facility, the variation in the social and economic impacts would be lower or higher than those of Alternative 3.

The RCT Preferred Alternative was Alternative 3 modified by removing the Central Bloomfield tract and substituting the Bloomfield tract and dropping the Burns Creek tract. This alternative would make 790.2 million tons of new federal coal available and would have impacts as described for Alternative 3.

CONTENTS

INTRODUCTION

This Ft. Union Coal Region Final Environmental Impact Statement (EIS) incorporates by reference the Draft EIS which was published in July, 1982, and the Air Quality Information Supplemental to the Draft EIS which was published in September 1982, as modified and corrected by Part I of this document. Part II of this final document contains a transcript of the public hearings and letters of comment received from the public on the Draft EIS and the Air Quality Supplement. Part III contains BLM's responses to these comments.

The Draft EIS was filed with the Environmental Protection Agency and released to the public on August 2, 1982. The Federal Register of August 6, 1982, carried a notice of availability and announced public meetings to provide information and answer questions on the Draft EIS at Bismarck and Hazen, North Dakota, on August 24, 1982; Circle, Montana, on August 31, 1982; and Wibaux, Montana, on September 1, 1982. The Federal Register notice also announced public hearings on September 28 and 29, 1982 at Beulah, North Dakota and Glendive, Montana respectively, and that written comment on the Draft EIS would be accepted through October 8, 1982. The Air Quality Supplement was released to the public on September 16, 1982, and was filed with the Environmental Protection Agency on September 24, 1982. The Federal Register of September 30, 1982 carried a notice of availability and extended the public review period from October 8, 1982 through October 19, 1982. Copies of the Draft EIS and the Air Quality Supplement were sent to organizations, industry, and individuals on the Ft. Union mailing list. Approximately 1,100 copies of these documents were distributed. Public reading copies were available at BLM offices in Washington, D.C.; Billings, and Miles City, Montana; Dickinson, North Dakota; and at public libraries throughout the region.

Copies of the Final EIS will be forwarded to the Secretary of the Interior and to the Environmental Protection Agency. Copies will also be mailed to all official review agencies, organizations, industry, individuals on the Ft. Union mailing list, and public libraries within the Ft. Union region. Copies will also be available upon request at the BLM offices in Billings and Miles City, Montana, and Dickinson, North Dakota.

PART I

Modifications and Corrections

INTRODUCTION

This section of the Final EIS contains all the modifications and corrections to the Draft EIS and the Air Quality Supplement. Included herein are all map corrections and changes in figures and tables. This section also contains any modifications or corrections made due to changes in policy or guidance. There are also a number of modifications, corrections, and clarifications included in this section that were made in response to the public comments that were received.

MODIFICATIONS AND CORRECTIONS

DRAFT EIS

Summary

Page ii, column 2, paragraph 4, change, "in the Redwater II tract completely destroying a portion of the Redwater River valley." to, "in the decreased quality of runoff in the Redwater River."

Introduction

Page 2, column 1, paragraph 2, last sentence, change to, "Site Specific Analysis (SSAs) were completed on all 24 tracts in June 1981 and made available for public review."

Page 7, column 1, paragraph 1, last sentence is deleted.

Page 7, column 2, paragraph 1 under Cultural Features, third line, delete "is proposed as a National Register District and".

Page 7, column 2, last paragraph, lines 2 and 4, change "two" to "three."

Page 11, both maps, add surface owner nonconsent to all of Section 4, R20N, R53E, and delete from tract.

Page 11, both maps, delete the E½, Section 6 and the N½NW¼, NW¼NE¼, Section 18, T20N, R53E as these areas were found to be unsuitable for surface mining.

Page 12. The Burns Creek tract was deleted from the 1983 coal lease sale.

Page 13, both maps, add surface owner nonconsent to all of Section 4, T20N, R53E, and delete from tract; delete the E½, Section 6, and the N½NW¼, NW¼NE¼, Section 18, T20N, R53E as these areas were found to be unsuitable for surface mining.

Page 17, Surface Ownership map, remove surface owner nonconsent from the SE¼, Section 26, T15N, R60E, Wibaux County, Montana.

Page 17, both maps, delete floodplain areas in N½N½NE¼, Section 18, and E½E½NE¼, Section 20, T141N, R105W. These areas were found to be unsuitable for surface mining.

Page 19, Surface Ownership map, reverse color in legend for State and private surface.

Page 20, Surface Ownership map, remove surface owner nonconsent from lot 1, Section 22, T139N, R106W, Golden Valley County, North Dakota, and lots 1, 2, 3 and 4, Section 30, T13N, R61E, Wibaux County, Montana.

Page 21, both maps, delete the NW¼NE¼, NE¼NW¼, Section 22, T16N, R53W. These areas were found to be unsuitable for surface mining.

Page 24, Surface Ownership map, change the SE¼, Section 11, T144N, R94W, from federal to private ownership.

Page 30, both maps, delete W½SW¼NW¼, W½W½SW¼, Section 14, and NW¼NE¼NE¼, S½NE¼NE¼, SE¼NE¼, Section 26, T143N, R88W. These areas were found to be unsuitable for surface mining.

Page 34, both maps, delete NE¼SE¼NW¼, Section 8, T139N, R98W, and S½S½S½SE¼, Section 2, and NE¼NE¼, Section 12, T139N, R99W. These areas were found to be unsuitable for surface mining.

Page 35, Surface Ownership map, state coal in Section 16, T20N, R56E, is leased.

Chapter 1

Some of the tract boundaries have changed due to unsuitability criteria application, refusals to consent, and reassessment of the tracts. Unsuitability determination is made during the land use planning process. The application of the unsuitability criteria has been completed for the Redwater, West-Central, and Golden Valley Management Framework Plans. The results of these applications were published and received a public review and comment period. The final determinations of the application of the unsuitability criteria are available from the Miles City and Dickinson District Offices.

The Burns Creek tract has been dropped from all alternatives. The unsuitability studies could not be completed since access to the tract was denied. The incomplete studies made it impossible to apply the unsuitability criteria, so the tract has been dropped from lease consideration at this time.

Removing the Burns Creek tract from the alternatives

would reduce the available federal recoverable reserves by 31.0 million tons; however this reduction would not substantially affect the leasing target.

Although Burns Creek has been removed from the federal leasing consideration, this would not preclude the area from being developed since one company has a large block of private coal already under lease. The analyses in the Draft EIS would be similar if the area is developed without further federal leasing. If the area is not developed in the future, the impacts in each alternative where Burns Creek was included would decrease.

As stated in the Preferred Alternative of the Draft EIS, the Central Bloomfield tract could no longer be considered logically minable because of a refusal to consent. Since the Central Bloomfield tract was a major part of the Bloomfield tract, the Bloomfield tract was reduced by 38 million tons of federal coal. The reduction has made the Bloomfield tract more suitable for electric power generation. The Bloomfield tract has replaced Central Bloomfield in Alternative 3 and the Preferred Alternative. Where the Bloomfield tract has been used in the other alternatives, it would be considered a power plant-size tract. An evaluation of this change determined that the change was not significant enough to reanalyze each of the alternatives.

The tabulation below shows the federal recoverable coal tonnages that will be available for those tracts that have been altered.

Federal Recoverable Reserves

Tract	Millions of Tons
Southwest Glendive	172.2
Bloomfield	97.9
Zenith	130.1
Truax	38.2

These changes would result in the following new production totals and leasing target for each alternative. These new production figures should replace the figures used throughout Chapter 1 in the Draft EIS, both in the text as well as the tables and figures.

Alternative	New Production Tons x 10^6	Total Production Millions of Tons
1	0.0	203.2 *
2	510.4	713.6
3	790.2	993.4
4	822.4	1,025.6
5	1,031.6	1,234.8
6	1,600.0	1,803.2

*Represents production maintenance/by-pass tonnages and not included in the leasing target or new production tonnage.

Page 48, column 2, paragraph 2, next to last line should read ". . . Redwater II would be covered . . ."

Page 49, Table 1-2, change "Existing Total" to "By-Pass Total".

Page 52, Table 1-5, change the anticipated dates for the construction of the facility for the Dunn Center tract from "1989" to "1985", and for the Garrison tract from "1992" to "1988".

Pages 52 through 61, Tables 1-5 through 1-11, change "Existing and New Production Total" to "By-Pass and New Production Total".

Pages 52 through 61, Tables 1-5 through 1-11, change Garrison Tract as follows:

1. Annual production from "5.7" to "2.8" million tons per year.
2. Mine facility acreage from "240" to "160".
3. Facility non-potable water from "12" to "6" million gallons per day.
4. Anticipated date of facility operation from "1992" to "1991".

Reduce Totals as follows:

1. Annual production by "2.9" million tons per year.
2. Mine facility acreage by "80" acres.
3. Facility non-potable water by "6" million gallons per day.

Page 59, Table 1-10, bottom half, interchange South Wibaux-Beach and Circle West III.

Page 62, Table 1-12, add "Source: Meridian Land and Mineral Company".

Page 65, Figure 1-10, legend, change to "Range of Impacted Wells".

Page 67, Figure 1-12, change title to "Vegetation Types (Acres)".

Chapter 2

Air Quality

Pages 75 through 85 of the Draft EIS. All material on Air Quality is deleted and replaced with material in Chapter 2 of the Air Quality Information Supplement.

Water

Page 85, column 2, add the following paragraph after the last paragraph of the Hydrology section.

"Recharge for the shallow lignite and sand aquifer system comes from local precipitation during very wet periods and seepage from lakes, potholes and sloughs located in upland positions. When this seepage reaches a lignite or sand lense its flow becomes horizontal with very little seepage continuing downward (Groenewold, 1979, Horack, unpub. and Houghton, unpub.). Discharge from this system is through wells, springs, and into alluvial and glacial channels. Recharge to the alluvial and glacial channels is received from intersecting lignite and sand aquifers and seepage from the stream channel during high flow periods. Available data has identified some areas where the shallow lignite or sand and alluvial or glacial channel systems are hydrologi-

cally connected, but in most of the new production tract areas there is not enough data to quantify the recharge and discharge sources."

Agriculture

Page 89, column 2, paragraph 1, line 1, change "Three hundred and eleven . . ." to "Two hundred . . ."

Wildlife

Page 91, column 1, caption under picture should read "Mule deer in eastern Montana."

Cultural Features

Page 93, Table 29, in Garrison tract under Stone Circle add the number 1.

Chapter 3

Air Quality

Pages 99 through 103. All material on Air Quality is deleted and replaced with material in Chapter 3 of the Air Quality Supplement.

Water

Page 103, column 2, under first paragraph of Water, insert the following: "Water withdrawal and conveyance facilities designed to carry municipal water would require a water service contract from the U.S. Army Corp of Engineers. Industrial water facilities would require a water service contract from the Bureau of Reclamation.

Page 105, column 2, after paragraph on water, add, "To summarize, disruption of ephemeral streams in the vicinity of a mine site would be temporary. Drawdown of groundwater levels would also be temporary. Degradation of the shallow ground water quality would be long term."

Page 105, column 1, paragraph 1, line 6, the sentence beginning with "The state of Montana" to the end of the paragraph is changed to the following:

"The state of Montana (Water Reservations and Current Water Availability in the Yellowstone River Basin, 1982) has identified the mean annual availability of 2,055,500 acre-feet of water from the Yellowstone River at Sidney, Montana. This water is available in addition to the estimated future needs of Montana, Wyoming, and Indian users. The Bureau of Reclamation estimates that 243,000 acre-feet could be made available annually out of Yellowtail dam without affecting existing or likely future uses."

Page 105, column 1, last paragraph, last sentence is deleted.

Page 105, column 2, paragraph 1, add the following sentence to this paragraph. "Currently the North Dakota State Health Department allows disposal of fly ash wastes only in lined pits designed specifically to prevent any effect on ground water."

Page 105, column 2, paragraph 2, add immediately following paragraph, "The Dunn-Nokota methanol project would produce no waste materials which are presently classified as hazardous by EPA."

Page 105, column 2, paragraph 4,change "There is no practical way . . ." to "It is not economically feasible . . ."

Page 107, column 1, paragraph 2, sentence 1, change, "completely destroy a portion of the Redwater River valley" to "decrease the quality of the runoff in the Redwater River."

Wildlife

Page 124, column 1, paragraph 5, sentence 1, delete the entire sentence.

Page 127, column 2, last paragraph, sentence 2, add "short-term" to the beginning of sentence.

Cultural Features

Page 129, insert following paragraph 1 at end of Alternative 2:

Application of the cultural resource unsuitability criterion has demonstrated that the most critical conflict between coal leasing and archeological sites would be restricted to two sections (Sections 32 and 34, T145N, R93W) which are part of both the National Register of Historic Places eligible Knife River Flint Quarry National Historic District and a logical mining unit. Whether these two sections should be found unsuitable for mining has not been decided.

If the two sections are not leased for coal mining, the entire heart of the Knife River Flint Quarry area would be protected in a federal coal lease decision. In this case only outlying sites would be impacted and it is expected that those values could be successfully mitigated through data recovery.

If the other alternative occurs and the two sections are leased, 10 sites covering 50 percent of Section 32 and 6 sites covering 30 percent of Section 34 could be impacted by coal mining. This would cause a significant impact to the information contained in the National Register eligible district. It is uncertain whether these impacts could be successfully mitigated through avoidance of specific sites or data collection. The previously discussed memorandum of understanding process would have to occur to assess the possibility of a successful mitigation plan.

Other Land Uses and Values

Page 130, column 2, paragraph 4, sentence 3, change the reference to Major Facility Siting Act in "North Dakota" to "Montana."

Page 131, column 2, sentence 2 under Alternative 3 should read, "If it is assumed that 60 percent of the work force for Dunn Center and Werner tract would pass through Dickinson for access to State Route 22, this would imply stress for this highway."

Page 152 at the end of column 1, add the following:

Short Term Usage and Impacts Versus Long Term Effects

Short-term impacts to water resources would continue throughout the life of project. The hydrologic balance would be disrupted in the vicinity of a mine and its associated facility. Ephemeral surface water in the immediate vicinity of the development would experience small changes in flow, sediment loads, and dissolved chemical concentrations. Within a mile or so of the mines, groundwater levels would be lowered and quality would be degraded as the shallow lignite aquifer is removed. Following reclamation of the area, surface water conditions would return to approximate pre-mine productivity; however, there would be a long-term impact to the shallow vein spoil aquifer system which may remain degraded indefinitely. Another long-term impact would be the increased expense to the land owner to operate and maintain the deeper replacement wells.

For analysis purposes, successful reclamation to pre-mining levels of agricultural productivity was assumed. All the impacts discussed were quantified over the short-term—the time required to meet bonding requirements. No residual long-term agricultural impacts were projected. There would be very few short-term impacts on cultural resources, for the destruction of any cultural resource with or without adequate mitigation is a long-term negative impact, no matter how complete all of the information from an archeological site. However, in many cases these losses are accepted for valid reasons.

Changes in land use due to coal mining would be short-term for the land would revert to its pre-mining use after reclamation. Changes in land use due to facility development would be long-term since the facilities are scheduled for a 30-50 year mine life. New roads, transmission lines, railroad spurs, etc., can be considered long-term since they would be used as long as the mine is in operation. Changes in the existing communities may be considered long-term for although the commitment of land to a specific use does not preclude another use, an investment in residential, commercial, or other facilities makes the change costly.

Changes in the visual quality of the region would be long-term because the mines are programmed for a 30-50 year life span. The facilities would be highly visible and would add an industrial "look" to the area.

The aesthetic effect of specific areas would be short-term due to the reclamation which would occur. However, the entire area would look disturbed as long as mining takes place.

Depending upon the amount of funding avaliable, the impacts to outdoor recreational facilities could be short-term or long-term. Certainly the available facilities would be more crowded. Hunting and fishing areas would receive more pressure, and there would be an increase in landowner/hunter problems. As monies become available to enlarge existing facilities or provide new ones, this problem should gradually decrease in significance.

The great majority of the economic impacts from Ft. Union coal development result from population in-migration due to short-term, construction-phase related employment opportunities. As the graphics in appendices G and H show, this short-term period, in most cases 3-6 years, contains the preponderance of population, employment, and fiscal impacts due to the labor intensive nature of the construction phase. There would be greatly increased business and employment opportunities during the short run, along with adverse impacts associated with large increases in population and coincident impact on public services. This general phenomena would be a question of degree among alternatives 2-6. The overall level of beneficial and adverse impacts would increase from alternative 2 to alternative 6.

During the long-term operations period (approximately 40 years), economic changes would be much more stable since employment and population levels would not change significantly. Those people employed as part of the operations work force would benefit from long-term employment opportunities as would businesses which provide goods and services to the plants and workers. Depending on the circumstances, some communities could experience long-term impacts on their public services, while others would be successful in mitigating or avoiding these impacts altogether. Those communities which are nearby the mine plant site and which have a relatively large range of public and private services to offer would be the towns which would experience the greatest economic and social impacts as both construction and operations workers would relocate to these communities in response to nearby employment opportunities.

In the social analysis, short-term refers to the construction phase while long-term refers to the operations phase of development. The social assessment is based primarily upon the population increases that occur as a result of the development. The short-term period, in most cases 3-6 years, contains the majority of the population increases. Generally, short-term impacts include changes in both community social organization and social well-being increases as the service availability catches up with population growth. Changes in bility catches up with population growth. Changes in community organization are permanent and extend into the long-term. Overall impacts increase in magnitude from alternative 2 to 6 in both the short and long-term.

Initial attitudes toward development may be modified as the project proceeds through the short and long-term phases. These modifications would depend upon

the severity of the impacts to the community and whether or not the individual benefitted from the development.

In the preferred alternative, about three billion tons of coal would be mined in the next 40 years. Of this total, a little over 990 million tons would be federal coal. Approximately 200 million tons of the federal coal would be mined by existing mining operation, while the remaining would be used to support new mines. If no leasing occurs, the coal in the tracts near existing mines in by-pass tracts would eventually be by-passed and would not be mined.

Irreversible, Irretrievable Commitment of Resources

The only irretrievable loss to the hydrologic system would be the shallow aquifer system which would be disrupted by mine development. This system would remain disrupted for an indefinite period and may never be restored.

No irreversible or irretrievable impacts to agricultural productivity would be expected, given successful reclamation to meet bonding requirements.

Once cultural resources have been destroyed, they can never be replaced and are an irretrievable loss. In the case of the extensive and complex sites associated with flint quarrying on the Dunn Center tract and the sites in the Missouri River Breaks on the Glenharold tract, it may never be possible to recover enough information to make destruction of these cultural resources an acceptable alternative.

Transmission lines, pipelines, facility development, railroad spurs, and new roads may be an irretrievable commitment of land. Land used for new businesses, service facilities, and homes for the expected influx of workers can be considered an irretrievable commitment of the land resource since it is highly unlikely the land would be restored to its former use. Materials used to construct the various facilities and homes may be considered an irretrievable commitment of resources.

From an aesthetic standpoint there would be no irretrievable commitment of land form since the mined land would be restored to its original form. If the facilities and their attendant roads, power lines, and railroad spurs are not dismantled after the coal is consumed, there would be a permanent, negative effect on the aesthetics and visual quality of the area.

There should be no irretrievable loss of recreation opportunities and resources, and they may even be enhanced if new facilities are built to accommodate the large influx of workers. Hunting and fishing would receive a negative impact since more people would be competing for limited resources; however, this should revert to normal when the life of the mines and facilities are completed.

The construction of the mines and facilities associated with the various alternatives would require significant, but at this time unquantifiable, amounts of construction material. For the most part, these items would be irretrievably committed to the process. Wood, steel, copper, aluminum, plastic, and concrete would be the items used most extensively in the construction of mines, electric power plants, and other coal conversion facilities. Salvage would be possible at plant phaseout for some of these items. The liquid fossil fuels used for haulage and the onsite electric power consumption would be irretrievably committed as well. In addition, increased energy development in this area would result in irretrievably committed financial resources, capital, labor, services, and materials utilized in the provision of public services to meet the increased needs of a new development-related population which would migrate to the region.

The communities impacted in alternatives 2 through 6, that had not undergone previous development, would experience permanent changes in their social organization due to population increases. These impacts would result in an irretrievable loss of the agriculturally oriented, close-knit, slow paced, informal, small town atmospheres currently found in these communities. The number of communities that would be affected increases from alternative 2 to alternative 6. In addition, during the construction stage, impacted communities would experience temporary but irretrievable losses in social well being due to the impact of large population increases on public and private services. In a small number of cases, growth would be so rapid and substantial that permanent changes in social well being might occur. This would be most likely to occur in Alternative 6. The attitudes of those local people who wish to retain the rural, agricultural orientation of their communities and the surrounding countryside may be irreversibly opposed to the development.

Chapter 4

No modifications or corrections.

Chapter 5

No modifications or corrections.

Appendices

Appendix A

Page A-3, add to end of Appendix:

Clean Water Act of 1977	Section 404; 33 USC 1344	Regulates the discharge of dredged or fill material into the Nation's waterways, lakes, and wetlands.	Such activities require permits or are authorized under Nationwide permit.

River and Harbor Act of 1899	Section 10; 33 USC 403	Prohibits the unauthorized obstruction or alteration of the U.S. navigable waters.	The construction of any structure, excavation or deposition of any material, or any other works affecting navigable water is unlawful unless authorized by Secretary of Army.

Appendix B

Page A-4, add the following after the second paragraph in column 3: "requires an environmental impact statement for major state actions which have the potential to significantly affect the human environment."

The following additions or corrections should be made to the codification of the Montana State Legislation:

1. Montana Department of State Lands

   State Antiquities Act, Section 22-3-401, et. seq. MCA

2. Board of Land Commissioners

   Section 22-3-424, MCA
   Section 77-3-102, MCA
   Add: Section 77-2-102, 103, MCA

Authorizes Board to grant easements for siting structures, roads, etc. on state lands that may be associated with energy development.

The North Dakota Land Development should read, "North Dakota Land Department."

Pages A-7 through A-11. All material on Air Quality is deleted and replaced with material in Appendices of the Air Quality Supplement.

Appendix I

Page A-25, column 1, first paragraph, add the following: "This section is designed to provide the reader with an overview of the mitigation measures/processes in Montana and North Dakota. Therefore, many of the details of the state impact assistance laws were not included. For more detailed information regarding the individual state regulations for impact assistance constraints and responsibilities contact would be made with the respective state agency."

Page A-26, add "Major Facility Siting Act" between the next to the last paragraph and the heading "Adequate Lead Time."

Page A-29, delete the last paragraph of column 2.

Page A-30, delete column 1. Delete column 2, paragraphs 1 and 2.

Page A-31, column 1, paragraph 3, line 5, change "8.7" to "8.75."

Page A-31, column 2, after the last paragraph add: "One Montana statute which could provide impact assistance to local governments is known as Tax Prepayment for New Industrial Facilities (15-16-201, MCA). By applying this law, a local government could require the owners of a new industrial facility (e.g., coal gasification plant, coal-fired electrical generation plant) to prepay the property taxes on the plant, thus providing "upfront" revenues which could be used to provide for the needed increase in local governmental services. Only the governmental taxing jurisdiction in which the industrial facility is to be located could require prepayment (e.g., county government). This statute does not apply to those jurisdictions which would be affected but would not have the plant located within their borders (e.g., city government, adjacent county government).

MAJOR FACILITY SITING ACT

The Montana Major Facility Siting Act (MFSA), enacted in 1973, provides for comprehensive review of proposals to construct and operate certain kinds of facilities for generating, converting or transmitting energy in Montana. The Act covers: (1) facilities that can generate 50 megawatts or more of electricity; (2) facilities that can produce 25 million cubic feet or more of gas per day; (3) facilities that can produce 25,000 barrels of liquid hydrocarbon products per day; (4) uranium enrichment facilities; (5) facilities that can use, refine or convert 500,000 tons of coal or more per year; (6) electric transmission lines greater than 69 kilovolts capacity, with certain exceptions for lines covering short distances; (7) facilities for developing and using geothermal resources capable of producing 25 million Btu per hour or more; (8) facilities for *in situ* coal gasification; and (9) pipelines leading from or to a facility as defined above. Facilities under exclusive federal jurisdiction are exempt. Oil and natural gas facilities are also exempt.

The Major Facility Siting Act has four provisions which are important for impact mitigation. First, the Act requires all parties planning to construct a facility (as degined by the Act) within the ensuing 10 years to file a long-range plan with the Department of Natural Resources and Conservation (DNRC). All proposed facilities must be adequately described in a long-range plan at least two years before DNRC may accept an application. The plans are submitted on April first of each year and any new plans are generally covered by the press. The plans thus serve to notify the public of any proposed facilities substantially in advance of when they will actually be constructed.

Second, the Act requires that an application for a facility must be filed with the DNRC. The application must include a description of the proposed facility, with discussion of alternative sites, an explanation of need for a utility facility, discussion of efforts to promote conservation and reasonable alternative energy sources, and a filing fee, based on the estimated construction cost of the facility, to finance the state's evaluation.

The DNRC has 90 days to determine whether an application is complete; that is, whether it contains the

information required by the law and associated rules. When the DNRC accepts the application as complete, it then has 22 months (in the case of generating plants) or 12 months (in the case of small transmission lines) to do an independent analysis, including preparation of an EIS under MEPA, holding public hearings, and preparing a final report to the Board of Natural Resources and Conservation (BNRC).

In the meantime, the Department of Health and Environmental Sciences and the Board of Health have a year, plus an additional six months if applicable, to determine whether the project will comply with air and water quality standards, and other laws administered by the Department of Health and Board of Health.

Note that this period of state evaluation contains opportunity for working with the affected local communities to analyze impacts and suggest mitigation strategies. It also has a mandatory public hearing where the public can comment on DNRC's and the Department or Board of Health findings.

The third provision of the Siting Act that provides opportunities for mitigation is the Board of Natural Resources and Conservation decision as to whether to issue a certificate for project construction. The Board is a seven-member citizen board, appointed by the Governor. A certificate may not be granted unless the Board finds and determines: (1) the nature of the probable environmental impact; (2) that the facility represents the minimum adverse environmental impact, considering the state of available technology and the economics of various alternatives; (3) that the facility is consistent with regional plans for expanding utility grids and will serve system economy and reliability; (4) that the facility's proposed location conforms to state and local laws and regulations; (5) that the Board of Health has certified that the facility will not violate air and water quality standards and implementation plans; and (6) for a utility application, that the facility serves the public interest, convenience and necessity. Need, environmental impact, benefits to the applicant and the state, effects of resulting economic activity, and effects on public health, safety and welfare must be considered in making these determinations.

After receiving the DNRC's final report on the proposed project, the Board has 11 months to make its decision. As part of its decisionmaking process, it must hold public hearings under the Montana Administrative Procedures Act. These are contested case hearings involving attorneys, witnesses, and cross-examination. The affected local government must be a party to the proceedings or state why it will not be. The applicant, of course, participates. Citizen groups and industry groups usually participate also. The board must consider all the evidence and prepare Findings of Fact and Conclusions of Law. It has three options in granting the Certificate: (1) Deny a Certificate; (2) Issue a Certificate for the project as proposed by the applicant; or (3) Issue a Certificate for the project, but with conditions attached. It is this power to condition the Certificate that enables the Board to specify mitigation that the applicant must follow. Certificates may be revoked for failure to meet safety standards or failure to comply with any other conditions imposed by the Board. Unlike Montana's mining laws, the Board is not restricted in the kinds of mitigation it can specify. Thus socioeconomic and cultural mitigation measures can be required.

The fourth important provision of the Siting Act from the point of view of mitigation is the requirement that DNRC must monitor the construction and operation of the facility to ensure that the Board's conditions are being met. The applicant must pay for the monitoring program. If the Board finds that a condition is not being met, it can revoke the Certificate. This enforcement power has two benefits. First, it ensures that migitation efforts are carried out. Second, it provides information on whether the mitigation measures are succeeding or failing to solve the problems, whether the anticipated problems turned out to be real ones, or whether unanticipated problems developed. This information is valuable for future impact assessments.

Appendix K

The following subfactors were used in making the ranking determinations.

Coal Economics

- Coal Quantity and Availability
- Coal Conservation and Maintenance of Production
- Energy Production
- Likelihood of Leasing and Production

Natural Environment

- Minerals other than Coal
- Air Qualtiy
- Water
- Wildlife
- Cultural Features
- Amenity Values
- Special Management Values
- Other Land Use and Transportation
- Reclamation Potential

Social Economics

- Community Service Assessment
- Jobs
- Agricultural Values
- Agricultural Operations
- Lifestyle and Social Structure
- Public Attitudes
- Consistency with other Plans and Policies
- Land Owners
- Inflation

References

Water

Page R-2, 16th reference listed under Water:

Remove the Bureau of Reclamation as a co-author with the Montana State Dept. of Natural Resources and Conservation of the document "Water Reservations and Current Water Availability in the Yellowstone River Basin." Change the publication date from 1981 to 1982.

Agriculture

Page R-3, add the following references:

Bridgeman, G.H., and R.L. Lang, 1976. Resistance of Desert Plants of Wyoming to Sulfur Dioxide Injury in American Phytopathological Society Proceedings. Vol. 3, p.225.

Davis, C.R., et al. 1966. Sulfur Dioxide Fomigations of Range Grasses Native to South Eastern Arizona *in* Journal of Range Management, Vol. 19, pp. 60-64.

Ferenbaugh, R.W. 1978. Effects of Prolonged Exposure of Oryzosis Hymenoides to Sulfur Dioxide in Water, Air, and Soil Pollution. Vol. 10, pp. 27-31.

Harrington, Neil. Montana Department of Natural Resources, personal communiction. November 8, 1982.

Heitschmidt, R.K., et al. 1978. Effect of Controlled Levels of Sulfur Dioxide on Western Wheatgrass in a South Eastern Montana Grassland *in* Journal of Applied Ecology. Vol. 14, pp. 859-868.

Holmann, L., et al. 1981. Livestock and Vegetative Performance on Reclaimed and Nonmined Rangeland in North Dakota *in* Journal of Soil and Water Conservation. Vol. 3, pp. 41-44.

Lavenroth, W.K., et al. 1979. Sulfur Accumulation in Western Wheatgrass Exposed to Controlled Sulfur Dioxide on Western Wheatgrass in a South Eastern Montana Grassland *in* Journal of Applied Ecology. Vol. 14, pp. 859-868.

Ludwick, J.D., et al. 1981. Air Quality Measurement in the Coal Fired Power Plant Environment of Colstrip, Montana in Atmospheric Environment. Vol. 14, pp. 523-532.

Milchunas, D.G., et al. 1981. Forage Quality of Western Wheatgrass Exposed to Sulfur Dioxide *in* Journal of Range Management. Vol. 34, pp. 282-285.

Munshower, Frank. Reclamation Research Unit, Montana State University personal communication. November 3, 1982.

Nirander, Safoya. North Dakota Public Service Commission, personal communication. November 8, 1982.

Power, J.F., et al. 1981. Effects of Topsoil and Subsoil Thickness on Soil Water Content and Crop Production on a Disturbed Soil *in* Soil Science Society of America Journal. Vol. 45, pp. 124-128.

Preston, E.M., 1979. The Ecological Implications of Chronic Sulfur Dioxide Exposure for Native Grasslands, report for 72nd Annual meeting, Air Pollution Control Association. Cincinnati, Ohio.

Williamson, R.L., 1980. Re-establishing Woody Draws on the North Great Plains After Mining: The First Steps *in* Symposium of the Soil Conservation Society of America. Billings, Montana.

Williamson, R.L., et al. 1981. Physical and Environmental Factors of Woodland Ecosystems on the Glenharold Mine Reserve in Western North Dakota in Proceedings of the North Dakota Academy of Science. Vol. 35, 8.

AIR QUALITY SUPPLEMENT

Chapter 2

All material in the Draft EIS on Air Quality is deleted and replaced with the Air Quality Supplement. All modifications and corrections to Air Quality pertain to the Air Quality Supplement.

Page S-1, column 2, paragraph 2, immediately following "annual mean" at the end of paragraph add, "Figure 2-2 indicates a drought index, which is not a fluctuation of annual precipitation, but rather a measure of soil moisture balance which includes precipitation."

Page S-2, column 1, last paragraph, line 5, after "lead (Pb)," add "organic compounds."

Page S-3, column 2, last paragraph, after the last sentence add, "It should be noted that the State Air Quality Bureau has proposed a new rule which would set a statewide SO_2 baseline date as of March 26, 1979. The final PSD rule may contain a county-by-county or an impact area mechanism for triggering baseline dates."

Page S-5, column 1, after major heading "Acid Rain," add, "The following literature review is not intended to be an exhaustive nor comprehensively referenced technical review but a general summary of current information with emphasis on the controversial status of the subject. This discussion does not necessarily reflect the position of the Department of the Interior (see p. S-7, column 2, paragraph 2)."

Page S-5, column 2, line 2, change 1970 to 1979.

Page S-5, column 2, end of second paragraph after "acid." Add, "The literature reports that various ions in different combinations are found including ammonium sulfate."

Page S-6, Table 2-2, add "Proposed" before "Integral" in title.

Page S-8, column 1, line 1, delete the work "residual."

Page S-9, Table 2-3. Add following footnote, "State and federal regulations for the prevention of significant deterioration provide that the short-term (3 and 24-hour) increments can be exceeded only once per year."

Chapter 3

Page S-11, the term "adverse" is hereby deleted wherever used in this Air Quality chapter.

Page S-11, column 2, end of first paragraph, add: "The leasing of coal is no guarantee that a mine-mouth facility will be allowed to use the coal. A site-specific review of a proposed project such as a power plant, gasification plant, or a liquefaction plant would have to be performed and evaluated by the respective permitting agencies in North Dakota and Montana, as well as be acceptable to the Federal Land Manager in Prevention of Significant Deterioration (PSD) Class I areas and the Environmental Protection Agency. This end-use analysis would take place before any of the new facilities would be considered for a permit to construct or operate.

The generic facilities studied in this draft are assumed to have emission control devices and subsequently emission rates similar to the types of facilities which have been permitted to date. This does not take into account technological advancements which could take place over the next 10 to 15 years before a specific type plant is operated at a specific base tract. In that sense, this document may be over estimating the air quality impacts."

Page S-14, column 1, paragraph 3, sentence 3 is replaced with "MESOPUFF was adapted by the North Dakota State Department of Health for mesoscale air quality analysis in North Dakota (NDSDH, 1982)."

Page S-15, column 1, first complete paragraph, sentence 3 is deleted since the performance accuracy of the MESOPUFF model has not actually been established.

Page S-16, column 1, paragraph 1, line 8, insert "-North" after "TRNP."

Page S-17, column 1, paragraph 2, line 7, change "overlap with" to contribution to."

Page S-17, column 2, paragraph 2, line 4, after "concentrations" delete period and add, "resulting from all Leasing Alternatives."

Page S-17, Table 3-3, second column heading, change "Baseline 1975-1977" to "Baseline 1975-1997."

Page S-27, column 1, paragraph 2, line 1, after "increments" add, "(in this study)."

Insert the following between pages S-32 and S-33:

INTRODUCTION

This report documents the results of regional air quality modeling analysis which assesses the cumulative sulfur dioxide (SO_2) impacts at Theodore Roosevelt National Park-South Unit (TRNP-S) from coal resource development proposed by the Bureau of Land Management (BLM). This modeling analysis was recommended by the National Park Service (NPS) because of the proximity of some of the tracts to the South Unit and because the Air Quality Information Supplemental (AQIS) to the Draft EIS prepared by BLM for proposed coal leasing within the Ft. Union coal region only considered worst-case impacts on the North Unit of the TRNP. Results of the regional air quality impact analysis conducted previously were documented in the Air Quality Supplement and in a detailed technical report prepared for BLM by ECOS Management Criteria (BLM, 1982 b).

The NPS recently analyzed potential air quality impacts at TRNP from existing and proposed major emission sources (emission sources subject to PSD review) in western North Dakota (NPS, 1982). End-use facilities associated with the Ft. Union coal leasing project were not included in the NPS analysis. Regional scale modeling of the emissions, performed for the NPS analysis by the North Dakota State Department of Health, showed that allowable PSD Class I SO_2 increments would be consumed and exceeded under worst-case conditions. The 24-hour average incremental concentrations at TRNP-S were predicted to be 15-19 ug/m^3 during a 72-hour meteorological episode starting January 10 (1964 meteorological conditions). In evaluation of the potential effects of sulfur dioxide at these levels on sensitive biological species in the Park, the NPS concluded that no unacceptable adverse effects would be expected, although the predicted sulfur dioxide concentrations are not far below the adverse effect level.

The particular meteorological episode referred to above represented the worst-case scenario for existing and pending PSD sources, but not necessarily for the BLM Ft. Union coal leasing sources. It was not modeled in the Ft. Union coal leasing air quality study. However, because of the NPS finding that SO_2 concentrations for this episode and group of emission sources would be close to an adverse effects level, it became important to determine how much the SO_2 concentration might be increased by the Ft. Union coal leasing project under the same scenario, and to evaluate whether the resulting higher level might reach the adverse effects level, particularly with respect to the most sensitive vegetation species, lichens.

Thus, the specific objective of the present modeling analysis is to predict incremental and cumulative ground level SO_2 at TRNP-S resulting from emission sources in the baseline inventories developed for 1975 and 1997, and those proposed by the BLM for coal leasing Alternatives 3 and 6 during the January 10-13, 1964, meteorological episode lasting for 72 hours. The predicted SO_2 concentrations are compared with allowable PSD increments and with published data on SO_2 concentrations reported to be injurious to sensitive plant species found at TRNP-S.

METHODOLOGIES AND ASSUMPTIONS

The regional air quality model MESOPUFF was employed to calculate SO_2 impacts at TRNP-S from emission sources located within the modeling grid described in the earlier air quality analyses (Figure 1). One-hour, 3-hour, and 24-hour average concentrations of SO_2 and sulfates (SO_4) were calculated by MESOPUFF for eight receptors selected by the NDSDH for the TRNP-South Unit (Schock, 1982). Table 1 presents the grid coordinates of these receptors defined relative to the origin of the NDSDH modeling grid, and to the origin of the modeling grid selected by ECOS. The NDSDH and ECOS modeling grids have different origins, as each was arbitrarily selected for different study purposes.

TABLE 1
RECEPTORS LOCATED AT TRNP-SOUTH UNIT

Receptor Number	Grid Coordinates			
	NDSDH		ECOS	
	X	Y	X	Y
1	3.50	5.00	10.14	6.62
2	3.67	5.00	10.31	6.62
3	3.83	5.00	10.47	6.62
4	3.33	5.17	9.96	6.76
5	3.50	5.17	10.14	6.76
6	3.67	5.17	10.31	6.76
7	3.17	5.33	9.80	6.90
8	3.33	5.33	9.96	6.90

MESOPUFF modeling runs were conducted using the meteorological input data assembled by the NDSDH for the 72-hour episode occurring between 1200 GMT (0600 CST) January 10, 1964, and 1200 GMT (0600 CST) January 13, 1964. The preprocessor MESOPAC was used to generate all meteorological inputs required by the MESOPUFF model. All upper-air and surface meteorological data available in the 1964 meteorological data base developed by the NDSDH were input to MESOPAC. Table 2 shows meteorological inputs for three rawinsonde stations at Bismarck, Glasgow, and Rapid City, which are the closest stations to the TRNP-South Unit. In general, winds were light to moderate, especially during the second day of the episode. Atmospheric conditions were generally slightly stable with limited mixing. The average of the mixing heights shown in Table 2 is roughly 400 meters (m). These atmospheric conditions tend to build up pollutant concentrations and, hence, are conducive to high ground-level impacts.

Four modeling runs of the MESOPUFF model were performed to predict SO_2 and SO_4 concentrations at the eight receptors in TRNP-S. These runs were designed to estimate impacts from emission sources in the 1975 and 1997 inventories, and from sources proposed for BLM Leasing Alternative 3 and 6. Emission rates and stack parameters of the modeled sources were tabulated and referenced in the Draft Air Quality Supplement and the backup technical report (BLM, 1982 b). The 1975 and 1997 inventories of non-BLM projects are reproduced herein in Tables 3 and 4, respectively, for convenience.

Outputs from MESOPUFF consist of hourly, 3-hour, and 24-hour running averages of SO_2 and SO_4 predicted at each of the eight receptors. To calculate total ambient SO_2 concentrations, the background concentrations derived and used in the air quality analysis are assumed to be applicable. These background values for SO_2 are tabulated in Table 5.

MODELING RESULTS

In the following paragraphs, predicted concentrations at eight receptors located in the TRNP-South Unit are summarized and discussed for each of the four MESOPUFF modeling runs. Total ambient SO_2 concentrations are shown in the last part of this section (Cumulative Ambient Pollutant Concentrations).

Incremental Pollutant Concentrations at TRNP-S from 1975 Emission Sources

Maximum SO_2 and SO_4 concentrations predicted at each receptor for emission sources in the 1976 inventory are shown in Table 6. For SO_2, maximum 1-hour, 3-hour and 24-hour averages were predicted to be 32.78 ug/m^3, 23.37 ug/m^3 and 6.27 ug/m^3, respectively, These incremental concentrations would be added to the background concentrations to obtain the total ambient pollutant concentrations, as described later under Cumulative Ambient Pollutant Concentrations.

Incremental Pollutant Concentrations at TRNP-S from 1997 Emission Sources

Predicted maximum SO_2 and SO_4 incremental concentrations from 1997 emission sources are tabulated in Table 7. For SO_2, maximum 1-hour, 3-hour, and 24-hour averages were calculated to be 33.34 ug/m^3, 32.47 ug/m^3 and 16.18 ug/m^3, respectively. From this table, it can be concluded that both the 3-hour and 24-hour allowable PSD Class I increments for SO_2 are consumed at TRNP-S by existing and pending PSD sources compiled in the 1997 inventory. This finding is in agreement with the modeling results obtained previously by the NDSDH (NPS, 1982). These incremental concentrations would be added to the sum of the background and 1975 incremental concentrations to obtain the total ambient pollutant concentrations, as described later under Cumulative Ambient Pollutant Concentrations.

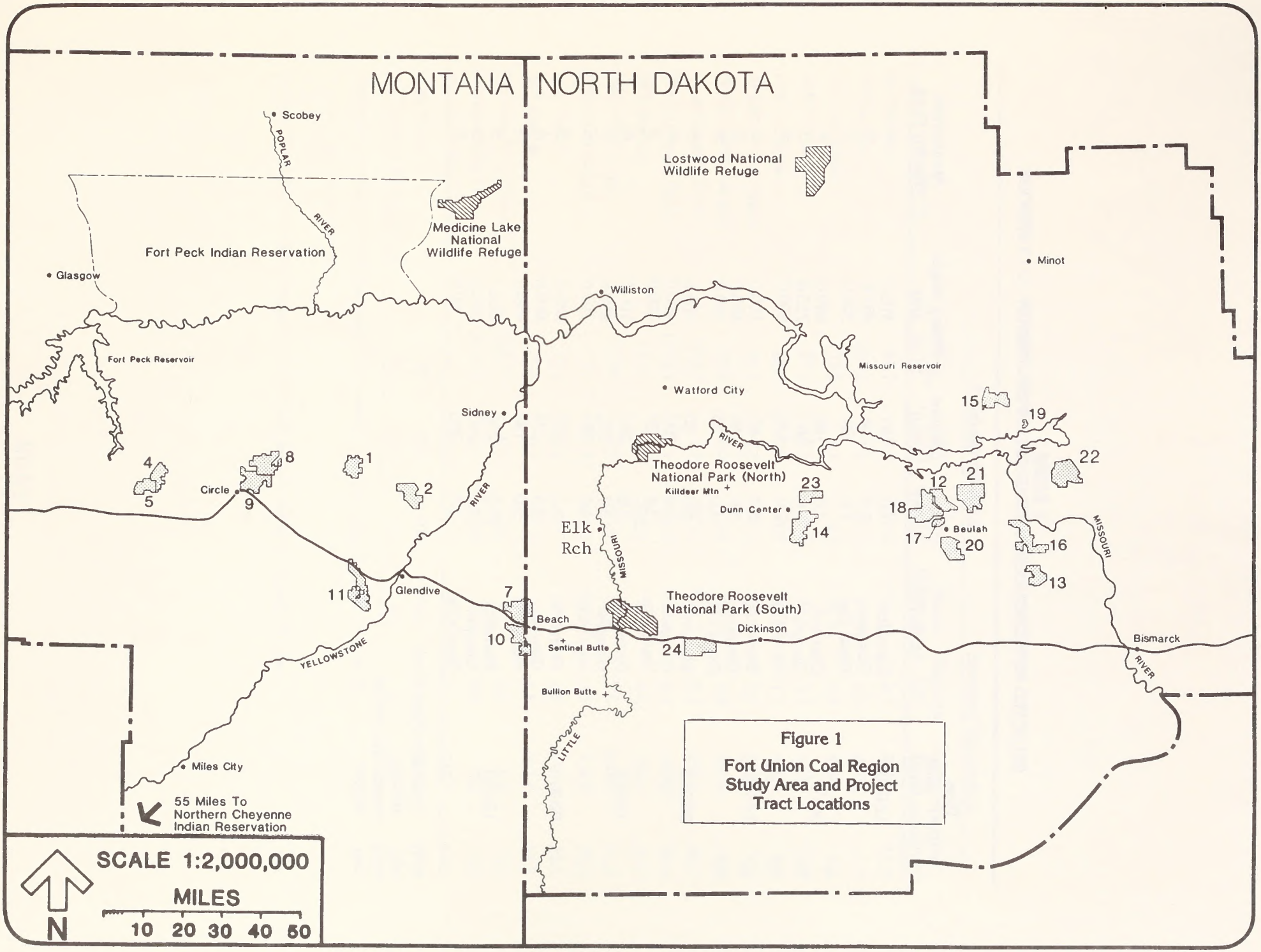


Figure 1
Fort Union Coal Region Study Area and Project Tract Locations

TABLE 2
SELECTED METEOROLOGICAL INPUT DATA FOR JANUARY 10-13 EPISODE

Time (GMT* Hour-Julian Date)	Station	850-mb* Winds Speed (m/s)*	850-mb* Winds Direction (deg)*	Mixing Height (m)	Atmospheric Stability Class
12-010	Bismarck	7.0	197	310.0	5
	Glasgow	9.0	294	401.0	5
	Rapid City	1.0	331	300.0	5
00-011	Bismarck	7.0	169	460.0	4
	Glasgow	1.0	307	253.0	3
	Rapid City	12.0	335	500.0	4
12-011	Bismarck	8.0	80	100.0	6
	Glasgow	1.9	56	403.0	5
	Rapid City	4.0	73	295.0	5
00-012	Bismarck	5.0	80	309.0	3
	Glasgow	3.0	237	496.0	4
	Rapid City	3.0	27	400.0	3
12-012	Bismarck	3.0	253	100.0	6
	Glasgow	4.0	292	298.0	5
	Rapid City	5.0	357	202.0	6
00-013	Bismarck	7.0	257	450.0	3
	Glasgow	15.0	236	806.0	4
	Rapid City	5.0	192	496.0	4
12-013	Bismarck	15.0	250	362.0	5
	Glasgow	13.0	297	300.0	5
	Rapid City	7.0	280	00.0	6

GMT Greenwich Mean Time
mb millibar
m/s meters per second
deg degree

TABLE 3
EMISSIONS SOURCES FOR 1975 BASELINE

Name	Emission Rates			Emission Parameters			
	SO_2 (g/s)**	TSP (g/s)	NO_2 (g/s)	Stack Height (m)	Diameter (m)	Temp. (K)**	Exit (m/s)
RM Heskett I	91.7	0.8	17.6	91.4	2.1	447.4	15.8
RM Heskett II	223.5	1.9	43.0	91.4	3.6	426.9	12.7
AMOCO Boiler 1	27.5	0.1	8.7	31.4	1.7	439.1	9.8
AMOCO Boiler 2	27.5	0.1	8.7	31.4	1.7	439.1	9.8
AMOCO Boiler 3	27.5	0.1	8.7	30.5	1.7	439.1	9.8
AMOCO CO Furnace	90.1	7.1	1.7	60.7	3.4	552.3	7.9
AMOCO Alk Furnace	20.2	0.0	5.3	53.3	1.9	444.0	8.0
Basin Leland Olds I	874.0	3.2	305.4	106.7	5.3	451.3	16.7
Basin Leland Olds II	1723.7	16.1	731.5	152.4	6.7	455.2	18.3
UPA Stanton	513.0	20.9	272.4	77.7	4.6	404.1	27.2
Milton R. Young I	575.6	2.6	383.8	91.4	5.8	449.7	21.3
Milton R. Young II	710.7	21.3	592.2	167.6	7.6	438.6	20.3
W.J. Neal I	25.4	1.0	40.7	42.4	1.8	478.0	25.6
W.J. Neal II	25.4	0.7	40.7	42.4	1.8	461.0	24.3
Montana SO_2 Flares I*	2421.5	0.0	0.0	0.0	0.0	0.0	0.0
Montana SO_2 Flares II*	3632.2	0.0	0.0	0.0	0.0	0.0	0.0
Montana-Dakota Utilities	131.0	191.4	65.3	61.0	2.1	474.7	43.6
Holly Sugar	0.45	29.2	0.0	78.0	3.2	493.0	10.0
N. Cheyenne Forest Prods	0.0	16.8	0.0	9.1	.8	589.0	5.87

*Estimated emissions from gas flares in Roosevelt County (I) and Richland County (II).

** g/s — grams per second
K — Kelvin

Source: North Dakota State Department of Health and Montana Air Quality Bureau.

TABLE 4
EMISSIONS SOURCES FOR 1997 BASELINE

Name	Emission Rates			Emission Parameters			
	SO_2 (g/s)**	TSP (g/s)	NO_2 (g/s)	Stack Height (m)	Diameter (m)	Temp. (K)**	Exit (m/s)
Coal Creek							
Units 1 and 2	1598.0	132.0	931.4	201.0	6.7	404.6	27.2
Coyote	673.0	56.1	492.7	152.0	6.4	374.0	27.2
ANG							
Main 1 and 2	338.4	34.8	196.6	121.9	4.9	469.1	21.4
Start 1	60.0	0.0	8.0	48.8	3.2	1366.3	16.8
Start 2	13.6	0.0	1.0	48.8	3.2	1366.3	1.3
Antelope Valley							
Units 1 and 2	484.6	53.0	621.2	182.9	7.0	356.3	23.2
Warren Petroleum							
Claus Incinerator	81.7	0.0	0.0	59.4	1.8	810.9	5.2
Western Gas							
Claus Incinerator	28.5	0.0	0.0	30.5	0.46	866.3	19.8
Antelope Valley							
Unit 3	474.7	23.7	355.9	182.9	7.6	356.3	25.0
Nokota	327.6	14.1	556.9	152.4	11.2	394.0	12.2
St. Anthony							
Units 1 and 2	415.0	47.4	711.8	182.9	7.6	356.3	25.0
MP & L							
Unit 1	892.1	44.6	892.1	213.4	10.6	340.8	12.6
Koch Hydrocarbon	26.0	0.0	0.0	45.7	0.6	894.1	12.7
Kerr McGee	55.3	0.0	0.0	61.0	0.2	1000.0	112.3
Perry Petrolane	7.9*	0.0	0.0	54.9	0.1	1000.0	99.4
Shell Oil	44.8	0.0	0.0	61.0	0.2	1000.0	56.2
Phillips Petroleum	11.8	0.0	0.0	61.0	0.3	1273.0	20.0
AMOCO							
Claus Incinerator	31.4	0.0	0.0	45.7	1.1	810.8	12.2
Western Energy, Rosebud	1.86	194.1	31.8	0.0	0.0	0.0	0.0
Montana Power, Colstrip							
Units 1 and 2	188.3	31.7	500.5	152.4	5.03	366.3	32.0
Peabody Coal, Colstrip	0.6	39.3	0.0	0.0	0.0	0.0	0.0
Poplar River Power Plant							
Coronach, Sask.	1352	56.7	454	122	7.1	425	14
Alternative 1 Mines							
Antelope	0.0	105.6	0.0	0.0	0.0	0.0	0.0
Center	0.0	67.9	0.0	0.0	0.0	0.0	0.0
Glenharold	0.0	75.7	0.0	0.0	0.0	0.0	0.0
North Beulah	0.0	31.6	0.0	0.0	0.0	0.0	0.0
Renner	0.0	174.5	0.0	0.0	0.0	0.0	0.0
Schoolhouse	0.0	83.3	0.0	0.0	0.0	0.0	0.0
Underwood	0.0	143.8	0.0	0.0	0.0	0.0	0.0

*According to NDSDH, this value has been revised to 25; however, the value shown was used in modeling studies by both the NDSDH and the present study.

Source: North Dakota State Department of Health, Montana Air Quality Bureau, and BLM.

TABLE 5
ESTIMATED SO_2 REGIONAL BACKGROUND CONCENTRATIONS

Averaging Time	SO_2 (ug/m)³*
1-hour maximum	82
3-hour maximum	27
24-hour maximum	9

Source: BLM, 1982

*micrograms per cubic meter

TABLE 6
PREDICTED MAXIMUM IMPACTS FROM 1975 SOURCES

Incremental pollutant concentrations in micrograms per cubic meter

Pollutant/Averaging Time	Allowable PSD Increment	Receptor 1	2	3	4	5	6	7	8
Sulfur Dioxide:									
1-hour maximum		32.54	30.91	29.26	32.78	32.66	30.10	30.95	32.35
3-hour maximum	25	22.84	23.29	23.24	22.13	23.06	23.37	20.81	21.96
24-hour maximum	5	5.34	5.74	6.27	4.52	4.68	4.90	4.13	4.16
Sulfates:									
1-hour maximum		5.80	5.31	4.73	6.13	5.92	5.27	6.03	6.16
3-hour maximum		4.08	3.97	3.77	4.19	4.18	4.04	4.15	4.23
24-hour maximum		1.62	1.64	1.67	1.63	1.64	1.64	1.69	1.70

TABLE 7
PREDICTED MAXIMUM IMPACTS FROM 1997 SOURCES

Incremental pollutant concentrations in micrograms per cubic meter

Pollutant/Averaging Time	Allowable PSD Increment	Receptor 1	2	3	4	5	6	7	8
Sulfur Dioxide:									
1-hour maximum		27.90	26.37	26.47	21.02	26.93	33.34	20.93	20.19
3-hour maximum	25	27.41	25.79	26.05	20.18	25.61	32.47	18.86	18.49
24-hour maximum	5	13.95	13.98	14.30	12.62	16.18	15.36	10.62	11.05
Sulfates:									
1-hour maximum		4.27	4.30	4.30	3.29	3.71	4.08	2.61	2.65
3-hour maximum		4.24	4.26	4.26	3.27	3.67	4.07	2.58	2.64
24-hour maximum		2.45	2.49	2.54	2.13	2.27	2.36	1.84	1.89

Incremental Pollutant Concentrations at TRNP-S from Altemative 3 Emission Sources

Maximum incremental concentrations of SO_2 and SO_4 resulting from all facilities proposed under Leasing Alternative 3 are shown in Table 8. For SO_2, maximum 1-hour, 3-hour and 24-hour averages were predicted to be 15.59 ug/m^3, 15.21 ug/m^3, and 6.05 ug/m^3, respectively. It may be noted that Alternative 3 emission sources totally consume by themselves the allowable 24-hour PSD Class I increment of 5 ug/m^3. These incremental concentrations would be added to the sum of the background and incremental 1975 and 1997 concentrations to obtain the total ambient pollutant concentrations, as described later under Cumulative Ambient Pollutant Concentrations.

Incremental Pollutant Concentrations at TRNP-S from Altemative 6 Emission Sources

Table 9 shows the predicted maximum incremental concentrations of SO_2 and SO_4 resulting from all facilities proposed under Alternative 6. This alternative is proposed as the maximum level of coal resource development. Similar to Altemative 3, which is the preferred alternative, the MESOPUFF modeling results show that the allowable 24-hour PSD Class I increment for SO_2 will be consumed by the Alternative 6 emission sources alone, Maximum SO_2 1-hour, 3-hour and 24-hour averages were predicted to be 31.73 ug/m^3, 19.59 ug/m^3, and 8.58 ug/m^3, respectively. These incremental concentrations would be added to the sum of the background and incremental 1975 and 1997 concentrations to obtain the total ambient pollutant concentrations, as described below.

Cumulative Ambient Pollutant Concentrations

To estimate maximum ambient (total) SO_2 concentrations for Alternatives 3 and 6, the assumed background values are added to the sum of the maximum incremental concentrations predicted for 1975 sources, 1997 sources and sources proposed for each alternative, as shown in Table 10. It should be noted that the maximum ambient concentrations calculated in this manner are conservatively high for the cumulative concentration estimates, since maximum increments for each source group occur at different receptors and at different time periods. However, the procedure is illustrative for a conservative analysis of impacts on air quality-related values. It is also possible that individual source contributions may be higher. Site specific analyses for SO_2 emissions from end-use facilities have not been reported, but would be included in the PSD process. The site-specific analyses are important because the meteorology that gave the highest cumulative concentrations will not necessarily give the highest contribution from individual sources.

Table 10 presents the maximum SO_2 ambient impacts at the TRNP-S for Alternatives 3 and 6. For Alternative 3, the maximum 1-hour, 3-hour, and 24-hour averages were estimated to be 164 ug/m^3, 98 ug/m^3, and 38 ug/m^3, respectively. For Alternative 6, ambient concentrations of 180 ug/m^3, 102 ug/m^3, and 40 ug/m^3 were predicted, respectively, for maximum 1-hour, 3-hour, and 24-hour averages. It can be concluded that cumulative impacts are approximately the same for both leasing alternatives. However, it may also be noted that the incremental 24-hour average concentration due to Alternative 6 (8.58 ug/m^3) exceeds that due to Alternative 3 (6.05 ug/m^3) by an amount (2.53 ug/m^3) equal to half of the allowable PSD increment, and from this perspective, the difference in impacts between the two alternatives is not insignificant.

Since either Alternative 3 or Alternative 6 sources are predicted to add SO_2 concentrations exceeding the allowable 24-hour PSD increment in a Class I area where the allowable increment has already been consumed, it is clear that any proposed projects in the vicinity of TRNP-S associated with the BLM coal leasing alternatives would require thorough site-specific analyses.

EVALUATION OF IMPACTS ON SENSITIVE SPECIES

Plant species sensitive to sulfur dioxide at TRNP-S and meteorological concentration levels at which adverse effects have been noted are shown in Tables 11 and 12, reproduced from the recent NPS report (NPS, 1982)

In evaluating potential effects of the SO_2 concentrations predicted in the modeling studies by comparing the predicted concentrations (Table 10) with the effects levels (Tables 11 and 12), it may be seen that the concentration levels in the two sets of tables are not directly compatible because of widely differing averaging times. It must also be borne in mind that the predicted short-term concentrtations (Table 10) represent maximum worst-case concentrations for short-term episodes. The annual average ambient (total) SO_2 concentrations predicted at TRNP-S in the earlier studies are 3.9 ug/m^3 for the 1997 (non-BLM project) sources, 4.3 ug/m^3 for Alternative 3, and 4.9 ug/m^3 for Alternative 6. Although it is not possible to interpolate reliably between predicted annual average concentrations and maximum worst-case short-term concentrations, it would appear that SO_2 concentrations for the intermediate averaging times associated with the adverse effect would likely be below the adverse effects levels for both Alternatives 3 and 6, except possibly for the lichens species *Usnea hirta* and *Usnea sp.* which are reported to be affected by SO_2 at a 30-day average concentration of 2 ug/m^3 and 25 ug/m^3, respectively. Again, however, it is clear that potential effects on sensitive species will require thorough evaluation in connection with any proposed, new major SO_2 emission sources in the vicinity of TRNP-S.

CONCLUSIONS

The data found in the section on Cumulative Ambient

TABLE 8
PREDICTED MAXIMUM IMPACTS FROM ALTERNATIVE 3 SOURCES

Incremental pollutant concentrations in micrograms per cubic meter

Pollutant/Averaging Time	Allowable PSD Increment	Receptor 1	2	3	4	5	6	7	8
Sulfur Dioxide:									
1-hour maximum		9.43	9.22	10.26	12.98	11.43	9.72	15.46	15.59
3-hour maximum	25	9.24	8.88	9.48	12.43	11.10	9.58	14.97	15.21
24-hour maximum	5	5.21	5.24	5.37	5.50	5.29	5.17	6.05	5.96
Sulfates:									
1-hour maximum		1.92	1.71	1.77	2.34	2.07	1.78	2.67	2.60
3-hour maximum		1.89	1.69	1.61	2.26	2.00	1.73	2.57	2.47
24-hour maximum		1.42	1.40	1.40	1.44	1.39	1.35	1.45	1.43

TABLE 9
PREDICTED MAXIMUM IMPACTS FROM ALTERNATIVE 6 SOURCES

Incremental pollutant concentrations in micrograms per cubic meter

Pollutant/Averaging Time	Allowable PSD Increment	Receptor 1	2	3	4	5	6	7	8
Sulfur Dioxide:									
1-hour maximum		16.42	24.26	31.73	20.23	19.95	21.08	18.62	20.00
3-hour maximum	25	15.68	14.95	15.64	18.24	18.32	17.79	18.21	19.59
24-hour maximum	5	7.85	7.74	7.41	8.43	8.56	8.58	8.10	8.48
Sulfates:									
1-hour maximum		3.97	4.24	4.37	4.52	4.40	4.84	4.95	4.79
3-hour maximum		3.77	3.98	4.15	4.09	4.30	4.55	4.30	4.54
24-hour maximum		1.99	1.95	1.91	2.07	2.04	2.00	2.07	2.09

TABLE 10
MAXIMUM SO_2 AMBIENT CONCENTRATIONS AT TRNP-S

Pollutant concentrations in micrograms per cubic meter

Averaging Time	Background	Maximum 1975 Increment	Maximum 1997 Increment	Maximum Alt. 3 Increment	Maximum Alt. 6 Increment	Cumulative Maximum Total 1997	Alt. 3	Alt. 6
1-hour maximum (receptor, time)[1]	82	32.78 (4,11,15)	33.34 (6,11,22)	15.59 (8,12,01)	31.73 (3,11,06)	148	164	180
3-hour maximum (receptor, time)[1]	27	23.37 (6,11,16)	32.47 (6,11,23)	15.21 (8,12,02)	19.59 (8,12,02)	83	98	102
24-hour maximum (receptor, time)[1]	9	6.27 (3,12,12)	16.18 (5,12,07)	6.05 (7,12,13)	8.58 (6,12,21)	31	38	40

[1]Location and time of occurrence (receptor number, Julian date, hour at start)

TABLE 11
PLANT SPECIES SENSITIVE TO SULFUR DIOXIDE IN THEODORE ROOSEVELT NATIONAL PARK

Species	SO_2 Concentration (ug/m^3)	Averaging Time
Western wheatgrass	52	30 days
Ricegrass	173	6 weeks
Sunflower	133	5 weeks
Aspen	37-53	4 months
	931	3 hours
Green ash	1330	30 hours
Lichens (Usnea hirta and	2	30 days
Parmelia chlorachroa)	52	30 days

TABLE 12
ADDITIONAL REFERENCES ON POTENTIAL LICHEN EFFECTS

Species	SO_2 Conc./Duration (ug/m^3)	Effect	Reference
Physcia stellaris	6500/4 hours	Sig. change in photosynthesis and respiration.	Beekely & Hofman, 1982. Bryologist 84: 379--390.
Xanthoria fallax *Physconia grisea* *Cladonia rangiferina*	3900/1 hour 2000/3 hours 550/1 day 160/1 week 66/1 month 22/6 months 14/1 year	Threshold for decrease in photosynthesis.	Tomassini, et al. 1977. New Phytol. 79: 147-155.
Cladonia rangiferina	176/36 days	51% decrease in photosynthesis.	Moser, et al. 1980. Can J. Bot. 58: 2235-2240.
Usnea sp.	25/30 days	Loss of species from flora in Polish forests.	Grodzinski & Yorks, 1981. Water, Air & Soil Poll. 16: 33-53.
Peltigera canina	266/9 days	Over 70% reduction in nitrogen fixation.	Hendrikisson & Pearson. 1981. Amer. J. Bot. 68: 680-684.

Source: NPS, 1982

Pollutant Concentrations and Table 10 of this report show that cumulative ambient SO_2 concentrations at TRNP-S are projected to greatly exceed the allowable Class I PSD increment for SO_2. Table 10 indicates that 24-hour ambient concentrations of up to 31 ug/m^3 (22 ug/m^3 above background) could occur in 1997 without any of the coal leasing development activities proposed in the EIS. The 24-hour Class I PSD increment for SO_2 is 5 ug/m^3.

Since the baseline SO_2 concentration for PSD purposes is 15 ug/m^3, and because estimated cumulative 24-hour ambient SO_2 concentrations at TRNP-S for Alternatives 3 and 6 could reach 38 ug/m^3 or 40 ug/m^3 respectively, the Class I increments are projected to be exceeded. Development of the coal leases will require a certification by the Federal Land Manager (FLM) that no adverse impacts will result from the development. This certification will be based on a careful analysis of potential impacts on the air quality-related values (AQRVs), including visibility, that are found in the park. This certification process, defined in Section 165(d)(2)(C) of the Clean Air Act, provides the possible exception to the general rule that a proposed facility must not violate the Class I increments.

The certification of no adverse impact includes a site-specific test which examines on a project-by-project basis whether a proposed facility will unacceptably affect the resources of a Class I area if the manager of a Class I area determines that the proposed facility will not adversely affect the air quality-related values in the Class I increment. The DOI procedures for the adverse impact determination process are discussed in more detail in the Federal Register (47 FR 30226, Monday, July 12, 1982).

The adverse impact determination will be particularly critical for coal development proposed in this EIS because of the high ambient SO_2 concentrations that are predicted at TRNP-S. In a previous impact determination in the Federal Register (47 FR 30222, July 12, 1982) based on an emission inventory similar to the 1997 baseline of this EIS, the National Park Service found that no unacceptable adverse effects on air quality related values were expected to occur. However, estimated SO_2 concentrations were approaching threshold levels known to produce effects on certain sensitive species that are found in the park, i.e., two species of lichens. Since the NPS analysis was based on ambient SO_2 concentratiosn that were significantly lower than the cumulative ambient concentrations predicted for Alternatives 3 and 6 herein, it would appear that additional coal leasing and development at the level proposed in the EIS could result in unacceptable impacts at TRNP-S.

SUMMARY

The results of the modeling study predict that sulphur dioxide pollution in the Theodore Roosevelt National Park-South will substantially exceed federal standards for Prevention of Significant Deterioration even if no federally-owned coal resources are leased by BLM. Any federal leasing would add to the sulphur dioxide pollution. The sulphur dioxide concentrations predicted for alternatives 3 and 6 could cause adverse effects on two sensitive plant species, both lichens, at Theodore Roosevelt National Park-South. Therefore, any proposed coal development project which could increase the sulphur dioxide concentrations at Theodore Roosevelt National Park-South would require thorough evaluation of its predicted effects on sensitive species and certification by the National Park Service that no adverse impacts would result from the development.

Page S-33, column 1, paragraph 2, change second sentence to "It also describes an accepted scale for categorizing levels of human perceptibility for visibility degradation."

Page S-34, Table 3-6, line 3, change "9.994" to "O.994" and "9.0 or less" to "0.9 or less." Line 4, underline 29.7%. Line 5 underline 66.1%. Line 6 underline 0.771.

Page S-35, column 1, paragraph 1, lines 7 and 8, change "Table 3-5" to "Table 3-7."

Page S-36, column 1, paragraph 2, change the second and third sentences to "The predominant soil types in North Dakota are calcareous and would be little affected, although there are some areas in Mercer, McHenry, and Divide counties, and in some counties east of the Ft. Union coal region where sensitive soil types occur."

Page S-36, column 2, paragraph 5, line 6, change "Table 3-3" to "Table 3-5."

Page S-44, add the following after the last paragraph:

Short Term Usage and Impacts Versus Long Term Effects

The short-term impacts of the project on regional air quality have been described in the air quality section of the Air Quality Supplement.

Short-term impacts, due to emissions from coal mining and conversion processes, will disappear as soon as the mining and conversion processes are completed and their emissions cease. No long-term impacts would remain insofar as regional air quality itself is concerned.

Potential long-term impacts could remain on environmental resources which have been affected by air pollution during the operational phase of the project. Radioactive and other trace elements deposited on the land from coal conversion emissions would remain in surface soils for a long period, possibly affecting agriculture, biotic resources, and water quality. The nature and extent of the long-term effects of such deposition are not expected to be significantly harmful but cannot be defined at this time. Effects associated with acid precipitation may also persist beyond the duration of

the project but may be expected to start recovering as soon as the acid precipitation stops at the end of the project period.

Irreversible, Irretrievable Commitment of Resources

The mines and facilities would cause no irreversible changes in air quality. After the coal resources have been mined and converted to energy, and the mines have been returned to their original land use, there would be no further emissions of pollutants into the atmosphere. Regional air quality would rapidly return to its original quality, or to the quality it would have had if the project had not been undertaken.

There may however, be some irreversible changes in soil and water quality in the region which could possibly be caused by the deposition of radioactive and other trace elements from emissions of the coal conversion operations. The nature and degree of such irreversible effects cannot be defined at this time.

End of insert.

Appendix C

Page SA-4, footnote, at the bottom of the page add "a guideline, not standard."

Page SA-4, column 2, paragraph 3, line 4, add "*" after average.

Page SA-4, column 2, paragraph 11, line 2, add "a" after *.

Page SA-4, column 3, paragraph 1, line 1, add "a" after mean.

Page SA-4, column 3, paragraph 1, line 2, change "34-hr" to "24-hr."

Page SA-4, column 3, paragraph 3, line 1, change "05" to "0.5."

Page SA-4, column 3, paragraph 11, line 2, add "a" after *.

Page SA-4, column 4, paragraph 3, line 6, change "(0.24 ppm)" to "(0.28 ppm)."

Page SA-4, column 4, paragraph 4, line 1, change "0.24 mg/100" to "0.25 mg/100."

Page SA-4, column 5, paragraph 1, line 2, change "200 ug/m^3" to "150 ug/m^3."

Appendix F

Page SA-8, line 19 of Table (N. Cheyenne Forest Prods), draw a line under this entry, completing table of Emission Sources for 1975 Baseline. Then, before line 20 add new title, "Emission Sources of 1997 Inventory" which comprises remainder of entries.

Page SA-8, line 36 in table, change "MP&L Units 1 and 2" to "MP&L Unit 1."

Pages SA-8 and SA-9, below both tables, add footnote "Source: North Dakota State Department of Health (North Dakota sources). Montana Air Quality Bureau (Montana sources)."

Appendix H

Page SA-11, column 2 (Alternative 1), line 7 (McCone County), change "3053" to "2773."

References

Page R-1, last reference under Bureau of Land Management, after "1982" add "a."

after last reference under Bureau of Land Management, add "1982b. Air Quality and Climate Technical Report for the Regional Environmental Impact Statement, Fort Union Region Billings, MT"

Page R-2, last entry, change "Walther . . . 2184" to "Walther, E.G. et al 1980. Visibility Measured in the EPA/NPS Regional Network, June 1978 through May 1980. Environmental Monitoring Systems Laboratory, Office of Research & Development, USEPA, Las Vegas.

Page R-2, Under North Dakota State Department of Health add, "1979. The Long-term Effects of True Elements Emitted by Energy Conversion of Lignite Coal. Bismarck, ND."

Add, National Atmospheric Deposition Program. 1979. Precipitation chemistry—Volumes I-IV. Natural Resource Ecology Laboratory, Colorado State University, Fort Collins.

add, Schock, M.R., 1982. Private communication dated October 19, 1982, to K. Eilar, ECOS Management Criteria, Inc.

National Park Service, 1982. Technical Review of Six PSD Permit Applications Potentially Affecting Theodore Roosevelt National Park and Lostwood National Wildlife Refuge. Denver, Colorado. July; and Supplemental Information, August 1982.

Glossary

Page G-1, column 1, "integral vista" should be defined as follows:

"the view perceived from within the mandatory class I federal area of a specific landmark or panorama located outside the boundary of the mandatory class I area." See 40 CFR Sec. 51.301(n)(1981)... The criteria for identification of integral vistas includes, but is not limited to, a determination of "whether the integral vistas are important to the visitor's visual experience associated with a mandatory class I area." *Id.* Sec. 51.304(a). The regulations indentifying integral vistas

have not been promulgated. As a "major rule" under Executive Order No. 12291, these regulations are currently undergoing a Regulatory Impact Analysis. Once a Federal Land Manager has identified integral vistas, the State is responsible for incorporating the integral vistas into the State's air quality planning process (specifically the State Implementation Plan). In addition, the state is responsible for making final determinations regarding the degree of protection, if any, afforded to integral vistas in the permitting and land use planning processes, subject only to the general requirement that the state make "reasonable progress" toward the national visibility goal specified in Section 169A of the Clean Air Act.

PART II

Public Comments

INTRODUCTION

This section includes all the public comments received on the Ft. Union Draft EIS and the Air Quality Supplement. The public comments are printed in the order that they were received by this office. This procedure was used in order to include those responses that were received after the official closing date. The entire public hearings testimony is included, both the oral testimony and its written counterpart, as well as any written testimony that was not presented orally.

The major issues and concerns that were identified by the public comment include effects of air pollution on animals, vegetation, and water; effects of mines and facilities on surface and groundwater; on-site and off-site effects of mines and facilities on agriculture; effects of mines and facilities on wildlife and wildlife habitat, especially wetlands, woodlands, and native prairie; effects of mining on the Knife River Flint Quarries; effects of new roads, transmission lines, pipelines, and railroad spurs on adjacent farms and ranches; and effects to the economic and social conditions of small cities and towns when large numbers of workers move into them.

The major comments and questions were bracketed and numbered. In order to avoid confusion, the numerical order was continued from comment to comment, and thus the comments and questions have been numbered from 1 through 368.

LIST OF COMMENTORS AND RESPONSES

Comments from Federal and State agencies, local governments and organizations and individuals are printed in their entirety, in chronological order as they were received. They are listed below with the page numbers of the comments and the response numbers which can be found in Part III.

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Highway Department	2-61	253
Federal Aid Coordination Office	2-77	None
State of Montana	2-57, 2-58, 2-59	232-248
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LeRoy M. Moline, D.D.S.	2-47	193-195
Glenn Waller	2-47, 2-48	196-200
Circle Chamber of Commerce and Agriculture	2-48, 2-49, 2-52	201
Flying V Apts. Inc., Elmo P.R. Dreyer	2-53	None
Darrell Garoutte	2-53	215-218
The Nakota Company	2-54, 2-55	219-230
Jean Dekker	2-59	None
Sidney Chamber of Commerce	2-62	None
Dakota Resource Council	2-10, 2-11, 2-16, 2-70, 2-71	30-34, 56, 57, 313-320
Frank E. "Ed" Eaton	2-64	273-276

Tenneco Coal
A Tenneco Company

P.O. Box 2511
Houston, Texas 77001
(713) 757-2131

August 13, 1982

Mr. David Darby
Project Manager, Fort Union Coal Project
Bureau of Land Management
222 North 32nd Street
P. O. Box 30157
Billings, Montana 59107

Re: DEIS - Fort Union Coal Region

Dear Mr. Darby:

1 In looking through the DEIS we just recieved, I noticed that the "surface owner nonconsent" map for the south Wibaux-Beach tract shows two (2) parcels of surface owner nonconsent. If I read the map correctly, they are all of fractional Section 30, T-13-N, R-61-E, Wibaux County, Montana and lot 1 of fractional Section 22, T-139-N, R-106-W, Golden Valley County, North Dakota.

The map for the north Wibaux-Beach tract shows a surface owner nonconsent for the SE1/4 of Section 26, T-15-N, R-60-E, Wibaux County, Montana.

On September 3, 1980, we forwarded copies of our consents to mining (along with numerous others) to Mr. Edgar O. Stark in Billings, Montana. If they have been inadvertantly misplaced, please let me know and we will send additional copies.

Thank you for your consideration in this matter and I look forward to seeing you at the next coal team meeting.

Very truly yours,

A. B. Kelhofer
Land Manager

ABK:jms

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Ecological Services
Federal Building, Room 3035
316 North 26th Street
Billings, Montana 59101

IN REPLY REFER TO:
ES

August 17, 1982

Fort Union Regional Coal EIS
EC #82/23

Mr. Dave Darby, Project Manager
Fort Union Project
Bureau of Land Management
222 North 32nd Street
P.O. Box 30157
Billings, MT 59107

Dear Mr. Darby:

We have reviewed information on the Montana tracts which is contained in the Draft Fort Union Regional Coal Environmental Impact Statement. Our informal comments on the Preliminary Draft have been incorporated into this draft. We have no additional comments.

Sincerely,

John G. Wood
Field Supervisor
Ecological Services

cc: Regional Director, USFWS, Denver, CO (ENV)
USFWS, DEC, Washington D.C.

CITY OF DICKINSON
P.O. BOX 1037
DICKINSON, NORTH DAKOTA 58601
Phone (701) 225-6785

August 18, 1982

A. E. BAUMGARTNER, PRESIDENT
COMMISSIONERS
TERRY ASKIN LAVERN JESSEN
JOHN GENGLER ROBERT BAIRD

Mr. David Darby, Project Manager
Fort Union Project
Bureau of Land Management
222 North 32nd Street
P. O. Box 30157
Billings, MT 59107

re: Fort Union Regional Coal E I S

2 The draft EIS repeatedly states that the Alternative 2 and the preferred Alternative 3 would not cause unusual impact upon Dickinson. Except: page 131 under the heading "Alternative 3," second sentence . . . " An assumption that 60% of the work force for Dunn Center and Werner would originate in Dickinson . . . " The estimated employment for those mines and facilities are given on pages 52 and 53.

Although this City has had experience with impact and has a large population base with which to react: an estimated 1,000 workers translates into many more people. Considering the families of these workers and the additional supportive services that follow a rapid population growth, the EIS does not give a true picture of the impact that Dickinson may expect by Alternative 2 or Alternative 3.

The basic error is the EIS assumption that Dickinson will be a specifically designated impact city only if and when the Zenith tract is developed.

3 The other misinformation is from the general tone of what State assistance there is available to impacted communities as given on page A-28. This page does not point out that North Dakota statute (NDCC: 57-62-02) specifically limits the eligibility for the grant/loan programs to those units of government within fifteen miles of the tipple of a currently active mining operation. Therefore, Dickinson could not receive assistance for the Energy Impact Office during the development of Alternative 2 or 3.

The final EIS should be corrected on these points. The draft report gives a very false impression of what impact will be with Alternative 2 or 3.

Respectfully,

A. E. Baumgartner
A. E. Baumgartner, President
Board of City Commissioners

AEB/lls

MEMO

CITY / COUNTY PLANNING OFFICE
MILES CITY / CUSTER COUNTY
516 MAIN
MILES CITY / MONTANA 59301
(406) 232-6339

Barbara Kennedy • Planning Director
A.W. "Rick" Jones • Assistant Planner Margaret "Mugs" Bartlett • Associate Planner

August 26, 1982

Dave Darby , Project Manager
Fort Union Project
P.O. Box 30157
Billings, Montana 59107

Having reviewed the Fort Union Regional Coal EIS, I have only a few comments to make.

First, my gratitude to Mr. Paul Martin for an excellent job as writer/editor.

4 In the summary for Alternative 5, you state that Redwater II would result in "completely destroying a portion of the Redwater River Valley". About Alternative 6, you state Redwater I would "further impact the Redwater River Valley". Each of the 2 tracts, as described in SSA's, gives me a better perspective than the summary statements.

In the SSA's, the Redwater River is defined as having an intermittent flow of non-potable water, water not used for irrigation. The SSA text leads me to believe the river is a drainage for rain and snow melt of some 19,000 acre feet of water per year, more like a creek. From what is stated in the SSA, the water has some really bad stuff in it. Yet the summary statements for 5 and 6 do not include the fact that the water is bad. The soils of the alluvial valley will contain those bad chemicals. Maybe this water shouldn't pollute the Missouri River anyway.

5 Another thing is the inclusion of text about the "end use" of the coal. I didn't agree that the project should have ever included "end use (facilities)" in the SSA phase. I still don't. The EIS is a step in the coal leasing process. I see no authority cited for the EIS to take notice of "end use", just authority for coal leasing and development. BLM is not supposed to concern itself with end use. Montana has state laws for major facility siting. Please do not intrude into state responsibility.

I always read about alternatives for tract groupings. If there is concern to your readers about impacts to social organization and well being in the listed communities, one alternative is to view Miles City as the place for the "first wave" new workers. Miles City is central among forthcoming coal field developments. The City can provide for new workers, becoming a "labor pool" city as Cheyenne and Billings. The City has fewer mitigation measures to take than any listed community. Most small towns are nice. Miles City is big and nice.

I do want to state that the project team did a fine job.

Sincerely,

Barbara Kennedy
Planning Director

DEPARTMENT OF THE ARMY
OMAHA DISTRICT, CORPS OF ENGINEERS
6014 U.S. POST OFFICE AND COURTHOUSE
OMAHA, NEBRASKA 68102

REPLY TO ATTENTION OF

MROPD-M

15 September 1982

Mr. David Darby, Project Manager
Fort Union Project
Bureau of Land Management
222 North 32nd Street
Post Office Box 30157
Billings, Montana 59107

Dear Mr. Darby:

We appreciate the opportunity to review and comment on the Fort Union Regional Coal DEIS. Our comments are as follows.

Federal Laws Affecting Coal Development

6 The document makes no mention of Section 404 of the Clean Water Act or Section 10 of the River and Harbor Act of 1899 and the Corps of Engineers' jurisdiction thereof. Section 404 of the Clean Water Act (33 U.S.C. 1344) regulates the discharge of dredged or fill material in our Nation's waterways, lakes, and wetlands. Such activities must be authorized under the Nationwide permit or permitted by an individual Department of the Army permit. Section 10 of the River and Harbor Act of 3 March 1899 (33 U.S.C. 403) prohibits the unauthorized obstruction of alteration of any navigable water of the United States. The construction of any structure in or over any navigable water of the United States, the excavation from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters is unlawful unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army.

7 In the discussion of the alternatives, several statements are made concerning water intake structures, transmission lines (either water or power), and destruction of wetlands. It is inevitable, as with all projects of this nature, that filling activity will take place whether in a waterway or wetland. Individual or Nationwide permits will be required for filling activities associated with wetlands. These actions will be evaluated on a case-by-case basis. Filling activities on waterways having an average annual flow of less than 5 cubic feet per second will generally be considered under the Nation-wide permit concept. Individual permits will be required for filling activities on waterways where the average annual flow is greater than 5 cubic feet per second.

MROPD-M

15 September 1982

Mr. David Darby

Water Withdrawals

8 The withdrawal of water from a Corps project would require the described Section 404 and 10 permits and also an easement for access across Corps lands. Water withdrawal and conveyance facilities designed to carry municipal water as identified on page 106 would further require a water service contract from the Corps.

Coal Slurry Facilities

9 The document makes no mention of coal slurry facilities on pages 41 through 47. The FEIS should provide rationale for omission of coal slurry facilities or give thorough treatment of coal slurry operations. Potential beneficial impacts particular to coal slurry operations could include energy delivery to remote users without large transmission losses and without large aerial power lines; reduced local social, economic, and environmental impacts; and incidental delivery of water for municipal or other domestic uses. Potential adverse impacts particular to coal slurry operations would include spills and the need for much greater volumes of water, which may conflict with other water uses.

Recreation

10 Both Lake Sakakawea and Fort Peck Lake are below optimum visitor utilization. The extensive shorelines of these two projects afford ample opportunity to provide facilities for increased visitation. A marginal increase in seasonal park rangers would be required. However, the major impact would be for cost-sharing funds from both federal and local agencies to provide new recreation facilities. While some wildlife would be displaced by the development and use of recreation facilities, the major land management problem would probably occur from off-road vehicular use of project lands.

Sincerely,

ARVID L. THOMSEN
Chief, Planning Division

2

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION EIGHT
555 ZANG STREET, BOX 25246
DENVER, COLORADO 80225

September 17, 1982

IN REPLY REFER TO
HEP-08

U.S. Department of the Interior
Bureau of Land Management
Project Manager, Fort Union Coal Project
Mr. David Darby
222 North 32nd Street
P.O. Box 30157
Billings, MT 59107

Dear Mr. Darby:

Thank you for the opportunity to review your Draft Environmental Impact Statement for the Fort Union Coal Region. Our Washington Office has requested us to provide the review of this document since we are closely involved with the geographic area.

11 On page 94, the document states that 2000 AADT (Average Annual Daily Traffic) is the capacity for a two-lane rural road. Under ideal conditions this is a true statement; however, many of the roads in rural Montana and North Dakota are constructed to less than ideal conditions. Additionally, average operating speeds are reduced when conditions approach one-half of capacity (i.e., 1000 AADT-ideal conditions). Since many of the sections of road listed in the DEIS's alternatives approach and exceed full capacity and almost all sections are projected to exceed one-half capacity, this indicates more study should be performed.

12 We would suggest that this document be reviewed by both the Montana Highway Department and the North Dakota Highway Department for their analyses of the traffic situation and general comments.

Sincerely,

Howard O. Jacobsen

for Fred Mempel

721 South 6 Avenue
Bozeman, MT 59715
406-587-1767
September 23, 1982

David Darby, Project Manager
Fort Union Project
Bureau of Land Management
222 North 32 Street
P.O. Box 30157
Billings, MT 59107

Dear Mr. Darby:

This comment is prompted by the Draft Environmental Impact Statement for the Fort Union Coal Region, U.S. Department of the Interior, Bureau of Land Management, July 1982.

13 This suggestion is dwarfed by the many major considerations addressed in the impact statement, but it could be of importance to some individuals. Proposed out-of-pit haul roads located outside tract boundaries do not appear to follow section or property lines. It would be better if they did, rather than bisecting land farmed as a unit.

Sincerely,

Jean A. Roll

OPTIONAL FORM NO. 10
JULY 1973 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

TO : Bureau of Land Management, Billings, MT
Attn: Lloyd Emmons

DATE: September 28, 1982

FROM : Field Supervisor, Ecological Services, USFWS, Billings, MT

SUBJECT: Review of Air Quality Information, Supplemental to the Fort Union Coal Region Draft Environmental Impact Statement (EC 82/23)

We have reviewed the subject document and believe the potential impacts from the proposed actions on fish and wildlife habitats within Montana are adequately described.

John H. Ward

cc:RO(RD), FWS, Denver, CO
Director, MDFWP, Helena, MT
FWS, OEC, Washington, DC
ES Supervisor, Bismarck, ND

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United States Department of the Interior

MINERALS MANAGEMENT SERVICE
RESTON, VA. 22091

In Reply Refer To:
MMS-Mail Stop 650

27 SEP 1982

Memorandum

To: David Darby, Project Manager
Fort Union Project
Bureau of Land Management
Billings, Montana

From: Acting Associate Director, Onshore Minerals Operations

Subject: Review of Draft Environmental Impact Statement, Fort Union Coal Region

The Minerals Management Service has reviewed the subject draft environmental impact statement (DEIS) both at headquarters and in the field. We find that the report adequately presents the coal resources of the area and the environmental consequences for each of the alternatives presented.

14 However, we feel that appendix A, entitled "Federal Laws Affecting Coal Development and Energy Conversion," should address the Mineral Leasing Act, the Federal Coal Leasing Act Amendments, the Federal Land Policy and Management Act, and the Surface Mining Control and Reclamation Act, among others.

Thank you for the opportunity to review this DEIS.

Andrew V. Bailey

Andrew V. Bailey

BEFORE THE

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

In the Matter of:)
) TRANSCRIPT OF
PUBLIC HEARING CONCERNING THE)
FORT UNION ENVIRONMENTAL) PROCEEDINGS
IMPACT STATEMENT.)

Tuesday, September 28, 1982
7:30 p.m.
Civic Center
Beulah, North Dakota

APPEARANCES:

AUGUST KELLER, Hearing Officer

RAUCH SHORTHAND REPORTING
BOX Y-913, STAR ROUTE 230
WOLF POINT, MONTANA 59201
406-392-5299

INDEX

RAUCH SHORTHAND REPORTING
BOX Y-913, STAR ROUTE 230
WOLF POINT, MONTANA 59201
406-392-5299

PROCEEDINGS

MR. KELLER: I think we can get started, folks. I think we will get started.

I would like to just say good evening to all of you. My name is August Keller. I am Governor Olson's representative on the Fort Union Regional Coal Team.

The coal team has been busy with reviewing the proposed leasing targets and this evening's meeting or this evening's hearing is one step in a very long process outlined by the Department of the Interior to ultimately lease coal in the Fort Union Region.

I guess it's important to point out that the hearing this evening is a hearing to take testimony on the Fort Union Coal Team's Environmental Impact Statement which has been developed and the six leasing alternatives that have been identified by the Fort Union Coal Team for the Fort Union.

There is a couple of housekeeping announcements that I would like to make with respect to how things are to be handled this evening. First of all, this is a formal hearing to take testimony from any interested party, both written and oral testimony, on the issue. The primary issue is the Environmental Impact Statement which has been developed and the leasing alternatives which have been outlined in the Draft Environmental Impact Statement.

We asked as you came in that you fill out a card

indicating as to--indicating whether or not you will be offering oral testimony or offering written testimony. We will be using those cards and I would like to have them put into the order in which they were filled out so that we will allow the testimony to be offered in that sequence.

We have also indicated that we wanted a limitation on the oral testimony of a ten-minute duration. If you are--if you have a prepared statement and it requires much more than ten minutes to read we would like to--as long as you have a prepared statement and as long as you are going to file the prepared statement we would like to have you highlight that prepared statement in your oral comments rather than--than present the entire paper orally.

The meeting is designed to take testimony. It is not a debate forum. We will simply take your oral and written testimony.

The testimony will be recorded in the Federal Register and your word or your ideas will be presented to the proper authorities through that vehicle, but the--the--the meeting this evening is not designed to debate the issues as such.

Okay. One other point I guess I need to make before I turn the rostrum over is the fact that there will be another hearing that the Fort Union or the BLM is sponsoring on this same topic. It will be held tomorrow evening in Glendive.

Okay. The first person that we have to offer testimony tonight is Mr. John P. Christiano with the National Park Service.

MR. CHRISTIANO: I am John Christiano, Chief of Permit Review and Technical Support Branch, Air Quality Division, National Park Service.

I originally scheduled this visit to Beulah in order to appear at the State of North Dakota permit hearing on Basin Electric's proposed Antelope Valley Station Unit No. 3 at the high school here tomorrow night. At that permit hearing I will present the September 15, 1982 determination by the federal land manager to Basin Electric's proposed new facility as well as five other proposed new facilities whose permits are currently the subject of state hearings, will not adversely affect Theodore Roosevelt National Park or the wilderness portion of Lostwood National Wildlife Refuge, both Class I areas under the Clean Air Act.

In the Department of the Interior, the assistant secretary for Fish and Wildlife and Parks, Mr. G. Ray Arnett (sic), exercises the Secretary's authority as federal land manager for National Park Service and U. S. Fish and Wildlife service areas. I directed the National Park Service's technical review on which the assistant secretary's determination of no adverse impact was based. I would like to present the assistant secretary's determination with its supporting docu-

mentation for the record tonight.

MR. KELLER: Thank you.

MR. CHRISTIANO: When the Bureau of Land Management released the air quality supplement to its Draft EIS on coal leasing and development in the Fort Union Basin, questions were raised as to whether or not BLM's analysis was consistent with the assistant secretary's determination of no adverse impact.

When we learned that BLM had scheduled a hearing on the Fort Union Coal Draft EIS in Beulah on the night before the state's permit hearing for Basin Electric, I was asked to come to Beulah a day early in order to attend tonight's hearing.

My remarks tonight have a limited purpose: To address the relationship between the air quality discussion and BLM's Draft EIS and the National Park Service's air quality analysis in the determination of no adverse impact on Theodore Roosevelt National Park and the wilderness portions of the Lostwood National Wildlife Refuge.

I will explain in my testimony tonight BLM's air quality discussion in the Draft EIS is not inconsistent with the National Park Service's determination of no adverse impact from the proposed facilities now seeking state permits.

15 The apparent difference in the agency's conclusions merely reflects the differences in the purpose, scope and subject matter of the two studies.

At the outset then it is important to understand that

BLM and NPS analyses were not designed for the same purpose. Very simply stated, the BLM document is a planning document intended to be used for leasing decisions whereas the NPS analysis is source-specific and is used for permitting decisions.

More specifically, the National Park Service performed a source-specific determination under the Clean Air Act and the NPS Organic Act based on modeling of emissions from the existing major sources and predicted emissions from the six proposed facilities currently under state permit review.

15 The NPS examined the six proposed facilities and found no adverse impact on the Class I areas.

The Bureau of Land Management, on the other hand, performed a broad environmental review under NEPA on the potential impacts on air quality of regional coal leasing and related development based on modeling of emissions from predicted--from existing facilities plus predicted emissions from currently-proposed facilities plus potential emissions from foreseeable future facilities.

The Bureau of Land Management analyzed these facilities and found the potential for air quality impacts on the park. Given the different purposes, scope and subject matter of the two studies, their conclusions are not inconsistent.

The National Park Service is confident that the six new facilities that are currently seeking permits to construct from

the state will not have an adverse impact on the park or the refuge wilderness. These facilities are Basin Electric Power Cooperative's proposed 500 megawatt unit expansion to the Antelope Valley Electric Generating Station, Warren Petroleum's proposed expansion of a natural gas processing facility, Nokota Company's proposed coal-to-methanol plant, Minnesota Power and Light's proposed 500 megawatt electric generating station, Amoco Production Company's proposed natural gas processing facility and Phillips Petroleum Company's proposed natural gas processing facility.

As to any future facilities, however, such as those other facilities included in BLM's Draft Air Quality Analysis, National Park Service cannot say at this time whether these future facilities will have an adverse impact on the park without comprehensive study and review of the particular proposed sources and their predicted emissions.

The Clean Air Act provides the opportunity for this study and review in the new source review permitting process. Section 165(D) of the act protects the air quality-related values including visibility in Class I air quality areas like Theodore Roosevelt National Park. Under this section before any major emitting facility may obtain a permit to begin construction the National Park Service must examine the impacts on the park. If the assistant secretary determines that a future facility will have an adverse impact on the park that facility

would not be granted a certification of no adverse impact.

No major facility that has applied for a permit to date has the potential to impact the park adversely and no major facility that could potentially impact the park adversely will be able to obtain a permit in the future without a variance from the governor or the president.

As a second and final point tonight, I would like to say a word about what constitutes an, quote, "adverse impact" under the Clean Air Act. BLM's Draft EIS notes that coal leasing development may trigger potentially significant adverse visual impacts. Whether and to what degree visibility will be impaired by a proposed source is an essential part of the National Park Service's review under Section 165(D).

In accordance with the definition of adverse impact established by the Environmental Protection Agency and the

16 National Park Service, this review includes not only intensity of the predicted visibility impairment, which BLM has done, but also the duration, frequency and time of the impairment.

If BLM applied the established definition of adverse, its discussions on potential impacts would have been better focused.

Environmental Protection Agency defines an adverse impact on visibility as visibility impairment which interferes with the management, protection, preservation or enjoyment of the visitor's visual experience of the park.

The regulations clearly make a distinction between visibility impairment which is defined as any humanly perceptible change, which both BLM and the Park Service find can occur from increased emissions, and adverse impact which is defined as visibility impairment which occurs to such an extent or with such intensity, duration or frequency as to interfere with the preservation of the area or with the visitor's visual enjoyment of the area.

16 The National Park Service adds that any impact on the park outside of visibility or predicted visibility is adverse if it diminishes the park's national significance, impairs the structure and functioning of its ecosystems or impairs the quality of the visitor experience. Thus, an impact on visibility is not necessarily significant or adverse just because it is perceptible by an observer.

We suggest that BLM include these factors in their air quality analysis for the Final EIS. The determination of whether any visibility impairment from future proposed sources will be adverse is, of course, one made by the assistant secretary for Fish and Wildlife and Parks in Section 165 in the new source review process.

The National Park Service is now reviewing BLM's Draft EIS and the supplemental air quality report and will submit more-detailed comments before the end of the extended comment period.

MR. KELLER: Thank you. A couple of other announcements in between. One is that we do have a court recorder that is taking your testimony down, and I think that one other thing. If there are questions that are raised we do have the BLM staff here and I guess I just want to make the point that I am not the resident expert on all of BLM coal leasing program, but we do have an extensive BLM staff here that will be of assistance if we--if we do have a problem.

The next card or the next person asking to offer testimony is named Jerry Perdaems, Stark County Impact Association.

MR. PERDAEMS: My name is Jerry Perdaems. I farm and ranch in Western Stark County and speak this evening on behalf of the Stark County Impact Association.

The Stark County Impact Association is an organization that's dedicated to the wise use of our mineral resources and the preservation of our agricultural economy and lifestyle.

We have examined the Fort Union Draft EIS and will concentrate our comments on the Zenith Coal Tract in Western Stark County. In our opinion, the Zenith Tract should be omitted from consideration for leasing in 1983, '85 or at any future date. 17

We feel that the EIS strongly supports some of our concerns about the negative impacts that will occur if the Zenith Tract is developed. Because of the impacts, the Fort

Union Coal Team ranked the Zenith Tract last out of seventeen tracts ranked in the EIS. Despite this low ranking, the Zenith Tract is included in three out of the six alternatives, giving it, we feel, a significant chance of being leased, and we have not forgotten that the Interior Department has doubled the amount of coal that the Regional Coal Team suggested be offered in the Fort Union Region. 17

One of our concerns is that the impact of mining on ground and surface waters in that area. The Zenith Tract is situated so that it could greatly affect the water supply of Dickinson. On Page 106 of the Draft EIS states that if the Zenith Tract is mined the water in Lake Patterson will drop below water quality standards and that the quantity of water in the lake may also be affected.

In addition, shallow ground-water sources up to two miles around the perimeter of the mine site may be destroyed amounting to approximately sixty square miles outside of the tract itself. This could quite possibly destroy the public well systems of both Belfield and South Heart as well as some of the privately-owned wells in the area. 18

Although coal companies are required by law to replace wells destroyed by strip mining, those people outside of the mining area who have lost their wells have had some trouble proving in court that the well loss was due to strip mining. Even if the well is replaced, the new well will

probably reach down to the Fox Hills Formation at significant cost, approximately $20,000, but this being a one-time obligation with no regard to the costs of maintaining these wells or drilling new ones as they are needed. 18

Another area that we feel is of concern is the air quality. Dickinson, South Heart and Belfield will all be affected by dust from surface mining and pollutants from coal conversion plants. South Heart and Dickinson are directly downwind of the mine site with South Heart only a mile from the eastern boundary. The western line edge of the tract would border the City of Belfield. 19

The EIS indicates that the national standard for suspended particulates will be violated for all the leasing alternatives. In addition, the amount of sulfur dioxide and ozone pollution will increase. Research has shown conclusively that these pollutants are dangerous to human health as well as agricultural production. In fact, studies indicate that substantial crop losses are already occurring in North Dakota from air pollution.

The Stark County Impact Association also has some social and economic concerns in the event of a large energy project on the Zenith Tract. Small towns in the area will have massive influxes of workers and their families, putting a tremendous strain on the social fabric and financial resources of the communities. Experience with coal development in Mercer 20

County has taught us that the impact money has been too little and too late to adequately cope with these problems. Local property owners usually end up bearing a large share of the fiscal impacts. 20

Agriculture has been the mainstay of our economy since this land was homesteaded. We have some fine, productive farm land in Western North Dakota, including that in and around the Zenith Tract area. Hopefully our great grandchildren can make the same statement.

Thank you.

MR. KELLER: Thank you.

The next person to testify is Martin Schock of the North Dakota State Department of Health.

MR. SCHOCK: Thank you.

I would like to take a brief moment to preface my prepared remarks by noting that the North Dakota State Department of Health has for a great many of years enjoyed what it regards to be a very fine working relationship with the Bureau of Land Management staff in Dickinson and Billings principally. The Department of Health regards that relationship to have been productive in many areas enhancing the department's programs and certainly hopes that it has been of benefit to the Bureau of Land Management as well.

What I would like to do is read to you portions of a letter which has been given here for the hearing consideration

that has been prepared by the staff of the Department of Health.

"The North Dakota State Department of Health has reviewed the July, 1982 Draft Environmental Impact Statement and the September" of "1982 Air Quality Information Supplemental document. We have a number of comments following this review which are herewith presented at" this hearing.

21 The first I would like to read is as follows: "We understand the rationale of end-use considerations of coal leasing actions in preparation of environmental impact statements such as this. The leasing of coal is no guarantee that a mine-mouth facility will be allowed to use the coal. A site-specific review of a proposed project such as a power plant, gasification plant or a liquification plant would have to be performed and evaluated by the respective permitting agencies in North Dakota and Montana as well as" the--"as well as be acceptable to the federal land manager in prevention of significant deterioration Class I areas and the U. S. Environmental Protection Agency. This end-use analysis would take place before any of the new facilities, as outlined in this Draft, would be considered for a permit to construct or operate. This is discussed briefly in the draft document. However, it should be reiterated perhaps in the supplemental air quality summary. Based upon present regulatory requirements, there is a limit as to how much energy development will be allowed or where it will be allowed."

The second comment I chose to read from our prepared response is as follows: "The modeling study plan"--I quote from the supplement on Page S-11. "The modeling study plan was cooperatively developed by the BLM, its contractor, the sub-contractors, the North Dakota State Department of Health, the Montana Air Quality Bureau and the U. S. Environmental Protection Agency, Region VIII."

The Department's comment follows: "The Department recognizes that it did cooperate with" the "Bureau of Land Management during 1981 with preliminary modeling of air quality using steady-state short-range models. However, this statement 22 indicates that the North Dakota State Department of Health approved the study's work plan of using the mesoscale model for determining the air quality impacts of the project facilities. To the contrary, the Department was never involved with developing of such a plan. Department staff were involved in two meetings: The first introduced the contractor to Department staff" in "April" of "1982 and the second provided the preliminary draft analysis for staff review" in "June" of "1982. The Department was not offered any opportunity to comment on the BLM bid solicitation documents before contractors were selected on proposed air quality modeling methodologies or on the final draft before it was published," as we review it tonight.

23 The next selected comment is as follows: "It is

23 unclear in this Draft as to what sources were included in the regional modeling analysis. On Page 6 of the Draft released in July, it was stated that up to 13" in "Alternate 6 new facilities would be analyzed in addition to the existing background. Only two of the six pending permit applications, Basin Electric and the Nokota Company, are included in the new facilities being analyzed by the Environmental Impact Statement. However, in Appendix F," which is titled "'Emissions Sources for 1975 Baseline,' the Basin Electric Unit 3 and Nokota facilities are included. Were the emissions from these facilities counted twice? It would appear from review of Appendix E," which is "pollutant emissions of the respective alternatives, that this is not the case. However, this needs clarification."

Next point. The supplement on Page S-14 is quoted as follows: "MESOPUFF was adapted by the North Dakota State Department of Health for regional assessments in North Dakota and was approved in a recent North Dakota State Department of Health guideline for long-range air quality analysis," and a 24 citation is given.

Our response is "The Bureau of Land Management impact assessment is not subject to many of those constraints involved in the choice of models and their application in a PSD new source review under state and EPA regulations. However, it remains desirable to use models recognized by air quality

regulatory agencies as models acceptable and appropriate for air quality impact assessments.

24 "BLM and the contractor were notified that the use of mesoscale air quality model for air quality impact assessments must be approved by EPA each time it is used for a PSD impact assessment. Although the" Department "has selected this model for mesoscale transport distances, this application requires EPA approval in each PSD new source review."

Next quote is from Page S-15. "It is generally accepted that impact predictions by these models are accurate to within a factor of two."

I would interject a comment. This is in reference to both the mesoscale model and the annual climatological model CDMQC that was used.

25 "A consensus of modeling experts regarding the performance accuracy of mesoscale models does not exist. The Department modified the MESOPUFF model in such a way that it better approximates the atmospheric dispersion of the short-range models adopted by EPA. Some recent studies suggest that" under "the predictions of these--that the predictions of these short-range models, under some conditions, are better than a factor of two."

26 Our next comment refers to the discussion of worst case in the supplement. We have in our written testimony five quotes, four, correction, four paragraphs that we have quoted

from the supplement. I will read some of them.

"Earlier modeling studies conducted by the North Dakota State Department of Health indicated that meteorological conditions on July 3rd through the 6th, 1964, result in consumption of the twenty-four-hour maximum increment for sulfur dioxide" in the "Theodore Roosevelt National Park, North Unit, by existing PSD," was inserted, "sources and those for which PSD permit applications are pending." Taken from Page S-14.

The report goes on to note on the same page and is quoted as follows: "It is noted that other meteorological episodes not considered in this study could lead to consumption by existing and pending PSD sources of PSD Class I increments for sulfur dioxide at other Class I areas in the Fort Union Coal Region. As an example, the North Dakota State Department of Health found that 1977 baseline sources can result in the consumption of the twenty-four-hour average SO_2 increment at the Theodore Roosevelt National Park, South Unit, during the January 10th through 12th, 1964, episode."

Finally, another quote, in order to maintain the context of our response, taken from Page S-16: "Therefore, while the modeling studies represent worst-case impacts for Theodore Roosevelt National Park," the "North" is inserted, "and may represent worst-case impacts for other areas in the region, such as Indian reservations and wildlife refuges, the latter assumption is less than certain."

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Our response concerns the following: "The Department contends that the worst-case scenarios were not evaluated, with good likelihood, for the all Class I areas except Theodore Roosevelt National Park, North, and that it appears less than certain that the July 3rd through 6th case is, in fact, worst case for this area," for these reasons: "First. As noted above, the report correctly indicates that the Department found that worst-case scenarios differed for each of the north and south units of the park. This occurs through the geographical relationship of the sources under consideration with the Class I area.

"Second. Given the sources used by the Department, which were the existing permitted PSD sources and the proposed PSD sources," which are "not the 1975 baseline sources" of the report, "the Department found that worst-case impacts occurred under unique meteorological episodes for each of the Class I areas evaluated.

"Each of the proposed project alternatives, 2 through 6, consist of different source scenarios, therefore, having different geographical dispersement of source locations.

"Fourth. The report does not provide adequate evidence as justification in support of a conclusion that the worst-case meteorological scenario would likely continue to be the July 3rd through 5th case for each of the alternatives 2 through 6."

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Next point. The Draft on Page S-16 reads as follows: "Regional air quality was modeled with emissions representing each of the two non-project baselines, 1975 and 1997 sources. The resulting pollutant concentrations for each alternative were added to those for the baselines at each point in the modeling grid covering the geographical area. The estimated background concentration for each pollutant and averaging period was then added uniformly to these concentration fields for evaluation relative to the ambient air quality standards. Page S-16."

Our concern follows: "The estimated ambient pollutant background concentrations are provided in Table 3-2 on Page S-15. The estimates were based on years generally after 1975," quoted on "Page S-15. Therefore, it appears that the pre-existing or background concentrations would," in fact, "represent the actual 1975 baseline source contribution to ambient air quality.

"Thus, it seems appropriate to conclude that, given the procedure quoted above substantiated by Tables 3-3 and 3-4, the 1975 baseline emission sources impact upon air quality is included twice. Further, it seems reasonable to conclude that the maximum total shown in both tables would be an overestimate of the projected air quality, again given the quote above and the presence of both background and 1975 baseline source concentrations in these tables."

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And, finally, what we perhaps regard to be one of the most significant, and here in support of our response we quote five paragraphs from the supplement. I will for the benefit of brevity just read our first one, which is taken from Page S-5, and it's quoted as follows: "In most of the Fort Union Region, the annual precipitation pH has been at least until very recently in the range of 6 to 6.5 or less acidic than expected for precipitation with atmospheric carbon dioxide. However, current data being obtained in North Dakota indicate that precipitation is more acidic than could be caused by carbon dioxide."

Our response is lengthy. I will read it all. It follows. "In 1980, a Department staffer devoted seven months of researching literature which described the precipitation, collection, sample handling and storage, laboratory preparation of samples and instrument analysis of samples. This extensive review of procedures produced the basic protocol now used by the Department in the precipitation chemistry project.

"At the conclusion of that effort, a review of the procedures used during 1977 season was conducted. It was determined that the integrity of several aspects of these 1977 procedures was unacceptable and that the pH data of precipitation provided during the 1977 season was not valid. It is important to note that this conclusion was prepared before the 1981 season.

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"It is further noteworthy that since that time in 1980 the Department has not reproduced or referenced the 1977 data in any of its reports.

"Because the 1977 data of the Department has been determined to be inaccurate, that data cannot be compared to 1981 data for the purpose of inferring, implying or otherwise concluding that a trend is occurring in North Dakota. Thus, the implications of an increasing precipitation acidity are not valid. The second annual report of the Department for its present precipitation chemistry project notes that the project has not collected samples for a sufficient period of time to begin to examine the possibility of a trend.

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"Recently, many investigators have begun to challenge the previous contention that precipitation in equilibrium with standard atmospheric gases should have a pH of 5.65. These investigators have been suggesting that precipitation in an uncontaminated atmosphere may," in fact, "have a pH value near 5.

"Certainly, sulfur and nitrogen oxide emissions were occurring during the 1981 season. However, the chemical analysis of those 1981 samples does not provide any ability to differentiate the influence of those emissions on the rainfall pH" measured that summer. "The chemical analysis provided a basis to suggest by theoretical considerations that increased atmospheric loading of these contaminants should result in a

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decreased rainfall pH. However, the study could not, and did not, attempt to relate the required amount of increased loading to produce a discernable change in rainfall pH."

Concluding then, "Since the Department of Health received the Air Quality Information Supplemental document on September 21, 1982, and the Air Quality and Climate Technical Report document on September 24th the Department reserves the right to submit additional comments" before "October 19th."

Thank you.

MR. KELLER: Thank you.

I guess I would like to just make one additional comment. Mr. Schock's comments, oral comments, were abbreviated or abbreviated his written report, so it is important to note that the oral comments did not completely cover the written comments that are being submitted, which is exactly what I asked people to do at the beginning of the hearing, but I want everyone here to know and allow the record to show that the written comments have been submitted.

The next person to offer testimony is Walter Ruzzo of Utah International, Incorporated.

MR. RUZZO: My name is Walter Ruzzo. I am an engineer in the Environmental Department of Utah International, Incorporated, a diversified mining company with coal mines in the Western United States.

We have a substantial interest in the Carrison Tract

in North Dakota and are vitally interested in the leasing of coal in the Fort Union Region.

We would like to make three points regarding the Bureau of Land Management's Environmental Impact Statement on federal coal leasing in the Fort Union Region.

First, we would like to commend the Bureau of Land Management for their fine effort in the EIS of identifying all the major areas of concern in assessing the regional impacts associated with coal development.

Second, we support the leasing alternative 3, the preferred leasing alternative selected by the Fort Union Regional Coal Team, which calls for the leasing of 832.8 million tons of federal coal for new production.

Finally, on the issue of wet land reclamation, Utah International recognizes the importance of wet lands as wildlife habitat but strongly believes that not only can wet lands be successfully reclaimed but that mining and reclamation provide an opportunity for enhancement of the wet land resources.

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I would like to briefly discuss each of these points. My first point reflects our belief that the Bureau of Land Management has put forth a fine effort in preparing the Environmental Impact Statement. Our staff has reviewed the document and has found that the major technical areas of concern have been adequately identified, addressed and analyzed in a thorough and objective manner.

The Bureau of Land Management has done a commendable job in the difficult task of assessing regional impacts associated with the development of coal within the Fort Union Region.

We will be submitting more-detailed written comments on the Environmental Impact Statement on a later date.

Secondly, we support the preferred leasing alternative of 832.8 million tons of federal coal in 1984, 1983, which includes the leasing of federal coal on the Carrison Tract. This level of leasing will insure free competition and allow the marketplace to determine allocation and development of the coal resources of the region.

The proposed leasing target will provide for the creation of a pool of coal reserves prior to development that will allow for strategic planning by industry. This reserve pool will give industry more flexibility in meeting an unexpected increase in demand, a sudden shortfall in supply or a shift in inter-regional demand.

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My final point refers to an issue that is of concern to us in the development of the Carrison Tract, wet land reclamation. It is our strong belief that wet lands can be successfully reclaimed and that mining and reclamation provide an opportunity for wet land enhancement. Many wet land ecologists agree that if a similar contour and surface retention capability is restored natural succession will restore

wet land in fifteen to twenty years. This practice could be accelerated with the proper use of reclamation procedures such as topsoiling, seeding, transplanting and fertilization. Wet land enhancement can be achieved by combining a series of small scattered wet lands in the course of reclamation to form one large deeper wet land. This would provide approved wildlife habitat for deep-water ducks such as redheads and canvasbacks which are declining in the area while at the same time increasing the efficiency of farming operations by reducing the number of small scattered wet lands which interfere with efficient farming methods. Thus, it is clearly within our technical capability not only to reclaim wet lands but to address regional wet land concerns and to enhance wet lands and optimize them to benefit certain featured wildlife species.

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We want to thank you for the opportunity to express our views this evening.

MR. KELLER: Thank you.

The next person to offer testimony is Mr. Randolph Nodland representing the Dakota Resources Council.

MR. NODLAND: My name is Randolph Nodland, and I farm and ranch in Dunn County, and I am past chairman and board member of the Dakota Resource Council and speak on their behalf.

I am also a member of the Dunn County United Plainsmen, a group of fifty farmers and ranchers living in and around the area of Nokota's proposed methanol plant.

I am appearing here tonight to voice my concern about the coal leasing policies of the Department of Interior. It seems that that policy is only to deliver a great amount of coal into the hands of industry without considering whether that coal is really needed or whether the Department of Interior is to receive fair market value when it is leased.

The recent coal sale in Wyoming is a good example, I believe, because the coal market is soft. The public was cheated out of fair market value for the coal leased. Of thirteen tracts offered for sale two received no bids, eight received one bid and only three had competitive bidding. I think there is a potential for that same fiasco to happen in the Fort Union lease sale.

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There currently is about sixteen and a half million tons of coal already leased that is available for industry to develop, and it seems incredible that the level of new leasing that has been proposed is even being considered by anyone.

In the past we have been told by the Bureau of Land Management that not much of the sixteen and a half million tons is feasible to mine. I would like to point to a 1981 Office of Technology assessment, this document here, report done for the Congress of the United States. The OTA study points out that only five percent of the leased federal reserves appear undevelopable. Uncertainty surrounds around fifteen to twenty percent because of factors such as transportation, the level of

synfuels development and other circumstances.

The OTA study goes on to state that annual growth rates for electricity have dropped substantially and may stay at a range of 2.5 percent to 4.1 percent annually assuming an economic upturn in the next few years.

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Finally, the study says that ninety-eight percent of this sixteen and a half million tons is located in two coal regions in the Northern Great Plains and seven coal regions in the Rocky Mountain coal province. I think that this certainly points out that the West is doing its fair share.

The OTA report concludes that synthetic fuels cannot compete in the marketplace with gas and oil and would have to depend on Government incentives and according to the report there will be very little synfuels production in the next ten years.

If development were to take place in North Dakota at the level that the BLM projects one can only conclude that the leasing of federal coal would bring a new series of requests to the Health Department for waivers to air quality laws. There is plenty of evidence that acid rainfall is becoming a serious problem in our country because of the burning of fossil fuels. Canada is becoming more and more upset with the United States because of the light reaction on this problem, and I would like to state that I don't think that the impact study addresses the alternatives to the leasing of the federal coal very adequately.

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Just today, and I would like to point this out, just today on the newscast at noon, the media reported on an ethanol plant that was going to be built at Walhalla, North Dakota, and this plant was getting a $20,000,000 loan, and I assume that's the cost of the plant, and this plant would produce 10,000,000 gallons of ethanol, grain alcohol, per year, and I did a little calculating on this, and a plant this size for the cost of a synfuels plant, roughly $3,000,000, you could build 150 plants, ethanol plants, in North Dakota, and each plant--this plant, according to the news media, would provide fifty-seven jobs.

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Well, these 150 plants would provide, excuse me, 8,550 jobs whereas roughly a synfuels plant is providing about 3200 jobs or something like that during construction and much less during operation, and these 150 plants would provide something like a hundred and three thousand barrels of ethanol per day, and this contrasts, I think, to the plant at Dunn Center that's being proposed, I think, something like 83,000 barrels per day of methanol and 3,000 gallons of some gasoline blend of some sort, so I--I would like to point that out.

Think of this in North Dakota if there were to be 150 plants this size, I don't know if that's feasible or not, but the jobs that would be provided and the benefits to the farmers in the state--almost every farmer in the state would benefit from the grain sales to these plants, so, as I said, I don't think that--that the alternatives to leasing have been con-

sidered very well, and one other thing which concerns me very much, as Mr. Perdaems has pointed out, is the ground-water problem when mining occurs. This is going to affect me in Dunn County, and I would like to reiterate his comments on this because to the general public when you hear these comments that, well, the coal company has to supply you with a new source of water. Well, this is just a start, because it does nothing for you in the future.

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The cost of these wells down to the Fox Hills, as Mr. Perdaems stated, twenty, $30,000, you know, is something that most farmers could not bear. Once the coal company is gone and you have to drill new wells and maintain these wells, with the economic conditions, why, this would break a lot of people, and I think that there has to be some provision in the law to take care of that.

If my son wants to farm or my grandson, well, he is going to have to come up with this kind of money to drill new wells to provide water, and this isn't fair.

This one-time obligation that the coal companies have sounds good to the general public but it's--it's just a start, so that's all of my comments tonight, and I thank you for--

MR. KELLER: You are welcome.

I would like to ask those people that offered comments if you would like to leave your written statements up here we would like to have those statements if you would like to have

them left here.

I guess that concludes all of the statements that I had an indication were going to be made. I would like to at this time ask if there is anyone in the room that came here with the intention of offering a formal oral comment at this hearing.

While we wait for a response on that, I would like to also mention that the deadline for written comments on the EIS is October 8th with the exception of the air quality dimensions, which has a deadline of October 19th for written formal comments to be presented so that they can also be recorded in the record.

Okay. With that is there anyone in the room that would like to offer formal oral comment at this time? Okay. Not seeing anyone, I guess I would like to just say thank you to all of you for showing the interest. I do know that the coal team is vitally concerned about the concerns expressed by everyone. They will certainly be very carefully considered by the coal team, and I am sure that the comments are going to be reviewed and considered not only by the coal team but the Department of the Interior at the time that the final leasing levels are established.

With that I again would just like to say thank you for coming. Have a safe trip home.

(The hearing was then concluded at the hour of

8:30 p.m., this 28th day of September, 1982.)

This is to certify that the attached proceedings before the United States Department of the Interior, Bureau of Land Management, in the matter of a public hearing concerning the Fort Union Environmental Impact Statement, at the Civic Center, Beulah, North Dakota, on Tuesday, September 28, 1982, were held as herein appears and that this is the original transcript thereof for the file of the Department or Commission.

Certified Shorthand Reporter
and
Registered Professional Reporter

TESTIMONY OF JOHN CHRISTIANO
AIR QUALITY DIVISION, NATIONAL PARK SERVICE
PUBLIC HEARING ON DRAFT EIS ON FORT UNION COAL REGION
BEULAH, NORTH DAKOTA

SEPTEMBER 28, 1982

I am John Chriatiano, Chief of the Permit Review and Technical Support Branch, Air Quality Division, National Park Service.

I originally scheduled this visit to Beulah in order to appear at the State of North Dakota permit hearing on Basin Electric's proposed Antelope Valley Station Unit #3 at the high school here tomorrow night. At that permit hearing, I will present the September 15, 1982, determinstion by the Federal Land Manager that Basin Electric's proposed new facility, as well as five other proposed new facilities whose permits are currently the subject of State hearings, will not adversely affect Theodore Roosevelt National Park or the wilderness portion of Lostwood National Wildlife Refuge, both class I areas under the Clean Air Act. In the Department of the Interior, the Assistant Secretary for Fish and Wildlife and Parks, Mr. G. Ray Arnett, excercises the Secretary's authority as Federal Land Manager for National Park Service and U.S. Fish and Wildlife areas. I directed the National Park Service's technical review on which the Assistant Secretary's determination of no adverse impact was based. I would like to present the Assistant Secretary's determination, with its supporting documentations, for the record tonight.

When the Bureau of Land Management released the air quality supplement to its Draft EIS on coal leasing and development in the Fort Union Basin, questions were raised in the press as to whether or not BLM's analysis was consistent with the Assistant Secretary's determination of no adverse impact. When we learned that BLM had scheduled a hearing on the Fort Union Coal Draft EIS in

Beulah on the night before the State's permit hearing for Basin Electric, I was asked to come to Beulah a day early in order to attend tonight's hearing.

My remarks tonight have a limited purpose: to address the relationship between the air quality discussion in BLM's draft EIS, and the National Park Service's air quality analysis in the determination of no adverse impact on Theodore Roosevelt National Park and the wilderness portions of Lostwood National Wildlife Refuge.

35 As I will explain in my testimony tonight, BLM's air quality discussion in the draft EIS is not inconsistent with the National Park Service's determination of no adverse impact from the proposed facilities now seeking State permits. The apparent difference in the agencies' conclusions merely reflect the differences in the purpose, scope, and subject matter of the two studies.

At the outset, then, it is important to understand that the BLM and NPS analyses were not designed for the same purposes. Very simply stated, the BLM document is a planning document intended to be used for leasing decisions, whereas the NPS analysis is source-specific and is used for permitting decisions. More specifically, the National Park Service performed a source-specific determination under the Clean Air Act and the NPS Organic Act based on modeling of emissions from existing major sources and predicted emissions from the six proposed facilities currently under State permit review. The NPS examined the six proposed facilities and found no adverse impact on the class 1 areas.

The Bureau of Land Management, on the other hand, performed a broad environmental review under NEPA of the potential impacts on air quality of regional coal leasing and related development based on modeling of emissions from existing

35 facilities, plus predicted emissions from currently proposed facilities, plus potential emissions from foreseeable future facilities. The Bureau of Land Management analyzed these future facilities and found the potential for air quality impacts on the park.

Given the different purposes, scope, and subject matter of the two studies, their conclusions are not inconsistent.

The National Park Service is confident that the six new facilities that are currently seeking "permits to construct" from the State will not have an adverse impact on the park and the refuge wilderness.

These facilities are:

1. Basin Electric Power Cooperative's proposed 500 MW unit expansion to the Antelope Valley Electric Generating Station;
2. Warren Petroleum's proposed expansion of a natural gas processing facility;
3. Nokota Company's proposed coal-to-methanol plant;
4. Minnesota Power and Light's proposed 500 MW electric generating station;
5. Amoco Production Company's proposed natural gas processing facility, and
6. Phillips Petroleum Company's proposed natural gas processing facility.

As to any future facilities, however, such as those other facilities included in BLM's draft air quality analysis, the National Park Service cannot say at this time whether these future facilities will have an adverse impact on the

park without comprehensive study and review of the particular proposed facilities and their predicted emissions.

The Clean Air Act provides the opportunity for this study and review in the new source permitting process. Section 165(d) of the Act protects the air quality related values, including visibility, of class I air quality areas like Theodore Roosevelt National Park.

Under this section, before any major emitting facility may obtain a permit to begin construction, the National Park Service must examine the impacts on the park. If the Assistant Secretary determines that a future facility will have an adverse impact on the park, that facility would not be granted a certification of no adverse impact.

No major facility that has applied for a permit to date has the potential to impact the park adversely, and no major facility that could potentially impact the park adversely will be able to obtain a permit in the future without a variance from the Governor or the President.

36 As a second and final point tonight, I would like to say a word about what constitutes an "adverse impact" under the Clean Air Act. BLM's draft EIS notes that coal leasing and development may trigger "potentially significant adverse visual impacts." Whether, and to what degree, visibility will be impaired by a proposed source is an essential part of the National Park Service's review under section 165(d). In accordance with the definitions of "adverse impact" established by the Environmental Protection Agency and the National Park Service, this review includes not only the intensity of the predicted visibility impairment, which BLM has done, but also the duration, frequency, and time of the

impairment. Had BLM applied the established definitions of "adverse," its discussion of potential impacts would have been better focused.

The Environmental Protection Agency defines an "adverse impact on visibility" as "visibility impairment which interferes with the management, protection, preservation, or enjoyment of the visitor's visual experience" of the park. The regulations clearly make a distinction between "visibility impairment", which is defined as any humanly perceptible change, which both BLM and NPS find can occur from increased emissions, and "adverse impact", which is defined as visibility impairment which occurs to such an extent or with such intensity, duration or frequency as to interfere with the preservation of the area or with the visitor's visual enjoyment of the area.

36 The National Park Service adds that any impact on the park is adverse if it (1) diminishes the park's national significance, (2) impairs the structure and functioning of its ecosystems, or (3) impairs the quality of the visitor experience. Thus, an impact on visibility is not necessarily significant or adverse just because it is perceptible by an observer.

We suggest that BLM include these factors in its air quality analysis for the final EIS. The determination of whether any visibility impairment from future proposed sources will be adverse is, of course, one made by the Assistant Secretary for Fish and Wildlife and Parks in the section 165 new source review process.

The National Park Service is now reviewing BLM's draft EIS and the supplemental air quality report, and will submit more detailed comments before the end of the extended comment period.

TESTIMONY OF THE STARK COUNTY IMPACT ASSOCIATION
FORT UNION EIS HEARING, BEULAH, ND
SEPTEMBER 28, 1982

My name is Jerry Perdaems, I farm and ranch in western Stark County and speak today on behalf of the Stark County Imapact Association.

The Stark County Impact Association is an organization dedicated to the wise use of our mineral resources, and the preservation of our agricultural economy and lifestyle.

We have examined the Fort Union Draft EIS and will concentrate our comments on the Zenith Coal Tract in Western Stark County. In our opinion, the Zenith tract should be omitted from consideration for leasing in 1983, 1985 or at any future date.

37 We feel that the EIS strongly supports some of our concerns about the negative impacts that will occur if the Zenith Tract is developed. Because of the impacts, the Fort Union Coal Team ranked the Zenith Tract last out of 17 tracks ranked in the EIS. Despite this low ranking, the Zenith Tract is included in 3 out of the 6 alternatives, giving it a significant chance of being leased. We have not forgotten that Interior doubled the amount of coal that the Regional Coal Team suggested be offered in the Fort Union Region.

38 One of our concerns is the impact of mining on ground and surface waters. The Zenith Tract is situated so that it could greatly affect the water supply of the City of Dickinson. Page 106 of the Draft EIS states that if the Zenith Tract is mined the water in Lake Patterson will drop below water quality

standards, and that the quantity of water in the Lake may also be degraded.

In addition, shallow gound water sources up to 2 miles around the perimeter of the mine site will be destroyed--amounting to 50 square miles outside of the tract itself. This could quite possibly destroy the public well systems of Belfield and South Heart, as well as many privately owned wells.

38 Although coal companies are required by law to replace wells destroyed by stripmining, those people outside of the mining area who have lost their wells have had trouble proving in court that the well loss was due to stripmining. Even if the well is replaced, the new well will probably reach down to the Fox Hills formation at a cost of approximately $20,000. But this is a one time obligation with no regard to the costs of maintaing these wells or drilling new ones as they are needed.

Another area of concern is air quality. Dickinson, South Heart, and Belfield will all be affected by dust from surface mining and pollutants from coal conversion plants. South Heart and Dickinson are directly down wind of the mine site with South Heart only a mile from the eastern boundary. The western edge of the mine tract borders the City of Belfield.

39 The EIS indicates the the national standard for suspended particulates will be violated for all the leasing alternatives. In addition, the amount of sulfur dioxide and ozone pollution will increase. Research has shown conclusively that these pollutants are dangerous to human health as well as agricultural production. In fact, studies indicate that substantial crop losses

39 are already occurring in North Dakota from air pollution.

The Stark County Impact Association also has some social and economic concerns in the event of a large energy project on the Zenith Tract. Small towns in the area will have massive

40 influxes of workers and their families, putting a tremendous strain on the social fabric and financial resources of the communities. Experience with coal development in Mercer County has taught us that impact money has been too little and too late to adequately cope with these problems. Local property owners usually end up bearing the brunt of the fiscal impacts.

Agriculture has been the mainstay of our economy since this land was homesteaded. We have some fine, productive farm land in western North Dakota, including that in and around the Zenith Tract. Hopefully our great grandchildren can make the same statement.

Thankyou.

NORTH DAKOTA
STATE DEPARTMENT OF HEALTH
State Capitol
Bismarck, North Dakota 58505

M. A. K. Lommen, M.D., R.P.E.
State Health Officer

Environmental Health Section
Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58501

September 27, 1982

Bureau of Land Management
P.O. Box 30157
Billings, Montana 59107

ATTENTION: Mr. Lloyd Emmons
Acting Project Manager

Gentlemen:

The North Dakota State Department of Health has reviewed the July 1982, Draft Environmental Impact Statement and the September 1982, Air Quality Information Supplemental document. We have a number of comments following this review which are herewith presented at the Beulah, North Dakota Hearing.

41 1. We understand the rationale of end-use considerations of coal leasing actions in preparation of environmental impact statements such as this. The leasing of coal is no guarantee that a mine mouth facility will be allowed to use the coal. A site-specific review of a proposed project such as a power plant, gasification plant, or a liquification plant would have to be performed and evaluated by the respective permitting agencies in North Dakota and Montana, as well as be acceptable to the Federal Land Manager in Prevention of Significant Deterioration (PSD) Class I areas and the U.S. Environmental Protection Agency. This end-use analysis would take place before any of the new facilities, as outlined in this draft, would be considered for a permit to construct or operate. This is discussed briefly in the draft document, however, it should be reiterated perhaps in the supplemental air quality summary. Based upon present regulatory requirements, there is a limit as to how much energy development will be allowed, or where it will be allowed.

Environmental Enforcement 701-224-2334
Environmental Engineering 701-224-2348
Environmental Sanitation 701-224-2382
Environmental Waste Management & Research 701-224-2366
Water Supply & Pollution Control 701-224-2354

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2. It should also be pointed out that the generic facilities studied in this draft are assumed to have emission control devices and subsequently emission rates similar to the types of facilities which have been permitted to date. This does not take into account technological advancements which could take place over the next 10 to 15 years before a specific type plant is operated at a specific lease. In that sense, this draft may be over-estimating the air quality impacts, however, for the purpose of estimating future possible impacts, we feel it is better to be on the conservative side.

43

3. Draft

"The modeling study plan was cooperatively developed by the BLM, its contractor, the subcontractors, the North Dakota State Department of Health, the Montana Air Quality Bureau, and the U.S. Environmental Protection Agency, Region VIII." (Page S-11)

Comment

The Department recognizes that it did cooperate with BLM during 1981 with preliminary modeling of air quality using steady-state short range models. However, this statement indicates that the North Dakota State Department of Health approved the study's work plan of using the mesoscale model for determining the air quality impacts of the project facilities. To the contrary, the Department was never involved with developing of such a plan. Department staff were involved in two meetings: the first introduced the contractor to Department staff (April 1982) and the second provided the preliminary draft analysis for staff review (June 1982). The Department was not offered any opportunity to comment on the BLM bid solicitation documents before contractors were selected, on proposed air quality modeling methodologies, or on the final draft before it was published.

44

4. Draft

"---, and it is important to note that precipitation in the Fort Union region often fluctuates greatly from the annual mean (see Figure 2-2)." (Page S-1)

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Comment

The figure shown indicates a drought index, which is not a fluctuation of annual precipitation, but rather a measure of soil moisture balance which includes precipitation.

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5. Draft

"Two non-project emission inventories were compiled (Appendix F)." (Page S-12)

"Regional air quality was modeled with emissions representing each of the two non-project baselines (1975 and 1997 sources)." (Page S-16)

Response

It is apparent that the title of the table for Appendix F is misleading and that the inventory shown includes both of the two non-project baselines. The table does not distinguish those sources which were in each of the baselines.

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6. It is unclear in this draft as to what sources were included in the regional modeling analysis. On Page 6 of the draft released in July, it was stated that up to 13 (Alternate 6) new facilities would be analyzed, in addition to the existing background. Only two of the six pending permit applications, Basin Electric and the Nokota Company, are included in the new facilities being analyzed by the Environmental Impact Statement. However, in Appendix F "Emissions Sources for 1975 Baseline", the Basin Electric Unit 3 and Nokota facilities are included. Were the emissions from these facilities counted twice? It would appear from review of Appendix E (pollutant emissions of the respective alternatives) that this is not the case, however, this needs clarification.

47

7. Draft

"MESOPUFF was adapted by the North Dakota State Department of Health for regional asessments in North Dakota and was approved in a recent North Dakota State Department of Health guideline for long-range air quality analysis (NDSDH, 1982)." (Page S-14)

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Response

The BLM impact assessment is not subject to many of those constraints involved in the choice of models and their application in a PSD new source review under state and EPA regulations. However, it remains desirable to use models recognized by air quality regulatory agencies as models acceptable and appropriate for air quality impact assessments.

BLM and the contractor were notified that the use of mesoscale air quality model for air quality impact assessments must be approved by EPA each time it is used for a PSD impact assessment. Although the NDSDH has selected this model for mesoscale transport distances, this application requires EPA approval in each PSD new source review.

48

8. Draft

"The NDSDH version of MESOPUFF was modified by the ECOS study team to model both point and area source emissions and to simultaneously predict impacts for the four modeled pollutants throughout the study region." (Page S-14)

Response

The Department is not aware of any peer review of these modifications by recognized experts in air quality modeling. The analysis of short-term air quality impacts and the results indicated in the report appear, in part, to be dependent upon these modifications. A completed peer review would have provided the experts' perception of the technical applicability of these modifications.

49

9. Draft

"It is generally accepted that impact predictions by these models are accurate to within a factor of two." (Page S-15)

Response

A consensus of modeling experts regarding the performance accuracy of mesoscale models does not

49

exist. The Department modified the MESOPUFF model in such a way that it better approximates the atmospheric dispersion of the short-range models adopted by EPA. Some recent studies suggest that the predictions of these short-range models, under some conditions, are better than a factor of two.

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10. Draft

"There are only two locations (Bismarck and Glasgow) within the entire study region for which upper level meteorological data are available, ---." (Page S-16)

Response

At the request of the contractor, the Department provided him with a copy of the meteorological data base the Department was utilizing for application of the mesoscale model. That data base included data from 4 other rawinsonde stations, one of which is Rapid City. The Department believes that the Rapid City location would have improved the reliability and accuracy of the results of the analysis for BLM. The report does not list reasons why data for the Rapid City station was not used.

51

11. Draft

"Earlier modeling studies conducted by the NDSDH indicated that meteorological conditions on July 3-6, 1964, result in consumption of the 24-hour maximum increment for sulfur dioxide TRNP-North unit by existing (PSD) sources and those for which PSD permit applications are pending." (Page S-14, underlined words added)

"It is noted that other meteorological episodes not considered in this study could lead to consumption by existing and pending PSD sources of PSD Class I increments for sulfur dioxide at other Class I areas in the Fort Union Coal Region. As an example, the NDSDH found that 1977 baseline sources can result in the consumption of the 24-hour average SO_2 increment at the TRNP-South unit during the January 10-12, 1964, episode. (Page S-14)

"Only worst-case situations were evaluated, because these are the most important in determining acceptable project limits." (Page S-15)

"The worst-case scenarios evaluated are themselves also subject to limitation." (Page S-15)

"Therefore, while the modeling studies represent worst-case impacts for TRNP (-North), and may represent worst-case impacts for other areas in the region, such as Indian reservations and wildlife refuges, the latter assumption is less than certain." (Page S-16, underlined words added)

Response

The Department contends that the worst-case scenarios were not evaluated, with good likelihood, for the all Class I areas except TRNP-N, and that it appears less than certain that the July 3-6 case is, in fact, worst-case for this area.

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1. As noted above, the report correctly indicates that the Department found that worst-case scenarios differed for each of the North and South units of the TRNP. This occurs through the geographical relationship of the sources under consideration with the Class I area.

2. Given the sources used by the Department, which were the existing permitted PSD sources and the proposed PSD sources (not the 1975 baseline sources), the Department found that worst-case impacts occurred under unique meteorological episodes for each of the Class I areas evaluated.

3. Each of the proposed project alternatives, 2 through 6, consist of different source scenarios, therefore, having different geographical dispersement of source locations.

4. The report does not provide adequate evidence as justification in support of a conclusion that the worst-case meteorological scenario would likely continue to be the July 3-5 case for each of the alternatives 2 through 6.

12. Draft

"Regional air quality was modeled with emissions representing each of the two non-project baselines (1975 and 1997 sources). ---The resulting pollutant concentrations for each alternative were added to those for the baselines at each point in the modeling grid covering the geographical area. The estimated background concentration for each pollutant and averaging period was then added uniformly to these concentration fields for evaluation relative to the AAQS." (Page S-16)

Response

52

The estimated ambient pollutant background concentrations are provided in Table 3-2 on Page S-15. The estimates were based on years generally after 1975 (Page S-15). Therefore, it appears that the pre-existing or background concentrations would represent the actual 1975 baseline source contribution to ambient air quality.

Thus, it seems appropriate to conclude that, given the procedure quoted above substantiated by Tables 3-3 and 3-4, the 1975 baseline emission sources impact upon air quality is included twice. Further, it seems reasonable to conclude that the maximum total shown in both tables would be an over-estimate of the projected air quality, again given the quote above and the presence of both background and 1975 baseline source concentrations in these tables.

13. State and federal regulations for the prevention of significant deterioration provide that the short-term (3- and 24-hour) increments can be exceeded only once per year. The increments are given in Table 2-3 on Pages S-9 of the EIS document. We note, that the document does not indicate that the one exceedance of the short-term increments is allowed by these regulations.

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14. As a point of information, the Department completed a second phase of its research of emissions of trace elements from a coal-fired power plant in 1979. Apparently, the authors of the Fort Union Coal Region EIS were unaware of a report which expands upon the work and conclusions of the first phase effort.

54

15. Draft

"In most of the Fort Union Region, the annual precipitation pH average has been, at least until very recently, in the range of 6.0-6.5, or less acidic than expected for precipitation with atmospheric carbon dioxide. However, current data being obtained in North Dakota indicate that precipitation is more acidic than could be caused by carbon dioxide --." (Page S-5)

"The pH of pure water at equilibrium with atmospheric carbon dioxide at standard pressure is generally accepted to be 5.65." (Page S-36)

"Analysis of samples collected between April and December 1981 indicates mean pH values somewhat lower than had previously been estimated or extrapolated based on data from locations outside the state (NDSDH, 1982)." (Page S-36)

"However, if the mean pH values as measured are indicative of a trend toward increasing acidity, the buffering capacity (of surface waters) will eventually be consumed and pH levels may decrease to the point that would indicate serious effects." (Page S-36, underlined words added)

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"However, based on the studies by the North Dakota State Department of Health, which indicate widespread incidence of significantly acid precipitation, and in view of terrestrial and aquatic systems which could not withstand long-term trends of increased acidity, impacts in the region are indeed possible, ---." (Page S-37)

Response

In 1980, a Department staffer devoted seven months of researching literature which described the precipitation, collection, sample handling and storage, laboratory preparation of samples, and instrument analysis of samples. This extensive review of procedures produced the basic protocol now used by the Department in the precipitation chemistry project.

At the conclusion of that effort, a review of the procedures used during 1977 season was conducted.

It was determined that the integrity of several aspects of these 1977 procedures was unacceptable and that the pH data of precipitation provided during the 1977 season was not valid. It is important to note that this conclusion was prepared before the 1981 season.

It is further noteworthy that, since that time in 1980, the Department has not reproduced or referenced the 1977 data in any of its reports.

Because the 1977 data of the Department has been determined to be inaccurate, that data cannot be compared to 1981 data for the purpose of inferring, implying, or otherwise concluding that a trend is occurring in North Dakota. Thus, the implications of an increasing precipitation acidity are not valid. The second annual report of the Department for its present precipitation chemistry project notes that the project has not collected samples for a sufficient period of time to begin to examine the possibility of a trend.

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Recently, many investigators have begun to challenge the previous contention that precipitation in equilibrium with standard atmospheric gases should have a pH of 5.65. These investigators have been suggesting that precipitation in an uncontaminated atmosphere may have a pH value near 5.

Certainly, sulfur and nitrogen oxide emissions were occurring during the 1981 season. However, the chemical analysis of those 1981 samples does not provide any ability to differentiate the influence of those emissions on the rainfall pH. The chemical analysis provided a basis to suggest by theoretical considerations that increased atmospheric loading of these contaminants should result in a decreased rainfall pH. However, the study could not, and did not, attempt to relate the required amount of increased loading to produce a discernable change in rainfall pH.

Since the Department of Health received the Air Quality Information Supplemental Document on September 21, 1982, and the Air Quality and Climate Technical Report Document on September 24, the Department reserves the right to submit additional comments by October 19, 1982.

Sincerely,

Gene A. Christianson, Chief
Environmental Health Section

GAC:ff

STATEMENT OF RANDOLPH NODLAND, DUNN CENTER, ND
FORT UNION DRAFT ENVIRONMENTAL IMPACT STATEMENT HEARINGS
BEULAH, ND, SEPTEMBER 28, 1982.

MY NAME IS RANDOLPH NODLAND. I FARM AND RANCH IN DUNN COUNTY. I AM PAST CHAIRMAN AND A BOARD MEMBER OF THE DAKOTA RESOURCE COUNCIL, AND SPEAK ON THEIR BEHALF.

56 I AM APPEARING HERE TONIGHT TO VOICE MY CONCERN ABOUT THE COAL LEASING POLICIES OF THE DEPARTMENT OF INTERIOR. IT SEEMS THAT POLICY IS ONLY TO DELIVER A GREAT AMOUNT OF COAL INTO THE HANDS OF INDUSTRY WITHOUT CONSIDERING WHETHER THAT COAL IS REALLY NEEDED, OR WHETHER THE DEPARTMENT OF INTERIOR IS TO RECEIVE FAIR MARKET VALUE WHEN IT IS LEASED.

THE RECENT COAL LEASE SALE IN WYOMING IS A GOOD EXAMPLE, I BELIEVE. BECAUSE THE COAL MARKET IS SOFT, THE PUBLIC WAS CHEATED OUT OF FAIR MARKET VALUE FOR THE COAL LEASED. OF THE 13 TRACTS OFFERED FOR SALE, 2 RECEIVED NO BIDS, 8 RECEIVED 1 BID, AND ONLY 3 HAD COMPETITIVE BIDDING. I THINK THERE IS POTENTIAL FOR THE SAME FIASCO TO HAPPEN IN A FORT UNION LEASE SALE.

THERE CURRENTLY IS ABOUT 16.5 BILLION TONS OF COAL ALREADY LEASED THAT IS AVAILABLE FOR INDUSTRY TO DEVELOP, AND IT SEEMS INCREDIBLE THAT THE LEVEL OF NEW LEASING THAT HAS BEEN PROPOSED IS EVEN BEING CONSIDERED BY ANYONE.

IN THE PAST WE HAVE BEEN TOLD BY THE BUREAU OF LAND MANAGEMENT THAT NOT MUCH OF THIS 16.5 BILLION TONS IS FEASIBLE TO MINE. I WOULD LIKE TO POINT TO A 1981 OFFICE OF TECHNOLOGY ASSESSMENT REPORT DONE FOR THE CONGRESS OF THE UNITED STATES. THE OTA STUDY POINTS OUT THAT ONLY 5% OF THE LEASED FEDERAL RESERVES APPEAR UNDEVELOPABLE. UNCERTAINTY SURROUNDS ANOTHER 15 TO 20% BECAUSE OF FACTORS SUCH AS TRANSPORTATION, THE 56 LEVEL OF SYNFUELS DEVELOPMENT, AND OTHER CIRCUMSTANCES.

THE OTA STUDY GOES ON TO STATE THAT ANNUAL GROWTH RATES FOR ELECTRICITY HAVE DROPPED SUBSTANTIALLY AND MAY STAY AT A RANGE OF 2.5% TO 4.1% ANNUALLY, ASSUMING AN ECONOMIC UPTURN IN THE NEXT FEW YEARS. FINALLY, THE STUDY SAYS THAT 98% OF THIS 16.5 BILLION TONS IS LOCATED IN TWO COAL REGIONS IN THE NORTHERN GREAT PLAINS AND SEVEN COAL REGIONS IN THE ROCKY MOUNTAIN COAL PROVINCE. I THINK THIS CERTAINLY POINTS OUT THAT THE WEST IS DOING ITS FAIR SHARE.

THE OTA REPORT CONCLUDES THAT SYNTHETIC FUELS CANNOT COMPETE IN THE MARKET PLACE WITH GAS AND OIL, AND WOULD HAVE TO DEPEND ON GOVERNMENT INCENTIVES. ACCORDING TO THE REPORT THERE WILL BE VERY LITTLE SYNFUELS PRODUCTION IN THE NEXT 10 YEARS.

57 IF DEVELOPMENT WERE TO TAKE PLACE IN NORTH DAKOTA AT THE LEVEL THAT THE BLM PROJECTS, ONE CAN ONLY CONCLUDE THAT THE LEASING OF FEDERAL COAL WOULD BRING A NEW SERIES OF REQUESTS TO THE HEALTH DEPARTMENT FOR WAIVERS TO AIR QUALITY LAWS. THERE IS PLENTY OF EVIDENCE THAT ACID RAINFALL IS BECOMING A SERIOUS

PROBLEM IN OUR COUNTRY BECAUSE OF THE BURNING OF FOSSIL FUELS. CANADA IS BECOMING MORE AND MORE UPSET WITH THE UNITED STATES BECAUSE OF THE LACK OF ACTION ON THIS PROBLEM.

Statement of Albert L. Boeckel, Beulah, ND
Fort Union Draft Environmental Impact Statement Hearings
September 29, 1982

I, Albert Boeckel, Beulah, ND, do object to further leasing of Federal coal on the grounds of coal mining's effect on agriculture--the nation's number one industry in terms of importance to all, and in terms of being the biggest economic industry in America. (Kiplinger Agricultural Letter, July 10, 1981)

My specific objection at this time involves water used in agriculture. The Environmental Impact Statement does not give a full accounting of the problems involved in replacing groundwater losses due to strip-mining, and minimizes the costs and hardships encountered by farmers. I take exception to to the Impact Statements conclusions on page 105, from which I quote. "Degradation of the water quality in the near surface aquifers will render these aquifers almost useless, and this condition will continue indefinitely....However, any wells that are established prior to mining and are degraded by mining activity 58 will have to be replaced by the mining company. This will apply to wells inside and outside of the tract or mine area."

The first sentence is certainly true, but the rest is purely a naive assumption that neglects the realities of dealing with coal companies. I support my view with my own experience.

I live one to two miles northeast from where coal was extracted and stockpiled in a low spot by Basin Electric Cooperative.

I live on a large hill. Basin employees warned about water veins being opened against the large hillside on which my farm and wells are located. I was told of water draining continuously from the hill, and that wells on the hill could go dry.

North American Coal Corporation had my wells certified and I asked on employee informally about this. He said it should not affet my water supply. As time went on, however, I noticed that my livestock water pump was running excessively. Thinking I had a hole in the pipes or had worn leathers in the cylinder, I let it go until I had time to pull the pump out. That is when I found no problem with the hardware, but called North American Coal, as they had instructed me to if I had water problems. They checked my livestock well and certified it as going dry.

58

We farmers and ranchers are constantly being told by industry, "Don't worry, sir. If we cause your wells to go dry, we a liable and therefore have to make you a new well." So I wanted to know from North American Coal what they were going to do. Well, their promise still holds. If they are liable for drying wells, they will make new ones or provide alternate sources of water some other way. There is a catch however: if they are liable. The company turned me down, then sent me to the Public Service Commission, who told me on the telephone that I have to prove liability. How can I do that? The only thing I have is a history of the well, not legal credentials. My mother is still around, aged seventy, who attests that it never faltered, not even in the dry thirties. I cannot recall us even running low on water. The 1978 certification could not even lower the flow one inch with my pump. Three years

later, by the spring of 1981, it was going dry.

North American Coal contends that my water problem is not connected to Basin-North American activities in Antelope Valley. Their official conclusion is that it went dry because of the lack of snowfall in the winters of 1979-1980, and 1980-81. Yet, the last time North American Coal checked it in the spring of 1982, I had had lots of snow and rain. Still the well had worsened. My house well is also going dry, even though we use very little water in the house. I had to haul water for my livestock last winter from January, 1982 on through the snow and cold. I dread this coming winter. I have never had such unpleasantry in my life as I had in raising cattle after the dams and dugouts froze over.

58

So, you can see that repairing damages caused by strip-mining are more involved than the Environmental Impact Statement suggests. I am against further leasing of Federal Coal until our agricultural needs are more secure.

BEFORE THE

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

In the Matter of:	)	
	)	TRANSCRIPT OF
PUBLIC HEARING CONCERNING THE FORT UNION ENVIRONMENTAL IMPACT STATEMENT.	)	PROCEEDINGS

Wednesday, September 29, 1982
7:30 p.m.
Community Room
Dawson County Courthouse
Glendive, Montana

APPEARANCES:

RALPH DRIEAR, Hearing Officer

INDEX

RAUCH SHORTHAND REPORTING
BOX 1-612, STAR ROUTE 230
WOLF POINT, MONTANA 59201
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PROCEEDINGS

MR. DRIEAR: We will get started this evening.

I would like to welcome you all to this public hearing on the Fort Union Coal Regional Leasing EIS. My name is Ralph Driear. I represent the governor's office, State of Montana, and the State of Montana's participation in the Fort Union Regional Coal Team.

The hearing this evening is to receive public testimony, both written and oral, on the Draft Fort Union Coal Leasing EIS and also to receive comments on the Supplemental Air Quality Statement which was just recently released by the Bureau of Land Management. The public comments will be accepted on the Draft EIS until the 8th of October and the comments on the Air Quality Supplement will be accepted until the 19th of October.

I want to say a little bit about the format this evening. I want to remind you that this is not set up to be a question-and-answer session nor is it a debate session.

We have a number of oral comments this evening, quite a few, and I would ask that because of this that those people making oral comments please try to limit their statements to about ten minutes in length. If you have rather lengthy testimony please try to summarize the testimony for us.

We have a court recorder here this evening that will be taking down all of the oral testimony and transcription

copies of all of the testimony delivered this evening will be available in the future. The comments received this evening will be considered by the Bureau of Land Management staff in preparing their Final EIS for the Fort Union Coal Leasing Program. The comments, I am sure, will also be of interest to and be considered by the Fort Union Regional Coal Leasing Team.

The testimony this evening--I am going to be calling names from the cards that have been filled in and have these people step to the rostrum, and I would ask that you please state your name and who you are representing for the record when you do make a written statement.

At this time I would like to formally open the record and begin calling speakers. Myron Schultz, please.

MR. SCHULTZ: My name is Myron Schultz. I am President of Dawson Resource Council, and I am also owner and partner of a grain farm near Bloomfield, Montana.

59 In the introductory letter in the Draft EIS by State Director Penfold, he says, "Testimony received through written or oral comments at the formal hearings will be considered during the preparation of the Final Environmental Impact Statement. No decision on the proposed lease sale will be made until the Final Environmental Impact Statement is completed."

On Page 73 it states, "The Regional Coal Team was open-minded on the issue regarding their final recommendation to the Secretary of the Interior scheduled for January, 1983,

and was still looking for public input prior to that time."

Based on the above quotes, which are just two of the many quotes I could have stated, it is apparent that public input is to have direct influence on final decisions made in regards to the Fort Union Region coal.

59 Has this, in fact, been the case? When you review the public input given at the formal hearings held on May 6th and October 21, 1981, and compare that to the Draft EIS it is very apparent that the Secretary of the Interior's desires take priority over the majority public input in the decisions that are made and proposed.

Then we were told very emphatically at the Wibaux, Montana, public meeting on September 1st that the Draft EIS is a forewarning of what is to come, so it becomes very evident that we are being subjected to nothing but double-talk, and it causes us to seriously wonder if the die is cast, the final decision already made and the public meetings and formal hearings are held merely to comply with federal regulations, so I challenge the regional coal team to listen very carefully to the public comments made, especially by the people who live in the areas proposed for coal mining and related development, and then base their final decisions and recommendations on these comments.

60 On Page 1 of the introduction in the Draft EIS it states, "This means that coal will he leased to actively serve

national energy requirements and not just as a response to individual companies." This being the case, where is the in-depth, accurate, detailed, comprehensive study as to the national energy requirements and, therefore, need for the coal leasing target? I have asked to see and research this study of need numerous times and at several other hearings and have yet to

60 receive it. I seriously wonder if one exists.

When we look at our present glut of coal, the number of present federal coal leases not developed in any way, the Powder River Basin coal leased below fair market value, the number of nuclear power plants that have gone belly up, a message comes out very clear. That message--there is no substantial need for leasing and developing coal in the Fort Union Region.

As I studied the Draft EIS, I was appalled at the many confusing, inaccurate and incomplete statements and charts. On Page 63 is this statement, "There would not be any additional agricultural disturbance--merely alternative areas being

61 mined that would otherwise be bypassed in ongoing mining operations."

Further on Page 114 for alternative 3 we read, "These

62 losses would not significantly reduce regional agricultural production, nor would the agriculture support economy be affected. Within the overall structure of an agricultural economy subjected to fluctuations in supply and demand, interest

rates and weather cycles, the regional impacts associated with energy development within the Fort Union tracts are miniscule."

Being directly involved in agriculture as a grain farmer for the past thirty years, I seriously question the validity of the above-quoted statements. To brush off the very great and far-reaching impacts on agriculture as being miniscule is totally absurd. **62**

Losing or destroying even one percent of the agricultural production of an area is very significant and no amount of compensation by energy development companies will offset this kind of loss. The energy compensation is a one-time, short-term situation while agricultural loss is a continuing long-term program--problem. Excuse me.

The Draft EIS addresses very inadequately the on-site impacts, but it completely ignores the off-site, off-tract impacts which are just as severe and destructive, or even more so, than the on-site impacts. The only compensation alternative is for the property owner to take the case to court. This alternative just does not solve the problem and it indicates an irresponsibility toward those suffering the off-site tracts. **63**

The confusing statements regarding reclamation makes the Draft EIS hardly credible as a basis for decision making. To quote from Page 41, "Post-mining land use would be the same as pre-mining use." To quote from Page 63, "Successful reclamation of wet lands, woody draws and native prairie is yet to **64**

be proved." And then to quote from Page 89, "Preliminary indication.....are that agricultural productivity of mined land can be restored." The above quotes indicate we have a long way to go in adequate reclamation. Therefore, it is not accurate or credible to make statements concerning the success of reclamation. **64**

There are many more inaccurate and confusing statements in the Draft EIS, but for sake of brevity I will suffice with the above. I would like to conclude by challenging the regional coal team and the others who will be responsible for the Final EIS to spend some time out in the areas of proposed activity and visit with the people who will be directly affected both on tract and off tract to get some accurate information rather than just assumptions and confusing statements. I would also challenge them to look very closely at the need for development before making decisions or recommendations.

I thank you. That's the end of my testimony, and I would like to read a very brief testimony for Robert and Norma Etzel from Savage, Montana. They could not be here tonight.

"We have mixed emotions about testifying at this hearing. We feel that the majority of the input from the public is either ignored or given very little consideration. There seems to be so many of these hearings and they do cut into valuable time.

"As to the effects of mining on air quality, it is **65**

only a matter of common sense. With the wind we have in this country, and disturbance of the sod will pollute the air, to say nothing about the plants burning the coal. Living in a southeasterly position of the existing Knift River Mine at Savage with our prevailing west winds has given us firsthand knowledge of what happens. Again, common sense will tell you what happens to coal dust in a wind. Could we turn into a black lung area if mining were done on a larger scale? **65**

"Another area of concern is water pollution and depletion. How can a natural spring be replaced or a water vein reactivated if disturbed? What will the residue from the synfuel plants do to the grazing and agricultural land? It is our understanding that cattle near plants will not feed on the grass. **66** **67**

"We believe development is essential when there is a definite need. Liken energy to money. When there is not as much, you tend to use it more wisely. At the present, many mines have cut back production due to lack of demand.

"To date, reclamation in areas has not proven up as much of the reclaimed land has not returned to prior usage. Weeds seem to thrive best in mined areas. **68**

"In granting permits for plants and mines, there should be a guarantee that energy will be produced. Consumers should not have to pick up the tab for projects which fail. Being in the business of farming, it would be nice if we could **69**

pass on the cost of producing crops whether we got anything or not. **69**

"We have seen the social impacts of the oil boom in the area. Things are now on the slow-down side and many native people are feeling the effects. The work forces will just move on and upset some other community. We read recently of the oil lease sale and are wondering if the huge coal lease sale proposed at such a time will result in the same give-away pricing. This may be a time when leasing less could be better. We remember of a leasing in our area in the Sixties on which there has been no development. **70**

"What are the priorities of mining companies? Profit would be our assumption. Our priority is a healthy place to live. We do not go begging to mining concerns for their money. We do the best we can with what we have. That is more than you can say for mining concerns. They are insistent on changing our environment by any means they can. Otherwise they would not always be working to change eminent domain laws to their advantage or constantly hounding landowners to sell after they have been told no.

"Couldn't we all consider doing with less in order to preserve our air quality, clean water, economic stability, food production and irreplaceable natural beauties and wonders?

"Thank you for your time."

And thank you.

MR. DRIEAR: Tom Breitbach.

MR. BREITBACH: I will furnish a copy afterwards.

My name is Tom Breitbach, and I live and make a living fourteen miles northwest of Circle, Montana.

As a member of the McCone Agricultural Protection Organization, I have been involved in studying the industrial development of coal since BN proposed the synfuels project in Western McCone County. Since the air quality information has just been released and not everyone has received a copy, much less had time to study it, I would ask that the public comment period on the EIS be extended for thirty days. **71**

MAPCO has requested throughout the leasing process that impacts to off-site agriculture be studied and inventoried. BLM has continually assured us that these off-site impacts would be addressed, and we have now progressed to the Environmental Impact Statement, and these off-site impacts still have not been analyzed. **72**

The costs of these impacts to agriculture have yet to be measured.

There is absolutely no need for additional federal coal leasing. There are already nearly 20,000,000,000 tons of leased federal coal most of which is not being developed. Coal mines which are in operation have reduced their production due to reduced demand. Of the thirteen tracts offered for lease in the last coal lease sale only two tracts received more than **73**

one bid, two received none at all, and that whole lease sale is presently under investigation by both Congress and the courts. **73**

Meanwhile, the Department of Interior has relaxed its diligent development requirements in order to prevent existing leases from being cancelled due to past over leasing and lack of demand. The one coal-fired generator still being planned for this state has been postponed at least until the mid-1990's. The nuclear generation plants under construction in the Pacific Northwest are being mothballed and utility customers must pay large rate increases for this mothballing.

Over thirty percent of the crude oil drilling rigs are setting idle. The inner-mountain power project planned for Utah is going to be cut in half because the power isn't needed. The synfuels industry is dying in its infancy.

There is no need for additional coal leasing beyond leasing maintenance tracts to keep existing mines in production. If BLM holds a lease sale, it will probably be a bigger failure than the Powder River lease sale just held.

Your studies are very inconsistent regarding the population forecast. For instance, for alternative No. 3, which includes the Circle West tract, the Draft EIS forecasts an increase for Circle of 275 people. The Air Quality Information Supplement forecasts an increase for McCone County of 53 people and the SSA for Circle West 2 forecasts an increase of 2,000 people. **74**

BLM continually stresses five factors which are necessary to mitigate some of the adverse economic or social impacts. One of these is accurate information. Only one of the forecasts, 53, 275 or 2,000, should be used for the analysis. Which one is right? And where is the forecast for population increases due to the proposed BN-BLM swap? **74**

At the BLM meeting in Circle on August 31st I asked some very specific questions concerning the population and fiscal impacts to Circle in the event of the construction of two synfuel plants. Although the economist was absent, I was assured my questions would be answered. Not having received any response by September 18th, I traveled to Miles City to speak with BLM personnel and was referred to Loren Cabe in Billings, who promised to check on the fiscal data before this hearing. I am still waiting for that information, and since I have not been corrected or called a liar I must assume that my calculations for the impacts on Circle are correct.

Tonight I was handed that reply.

If the proposed coal lease swap between Meridian Land and Mineral Company and the BLM goes through two synfuel plants will be constructed in McCone County. This EIS does not include facts and figures relating to two 85,000-barrel synfuel plants in Circle West. Were those social and fiscal impacts too great to even be included? **75**

Because this information was omitted, I used the

information for alternative 6, as it was very similar in size and number of facilities. This alternative shows Circle jumping from a base population of 1,000 to a peak population of 9,000. At the same time I estimated that there would be a fiscal deficient of over $22,000,000 for the period of 1987 through 2000. **75**

It's hard to believe that the regional coal team could possibly recommend a lease and swap which would result in this degree of social and fiscal impact. In an attempt to mitigate these rather large impacts, we would appreciate it if the coal team would consider requiring that leasees provide front-end monies.

Thank you.

MR. DRIEAR: For those of you that have written statements with you this evening we would appreciate it if you could leave them up here on the front table for us.

Greg Veit.

MR. VEIT: My name is Greg Veit. I am Vice-President of the Golden Valley Resource Council.

I wish to make a statement concerning air pollution resulting from the Government's leasing of coal to be used in energy plants. This is of interest to the Golden Valley Resource Council because the proposed Tenneco coal gasification plant is adjacent to our county. Excuse me. **76**

Use of coal to produce energy is the dirtiest method

now employed. Its ultimate toxicity has yet to be determined. The BLM itself has damned the use of coal not by any expressed opinion but by the facts their researchers have gathered in producing their environmental impact statements.

Congress sometime ago enacted a Clean Air Act and is now considering an equally good one which is intended to protect the people of the United States from the dangers of air pollution. By leasing coal at its preferred alternative the BLM is planning for and encouraging additional coal conversion plants which will break the air standards set by Congress. Expecting to get all the coal they need, three coal conversion companies are currently seeking waivers which undermine the Clean Air Act, creating a situation in which a Government agency, the BLM, is planning development which will oppose the will of Congress. Excuse me.

76

Proof of this is found in the Air Quality Supplement recently mailed out by the BLM. There we will find that for all six alternative leasing schedules the BLM studies show that the amount of sulfur dioxide in the air would exceed Class I standards. Total suspended particulates will exceed the annual maximum level allowed anywhere in North Dakota and Montana.

There are no visibility standards but the thresholds established by BLM would be exceeded in both units of the Theodore Roosevelt National Park.

There are also grave potential hazards the extent of

which are now unknown in the areas of organic compounds, trace metals, acid rain, radioactive elements and the effect of emissions on weather and climates. A BLM spokes--excuse me. A BLM spokesman has said that leasing will take place regardless of the findings. In view of these dangers, it is hoped that only enough coal will be leased to supply the needs of present plants and those under construction.

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A second area of concern to us in Golden Valley County is the economic impact of development of the South Wibaux-Beach tract. The impact statement underestimates the severity and duration of disruption to the community of Beach and the surrounding area should development occur.

In particular, we take exception to the projections of fiscal revenues as portrayed on Page A-18 of the statement. The graph projects an initial deficit, then a 1,000,000-per-year surplus beginning in 1992. Information that we have received from the Tenneco Company, from the North Dakota Legislative Council and from the North Dakota Energy Impact Office contradicts the findings of the BLM.

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At the August 2, 1982 Legislative Task Force meeting in Beach, the Tenneco representative said, and I quote from the minutes of that meeting, "It is likely that mining would not take place in North Dakota for about twenty years," unquote. A study by the Energy Impact Office states as long as the coal is mined only in Montana the communities will not receive coal

severance taxes, cannot borrow from the Coal Trust Fund and cannot receive assistance from the Coal Impact Fund. This leaves Beach with mitigation money from only two sources--front-end money from Tenneco and property taxes.

The fact is Tenneco has not pledged any mitigation funds nor have they ever given front-end money to any communities anywhere. This means that Beach is left with property taxes alone to pay for improved school facilities, additional teachers, new water and sewer facilities, improvements to county roads and city streets, maintenance equipment, community facilities, recreational facilities and equipment. It is inconceivable that Beach will have a 1,000,000-per-year surplus within three years of construction startup.

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Any reasonable accounting of the costs and benefits of development of the South Wibaux tract must conclude that the formidable impacts are not justified by the strip mining to produce high-priced synthetic gas.

Thank you.

MR. DRIEAR: Ms. Bud Stevenson.

MS. STEVENSON: I am Ms. Bud Stevenson, and I represent Bud and Doris Stevenson and the interests of my late parents, Charles and Viola Lease, all of Intake, Montana.

I would like to go on record as opposing further development of coal in Eastern Montana at least until there is found to be a need for it, not just to benefit big business and

the coal industries and for money of exporting it. We in Eastern Montana and the Dakotas have a way of life all our own, hard though it may be. Our per capita output of foodstuff is great. We produce the best wheat in the world plus other grain, sugar beets, cattle, hogs, sheep and many other things. Why should we permit the coal industry to take this and our clean air and our environment away from us?

There are many people outside of our community as well as in who consume our fine food products and benefit from it. The coal industry desires the prime farm land. The better the land the better they say. They claim to reclaim it by leveling it. At best that's not reclaiming. We have only about six inches of topsoil and very little water. It's not possible to get that six inches of topsoil back on top. True, they may get it to grow weeds, but who wants to eat weeds? We tried it in the dirty Thirties. Remember? It was endorsed by our Government. The home demonstration agent came into our home and showed us how to cook Russian thistles and to build furniture out of orange crates. Neither one were any good.

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After development giving jobs to our people? Not so. Others will be brought in along with scores of problems for us to solve with taxpayer money. We have seen the problems the oil industry brought to Richland County. The coal industry is much dirtier and in more ways than one.

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Think about these few things. Our land will be

destroyed. Our water will be ruined or destroyed. Our air will be polluted. Our social problems will be multiplied. Our way of life will be gone. There will be acid rain. There will be wildlife destruction and many more. Weigh all of this against a little money for a few. We don't need a lot of coal development. Let them finish up Appalachia and Indiana. Let them leave Montana alone. You can't forever keep taking land out of production and still expect to eat and to feed the world. You like to eat. What about your children and your children's children? We have a responsibility in that way, too.

Thank you.

MR. DRIEAR: Charles Yarger.

MR. YARGER: For the record, my name is Charlie Yarger. I farm and ranch about fifteen miles west of Circle with my wife and my family and my parents in that area that we have all--just about in the middle of that area we have all come to know and love as the Fort Union coal deposit. I would hate to count up the number of times that I have been to hearings, informational meetings, briefings and consultations concerning the Redwater MFP or the Fort Union EIS over the past several years. If I ever did I would probably ask myself what in the hell are you doing here again, Yarger?

I can spend one and a half hours reiterating all of my former testimony pointing out all of the inadequacies of your studies, the double standards you operate under, your

failure to respond to legitimate landowner concerns and all of your own rules and regulations that you have chosen to ignore. I could take all of my allotted time and say nothing but I told you so, but because this is the last opportunity we have to comment on the EIS there are a few more points that I would like to make. Don't get me wrong. I don't have any illusions that anything I say will make the slightest bit of difference to your boss on the Potomac. That is unless, of course, the Fort Union Regional Coal Team, citizens and the state governments of this area have the courage to say, Mr. Watt, we have had enough. What we say won't matter unless we expose the Fort Union EIS, the coal lease targets, the federal coal program, the new rule changes for what they really are.

The Secretary of Interior has sold us out and he makes no bones about it. The Secretary would do away with landowner rights. He would do away with due diligence. He would do away with the Fort Union Regional Coal Team and the rights of state government to have any decision in the development of the natural resources within our boundaries, and this is the new federalism that we are all supposed to be so in awe of. Fine example of managing the public's resources keeping in mind, of course, multiple use and sustained yield.

On the 6th of May I testified before the Fort Union Regional Coal Team in Miles City and warned of the possibility of over-leasing and the subsequent speculation that might occur.

I stated that if you made a logical reasonably-sized lease sale recommendation it would probably be ignored, and it was.

In October I once again testified stating the need for federal coal leasing was less now than it was in May. I also warned about the proposed changes in the coal program that would virtually eliminate the regional coal team. Since that time the Department of Interior has adopted new regulations which keep the regional coal teams from having any voice in the future coal lease sales which, of course, thereby eliminates the states.

Furthermore, the Department has adopted a new policy that will lease coal on the basis of what industry wants for reserves rather than how much is necessary to meet true energy needs.

In the beginning of the Fort Union EIS you discussed scoping. All of those areas of concern that need to be addressed--air quality, water quality, affect the facility wastes on ground water, agriculture, utility corridors, impact of communities, inflation, lifestyle changes--they have all been at least addressed or mentioned in general terms, but there are no conclusive results from any in-depth studies, nothing that can be proven. It's mentioned in scoping and for the most part that's as far as it goes.

The Fort Union EIS studied six different alternatives from alternative number one, leasing for maintenance tracts, to

alternative number six, leasing virtually every available ton of federal coal in the Fort Union coal in the Fort Union coal deposit. Considering our ability to correctly predict the actions of the Secretary of Interior up to this point, I fail to see why we even bother studying any other alternative than number six. He will, more than likely, recommend five to six synfuels plants and two to four power plants for Dawson, Wibaux and McCone Counties.

The Federal Coal Management Program, which regulates how federal coal is to be leased, has four primary goals for the Department taken from the abstract, Page 3-2, number one, quote,"Employ land use planning and effective enforcement of environmental laws to insure that federal coal is committed to production and produced in an environmentally-acceptable manner which is responsible to local communities and landowners affected by coal development," end quote. I fail to see how leasing a billion tons of coal and devastating local communities and landowners can be misconstrued as being responsible.

Number two, quote, "Assure that sufficient quantities are leased to meet energy needs," end quote. We have to hand it to the Secretary that time, because he certainly did meet that goal unless, of course, you take into consideration the fact there is no proven need to lease any more federal coal.

And, number three, "Assure that federal coal is produced in an economically efficient manner with a fair, economi-

cal return to the United States for all the coal produced," end quote. Consider the Powder lease, the Powder River lease sale held last spring. Two of the tracts didn't even receive bids and most of the others received only one bid. The Secretary gave away millions of dollars of the public's resources to the coal speculators, a fact so obvious that the lease sale is being challenged in court and in Congress right now.

A result of the Fort Union coal lease sale will be even worse because many of the companies who had previously expressed interest in the Fort Union no longer plan on submitting bids.

And the fourth point, "Emphasize consultation and cooperation with state governments in planning, leasing and development of federal coal," end quote. Considering what I have already stated about the role of state government and the regional coal team, I would like to read part of a letter written to the Secretary of Interior on August 30, 1982, by Governor Ed Herschler of Wyoming and signed by all the western governors.

The letter stated, "Dear Secretary Watt: On behalf of the under-signed governors of the major public-land states, I am writing to express our collective concern that our best efforts to foster the spirit of your new federalism in the area of federal coal leasing, efforts that have produced the first

successful coal leasing in a decade, are now faltering under the changed policies and regulations of the Department of Interior. The effect of these changes is to once again centralize on the Potomac critical decisions affecting western states, decisions that should be made in the region. The final regulations governing federal coal leasing that were published by the Interior Department on July 30th have reduced the role of states in the federal coal leasing decisions. Specifically the regulations eviscerate the most vital organs for state-federal cooperation, the regional coal teams. The reduced role of the regional coal teams and thus the states' is directly contrary to the intent of that Department as stated in the proposed regulations, quote, 'The changes would not significantly alter the role of the regional coal teams.'"

I would like to commend the governors for defending the rights of the states and their citizens. It seems obvious after using such strong language that they will continue to pursue the matter and do everything in their power to see that the Secretary of Interior can no longer run roughshod over the western states.

80 My one concern with the Fort Union EIS and the proposed June, 1983, lease sale is that there is no need to lease. If it is leased it will be for speculative reasons only. Throughout the country plans for synthetic fuels plants, power plants and nuclear plants are being dropped and--or indefinitely

postponed. The Y (sic) Coal Plant in Wyoming, the Antelope Valley Station in North Dakota and the infamous Whoops (sic) Nuclear Plants in the Pacific Northwest are all examples. Montana mines are operating at sixty percent of capacity. Two Montana mines are now in court with their utility customers who want out of their coal contracts. Westmoreland and Peabody Mines are operating at half capacity.

Last Sunday's Billings Gazette carried an article about Gillette, Wyoming's Hampshire Project, stating the synfuels project was not needed. It went on to say if it were to be built it would lay off workers in Wyoming and in Billings and the Denver refiners. Why? Because there is no demand. 80 There is no demand.

The Midwest Power Pool, which is the predominant market for Fort Union coal, currently has 8,000 megawatts of over-production. That is one-third of their total generating capacity. The coal market is declining weekly. In virtually every trade press publication or newspaper one can read we hear of the soft coal market. That's now for the next ten years or for the foreseeable future.

In McCone County no one has even filed a long-range plan. The only possible development in the foreseeable future would be if the Burlington Northern-BLM mineral swap, land swap, fiasco were to take place, and so I ask you if there is no demand why lease the coal? There can only be one answer.

Speculation.

The multi-national energy corporations of this country want the Department of Interior to give them hundreds and millions of dollars worth of the public's resources. It certainly appears that the energy companies have a way of getting exactly what they want from the current administration.

Over-leasing and the subsequent speculative abuse by energy companies is not new. In early 1982 Pacific Gas and Electric sold their federal leases to Utah, in Utah, to Sun Oil 80 for $20,000 an acre. These leases were originally obtained from the Government in the nineteen-sixties for $3.70 per acre. Last year Peabody Coal sold their federal leases to Shell Oil for $17,000 an acre. Peabody bought these leases in 1966 from the Government for $3 an acre. This squandering of the public's resources in the past is sad, but to do it again on such a grand scale as in the Powder River lease sale and the Fort Union lease sale would be a national disgrace at a time when unemployment is at ten percent, the country is on the brink of a depression and the people need something to look forward to. It is incomprehensible to me for the Secretary of Interior to give away forever the public's right to a fair return for their resources.

Gentlemen, the Teapot Dome scandal pales in comparison.

Thank you.

MR. DRIEAR: After hearing several of the last comments, I think I would like to say at this point that while I am sure many of you have comments on the new federalism and the speculative nature of leasing programs I would ask that you please limit your comments to the Draft Environmental Impact Statement that we are considering this evening.

Ms. Solvejg Howard.

MS. HOWARD: I am Solvejg Nelson Howard. I am the daughter of a person who came from St. Paul, a woman, and took out a homestead in Golden Valley County, and I own that land, I am very proud of it and I dislike having it in jeopardy this way.

I make only three points on this and I will give you some written material, too. First of all, I question the whole series of documents I have gotten and their use of evidence. There seem to me to be far too many assumptions and there is no bases shown for these assumptions. Authorities seem to be mentioned but there is no mention of the exact authorities, which authorities and on whose authority are many of the assumptions and assertions made. **81**

I think, going on to another point, that agriculture is probably more important than coal in our future, certainly in the immediate future. I think farmers are more important than coal persons. I think the farmers are going to feed us in this country and the rest of the world and that this is what

most futurists see. We have alternative sources of energy and I hope that we will use them.

I will stop right here because I would never stop otherwise. Thank you.

MR. DRIEAR: Marty Holmes.

MR. HOLMES: Good evening. My name is Marty Holmes. I represent Meridian Land and Mineral Company in Billings, Montana. I am currently the project supervisor for the proposed Meridian coal exchange in the Circle West area of McCone County. My first comment regarding the Fort Union Regional CoaI Draft EIS is one to clarify and restate Meridian's perception of coaI development in the Circle West area. **82**

Earlier this year we supplied BLM with a development scenario for Circle West which we felt was the only alternative over which Meridian would have direct control should development occur. The alternative we supplied was a plant facility to manufacture 2,500 tons or 18,000 barrels per day of methanol. This number was based on the possibility that our sister subsidiary, Burlington Northern Railroad, might convert some diesel locomotives to methanol and represents the maximum quantity necessary for such a demand. As the market stands now, a plant of this type will not be built. The current economics are unfavorable but should the fuel situation deteriorate again in the future, as it has in the past, the economics might change and make methanol conversion a viable

plan.

Any other scenario in the EIS document relating to CircIe West, including the generic 85,000-barrels-per-day synfuel facilities, are hypothetical for the purpose of BLM's assessment, and they stated that in the document. We do not see development of this magnitude as that most likely to occur, and it is hoped the public would keep that in mind when reviewing this discussion and associated impacts. Given the lack of formal plans and with lengthy permitting requirements, coal mines and conversion facilities probably will not be under construction at Circle West in 1987 as Table 1-11 in the EIS shows. **82**

We commend BLM for its attempt to discuss possible impacts of the leasing program in the Fort Union Region as currently contemplated. It certainly was no easy task, particularly when you consider that it is not really the impact of leasing that the regional document assesses but rather the impact of possible development which might occur in the future as a result of this leasing action. Given the uncertain future market of lignite coal and the poor condition of current markets, it is unlikely that the number of tracts and levels of production comprising the various leasing alternatives studied in the document will materialize within the predicted time frames. **83**

Also, we hope that the public understands that, within time frames predicted, it is unlikely that corresponding

impacts will actually be generated and that the larger the leasing alternative the greater the overstatement of production and resulting impacts is likely to be.

I should add that we encourage leasing levels large enough to promote competition between reserve holders to ensure reasonable prices to the consumers. Again, this lessens the direct relationship between leasing levels and expected production.

We strongly suggest that the BLM take a hard look at the projections for coal mining in the region and determine the most realistic level of production for selected time frames. This should be followed by an estimate of the level of impacts associated with that production. The Final EIS could use this as a basis for comparison when discussing possible production levels from the various alternatives. This arranaement would clearly put impact levels for the full level of production for each alternative in perspective to what the BLM really thinks is going to happen. Everyone reading the document would have a much better idea of what the real impact of the Government actions are likely to be. **83**

On behalf of Meridian, I'd like to thank you for the opportunity to comment on the EIS. We hope BLM will consider our comments. We feel the proper perspective is missing in the document when comparing realistic versus hypothetical coal development. However, BLM has done the best possible job of

addressing impacts for the production levels chosen, especially when site-specific plans for most of the tracts in the region are nonexistent.

And I would just like to say once again that I know there has been quite a bit of controversy over the coal exchange. We feel that the time is right for the kind of exchange that we have proposed, but we do not, as Mr. Bresler (sic) said, I think it was quoted in the Miles City Star here about two weeks ago, if the exchange goes through it does not necessarily mean we are actively pursuing development in the Circle West area, and it--we don't even see at this time--it certainly will not be the magnitude that is discussed in the document.

Thank you.

MR. DRIEAR: Nell Kubesh.

MS. KUBESH: I am Nell Kubesh, and I have helped my husband, John, farm for the last thirty-six years. We are concerned about the effects of large strip mines and synfuels on our farm, our community and our whole area. First I want to say that I appreciate your efforts to find out more about the effects of synfuel plants on air quality and publishing the air quality supplement. However, I find a great deal of data needed to assess damages from synfuel plants are unknown, estimated from poor baseline information or contradictory, as is acknowledged in your modeling studies.

On Page S-16, modeling of cumulative twenty-four-hour concentration, it states that state standards in both Montana and North Dakota as well as the federal secondary standard are exceeded in all cases. Yet on Page S-27 it states that allowable Class II increments are generally not expected to be exceeded.

Also, on Page S-36 it says based on current knowledge there can be little doubt that emissions of sulfur dioxide and nitric dioxide by-product sources will contribute acidity to atmospheric deposition, and, on Page S-37, due to the significant size of gasification and liquefaction facilities this is an area of potential concern and should be more critically evaluated as more studies are completed and as specific coal conversion projects are proposed.

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Yet on Page S-41 after conceding that more information necessary to quantify the effects of air pollution on water quality is not presently available, the conclusion was on Page S-41 that indirect effects on water quality resulting from air pollution will likely be insignificant.

The study of trace elements in coal from North Dakota is revealing only in that one year discharges will not cause adverse effects on ecosystems in a one-year span, but on conclusions were reached for longer-term effects. Is it not reasonable to expect a cumulative effect from the long list of toxic elements? The effects of lead, mercury, arsenic, the

many varieties of uranium and radionucleides are all known to be toxic or carcinogenic to all living creatures and are not to be lightly dismissed.

Acid rain is becoming more and more a national concern. With more than 140 fishless lakes in Ontario and more than 100 in Northern New York, 150,000 in Sweden being determined to have been caused by acid rain, it should be a prime concern in this area. With the disappearance of fish in this area we could lose a most lucrative tourist industry. While soils in this area tend to be alkaline and will tolerate or even benefit from a small amount of acid rain, there is no consensus or even an estimate of where the danger line is.

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Your study has developed a good basis to work from but also raises a great many more questions. While Radon 222 and 220 were studied and were found to be dispersed by at least half what happens to the many other uranium compounds which were found? And then there was the question about the Radon component being transferred to the end product of synthetic natural gas. Would it be transferred then to home gas stoves and furnaces?

So my conclusion is that there is not nearly enough hard data to justify any of the leasing alternatives except number one. The whole area of synfuel development is still experimental at this stage of size and scope. Don't you think that the pell-mell energy search should have learned something

from the nuclear boom and bust? We are learning, slowly perhaps, that Government does not do what is best for ordinary citizens. After Government refusal to be responsible for deaths in Utah from nuclear testing, can we expect more? Are we, in this area, also designated to be guinea pigs to find out the answers to the questions left unanswered? The irony of the whole matter is that a new source of energy is not needed now or in the near future. Oil companies are worried about subsidized competition in a slow market and coal companies are mining more coal than they can market. The American public also will be the loser if the public coal is put up for lease at this time at giveaway prices, and, finally, I am requesting a

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thirty-day extension for additional comments.

MR. DRIEAR: Irene Moffett.

MS. MOFFETT: I am Irene Moffett, can you hear me, and I live on a ranch thirty miles southwest of Glendive.

In the economic section of this EIS draft on agriculture taking just the farming profit of each year for a leasee or farmer operation as the only loss is not correct. A farmer buys his machinery to match his acreage. When he loses some of this acreage due to coal mining he still has to pay for the machinery. Thereby he has this loss as well as his profit loss.

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This EIS draft says there will be good reclamation of land. Since no land has ever been released from bonding as

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reclaimed in the State of Montana, I really don't see how you can put in such a statement.

So far no one has ever tried reclamation of crop land in this state. One of the hardest things for reclamation is getting a good cover crop. With that as a problem, how are you going to start a crop each year?

Last summer in the Fort Union Coal Region in North Dakota a coal mining company was proven to be not saving even the topsoil to use in reclamation. Yet you state as a fact that there will be separate removal, storage and respreading of these soils and the land will be put back together for farming and ranching in just a few years. What do you base this on when there is proof that it isn't being done in this very area?

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In your conclusion the first paragraph states, quote, "Short-term disturbance would somewhat exceed that acreage presently left bare due to summerfallow. Preliminary indication from completed and ongoing research are that in the long term agricultural productivity of mined land can be restored." This is not very accurate if you go by what has happened to coal-mined land in the past and what else do we or you have to go by?

In the above paragraph what does summerfallow have to do with coal mining? You keep referring to summerfallowing as being an example of land not being used. When you summerfallow you increase the amount of grain or food energy in the crop

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year. In mining you just decrease food energy, the energy that is in the shortest supply on a worldwide basis.

I also have a short statement from Willie Day.

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"I feel that leasing the coal will also commit an amount of water to process this coal. There are pending at this time claims for a large amount of water in Montana. Filings under the Montana water adjudication law.

"I will submit in writing at a later date the facts and figures on this issue."

MR. DRIEAR: Leida Hubing.

MS. HUBING: I am Leida Hubing. My family owns land within and immediately adjacent to this proposed Burns Creek Tract. First of all, I, too, would like to request a thirty-

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day extension on this written comment period.

At previous meetings and hearings on the need for new coal leasing in the Fort Union area the public has repeatedly testified that there is no need for this leasing. I feel that this still holds true. I have never seen any studies proving that this coal is needed.

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Presently there are almost 20,000,000,000 tons of coal under lease. Most of this coal is undeveloped because there is no demand. This amount of coal would see us down the road fifteen to twenty years even if the demand should increase, but it's very unlikely that the demand for coal will increase because there are many reasons for this.

A few of these are, first, consumers are cutting back on their use of electricity and will probably be cutting back more and more as the electricity cost rises.

Two, more and more people are making use of renewable energy sources such as solar, wind and water power.

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Three, there are many more natural gas reserves and there is more gas in those reserves than the Department of Energy originally forecasted due to new technology. This new technology will make this expensive synfuel process obsolete in the future.

Now, speaking of expenses, we should remember that these powerful synfuel plants, expensive as they are, will be subsidized by our tax dollars. Yet Secretary Watt insists that this costly development is necessary.

As previously stated, we ranch within this Burns Creek Tract. If this development should come to pass and the facility on Burns Creek is placed where it's mapped, it must be remembered that while the Bureau of Land Management will

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graciously allow us as landowners our two-bit compensation people adjacent to this area or any other area for development, slated for development, will suffer severe negative impacts and receive no compensation at all. How severe these impacts will actually be is unknown, and that is one of the biggest faults of the Fort Union Environmental Impact Statement.

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The Bureau of Land Management has not discussed

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potential impacts of acid rain, toxic wastes, air pollution or water quality degradation. Planners promised to address the

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off-site impacts to farmers and ranchers in their first Redwater management framework plan. Such an analysis was absent there, and it has been absent from all other publications which promised to address this issue. We are still waiting for this information.

Thank you.

MR. DRIEAR: Helen Waller.

MS. WALLER: My name is Helen Waller. I have a few general comments to make.

First, I believe it would be helpful if the author of

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the various sections was identified. The reference in the back simply states the names or the firms which have been involved but makes no attempt to identify which sections were contracted out to whom or which data was generated internally. I think it would be extremely helpful to know who is really responsible for which portions of the study.

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Second, I received the air quality supplement nine days ago. I have not had a chance to--to even skim the thing and because of its delay I would ask that the comment period be extended an additional thirty days.

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And, third, nowhere in the document is the BN-BLM swap, third alternative, addressed. An environmental assessment of that alternative is necessary.

My husband, Gordy, and I farm and ranch between the Circle West and the Redwater tracts. We have known since 1975 that our farm, along with a multitude of others in the McCone, Dawson, Richland and Wibaux Counties in Montana and Golden Valley County, North Dakota, was included in a land use plan being prepared by the BLM whose activities would ultimately bring us through a series of studies and documents leading up to this EIS and on to a scheduled coal lease sale in June of 1983.

This document is the fulfillment of my every expectation. The quality of workmanship is consistent with previous publications. It conservatively predicts probable community tragedy with the usual candor and draws conclusions firmly founded on documented unknowns.

97 Throughout the planning process, issues critical to the viability of farms and ranches outside the lease tracts have been raised with the BLM, and they promised to analyze the impacts of leasing on agriculture in the Fort Union Region. For the record, I am attaching a copy of correspondence with the then Secretary of Interior, Frank Gregg, and also correspondence that I had with Loren Cabe, who is an economist for the BLM in the state office in Billings.

These promises were made, but in March of 1981 BLM called me to a meeting in Miles City to inform me that they didn't have the time or the money to address the problem of

what would likely happen to farm and ranch operations outside the lease tracts. Their studies would be confined to impacts on the farms and ranches immediately over the tracts. Now, if they would confine their damage, such as air pollution, groundwater disruption, invading weed seeds, population increase and toxic wastes to the lease tract, I could accept that scope of

97 study, but I doubt that that will be the case.

Despite the fact that the Federal Lands Policy and Management Act requires land-use plans to be prepared on a multiple-use, sustained-yield concept, and despite the fact that the Federal Coal Program requires consideration for lands which produce food and fiber and even though the Federal Coal Program also requires an assessment of the effects of leasing on adjacent, non-federal lands, the BLM has chosen not to do so. Instead, they are satisfied to plead unknown.

It's kind of like taking the Fifth Amendment. Consequently, most of the important questions about the impacts to agriculture are not answered in this EIS. Questions like how far from the mines will ground-water be degraded or lost and in what direction? What are the results of reclamation efforts in

98 the Fort Union? Can crop land be reclaimed to original productivity? What will be the impacts of transmission line, pipeline and railroad rights-of-way on ranch operations? What will be the effect of air pollution on crop yield? What will be the effects of toxic waste disposal on water quality? How much

98 land will go for synfuels plants, new county and city buildings and trailer parks? What costs must taxpayers bear before the facility comes on line to ease the burden? These questions are not answered in the EIS. Instead the EIS concludes that there are too many unknowns to evaluate how off-site impact might affect farm-ranch operations and cost.

The EIS is full of unknowns.

99 Acid rain. The EIS contains only a very general discussion of acid rain. It doesn't even attempt to say whether or not acid rain will be a problem in the region or downwind in the agricultural breadbasket of the country. The EIS says that acid rain will probably increase but, and I quote, "whether the increase will be significant and where it may show up cannot be predicted." Really, that's anybody's guess.

100 On the subject of toxic wastes, the EIS does not analyze the effects of toxic wastes from synfuels plants on agriculture or the general population. Although it describes some possible pollutants, which are dangerous, and many are cancer-causing, at very low levels, the EIS gives no indication of what or how much pollutants will come out of synfuels plants. The BLM doesn't know. They simply defer to the EPA who has presently set no standards, has no plans or budget to do so.

101 On health effects of synfuels plants, they say, and I quote, "Any increased health costs associated with breathing conversion plant emissions are not well documented but could be

101 significant."

102 Solid waste, and I quote, "It is still unclear exactly what solid wastes a gasification plant will produce."

103 Air pollution impacts on water quality, and I quote again, "The information necessary to quantify the effects of air pollution on water quality in the Fort Union Coal Region is not presently available."

104 Ground-water. "It is impossible to predict accurately how far away from a mined area degraded water will move."

105 Trace elements. The only study going on of trace elements from coal-fired power plants in North Dakota showed no effects during the first year, but no conclusions could be reached regarding the long-term effects of arsenic, beryllium, mercury and others.

106 Other unknowns include the fiscal impacts on county government which would include school budgets. BLM only figured the impacts to city budgets.

107 On the major questions concerning the survival of the agricultural industry in the Fort Union Region, the only thing we know for sure from this EIS is that if leasing takes place the degree of environmental impacts to agricultural operators outside the lease tracts is unknown.

108 This document fails to meet its required purpose as set forth in the NEPA requirements. Section 1500.1B provides,

and I quote, "NEPA procedures must insure that environmental information is available to public officials and citizens before actions are taken," and it also states, "The information must be of high quality."

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They make no--no allowance for this unknown bit.

And further in Section 102 of the act, and I quote, "Each agency shall identify environmental effects and values in adequate detail so they can be compared to economic and technical analysis."

I believe this document fails to do so.

Meanwhile other significant and pertinent actions are taking place. The Powder River lease sale of last April is being challenged as well as Secretary Watt's revision of various rules and regulations applying to the Federal Leasing Law, the Strip Mine Reclamation Act, the Land Use Planning Law and the National Environmental Policy Act.

As evidenced by the actions of Secretary Watt, there appears to be one overriding ambition, and that is to deliver the valuable public coal resource into the hands of the energy industry even though the coal market is depressed, knowing full well that markets are not available for potential coal production from existing mines. For the past couple of years, Montana and Wyoming mines have been operating at about sixty percent capacity with some utilities unable to meet even minimum contractual agreements.

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interests in developing these tracts; there were very few non-consents to leasing forms returned; a majority of people in McCone County would like to see some of this coal developed.

I would like to quote from an article in Billings Gazette, September 27, 1982. "Colstrip Units 3 and 4 will generate a lot of electricity in a few years but for now they're generating more jobs than any other single Montana project."

One problem with this coal leasing procedure is that it takes too long. I sincerely hope that if for some reason economic or court delays pushes this lease sale past the '83 deadline we do not have to go back and start counting mice, and so forth, again. I do believe that we have done enough of that sort of thing.

People for Economic Progress members would like to thank the coal team and all involved for the effort they have put into this project.

Now, I received a letter I would like to read here, too, from the planner in Miles City, Ms. Barbara Kennedy.

"Dear David: You and I are not alone in our interest in local job development in our part of the state. Jobs come from work to be done. Most work comes from the development of natural resources. Demand plays its part. Attitude toward all this plays its part.

"You and I, along with most others, can be assured that Montanans pin their hopes for growth on natural resources,

Sixteen billion tons of federal coal are already under lease, much of it not likely to meet due diligence requirements. This must be an embarrassment to an administration which is hard pressed to find justification for the Powder River and the Fort Union lease sales.

I contend that in the public interest it is not prudent to issue new leases to companies who have not been diligent in developing commercial quantities of coal as provided in present law. Neither should Congress relax diligence requirements. That would only sanction speculation and encourage further abuses. Nor is it in the public interest to offer a multitude of tracts for sale which effectively eliminates competitive bidding.

If Interior is successful in delivering to energy companies the public's coal reserves on a depressed market without effective due diligence requirements, I believe will be --I believe it would be the most notorious Interior action since the scandal of the Teapot Dome.

MR. DRIEAR: David Kasten.

MR. KASTEN: For the record, my name is David Kasten, a rancher south of Brockway, and I am the President of People for Economic Progress. My comments are pretty short here.

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A higher ranking should be given to McCone County tracts for the following reasons: The resources, coal and water available; the energy companies have indicated their

most especially on energy resources. If that sounds bold, take a look at the attached article, 'Montanans and Economic Growth.' The article resulted from 'The Montana Poll.' I quoted directly.

"In that poll, Dr. Maxine Johnson, reported research. As director of the Bureau of Business and Economic Research, Dr. Johnson knows of this state's economy. The poll says ninety-one percent expect the state to grow in the next five years.

"I read in another report, 'The Montana Energy Opinion Study,' that eight percent, a very small group, oppose development. The percent favoring coal development is seventy-seven percent. Support for gasification runs at seventy-four percent. That report states that the folks in McCone County are keenly aware of the lack of job opportunities near home. Coal will turn that around.

"I know the market is soft right now, soft for cattle, wheat, coal, sagging for workers, but we have to go on with ranching, farming and families and coal. The United States of America has a great future. Certainly we must balance our foreign trade. Making them rich has made us poorer. We must turn it around. Industry in cooperation with Government has that responsibility on fuel. Can we even do it by 1990?

"For coal, in particular reclamation, there are stringent regulations. Montana is tough on the coal industry.

We should be tough and we should be fair--tough but fair."

Her P.S. she has on here, "When I get held up waiting for a coal train to pass, I sit back and grin--there goes $25,000 in taxes I don't have to pay."

And along with that I would like to submit a study done by Maxine Johnson she said she would like to have put in the record.

One more thing in here. I don't--I am not sure if you have the Circle Chamber of Commerce letter yet, but you will get it. I understand we have until October 8th to submit written, and I am sure you will have it before then, but I do have another letter that I was asked to read, and it is from the Glasgow, Montana, Chamber of Commerce.

"Dear Sir"--it's addressed to the U. S. Department of Interior.

"Dear Sir: A natural function of any Chamber of Commerce is to promote the growth of its community and to welcome new business ventures within the area it serves.

"It is with this purpose in mind we offer our support to the Circle Chamber of Commerce in their endeavor to secure the very desirable complex known as Circle West to locate near their city in McCone County.

"An important part of the developer's plan calls for the securing of coal leases on land controlled by the U. S. Government. We lend our voices to those who are petitioning

your agency to allow leasing of this land with the pleasant consequences of turning a rather non-productive area into one offering many jobs and sundry benefits accrued from planned venture by private capital.

"Sincerely, Ron Helland, President."

Thank you.

MR. DRIEAR: Steve Elliot.

MR. ELLIOT: My name is Steve Elliot. I am here on behalf of Wesco Resources, Billings, Montana.

The following comments reflect the views of Wesco Resources on the Draft EIS for the Fort Union Coal Region. Our comments for the most part will be directed only to the areas considered for leasing in the Circle area which is the area designated in Wesco's expressions of interest.

Before Wesco presents its specific comments, there are some areas that we have noticed that should be corrected. These are on Page 19, the Redwater Tract II, the surface map legend key is incorrect. I think you have the state ownership and the private ownership color-keyed wrong. Those should be reversed.

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On Page 91 the picture showing mule deer, excuse me, mule deer, should reflect either Western North Dakota or Eastern Montana and not Western Montana because I don't think that's a subject of the EIS here.

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Third, the State Legislature action found in Appendix

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B, Pages A4 and A5, should reflect the proper legal cites to the new Montana Codes Annotated and not the Revised Codes of Montana, 1947, and, finally, in the References section, Page R-1, there is no mention of a study done by Westech of Helena on the wildlife in the Redwater area of McCone County. The report was finished in December of 1981 and submitted to the BLM in Miles City.

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It seems to me that if we go to the expense of doing that that at least that data ought to be used in your EIS.

The following comments are specific comments in the draft itself. First of all, it's a pleasure to have the opportunity to comment on the Draft Fort Union Coal Region EIS. To say the least, it's a massive undertaking and Wesco Resources, Incorporated, compliments the BLM and its staff for their efforts.

Wesco's following comments are in relation to the EIS and its application in the McCone County area where the Circle West tracts and the Redwater tracts are located. As the BLM is aware, Wesco has been involved in the area for the past nine years. Wesco has cooperated with the BLM along the entire leasing process and even before the area was to be considered for the upcoming competitive federal coal leasing. During this time, Wesco has seen the plans for the BN-owned Dreyer Ranch change from a fertilizer-from-coal process to a synthetic-diesel-fuel project to the latest proposal which involves a

coal exchange with the BLM.

The proposed exchange presents a problem for Wesco, and we feel it is an improper action on the part of the BLM to include the proposed exchange in the EIS process at this late date, especially when the BN, like Wesco, has expressed an interest to have the coal in the area leased. This exchange would have--there is nothing in the EIS that speaks also to what happens if this exchange takes place and whether or not the resulting tonnages that would be dropped from the leasing target would be replaced by other tracts that aren't in the preferred alternative.

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It also seems improper to continue to consider the exchange when there has not been a determination of whether or not the proposed exchange is in the public interest before you go to the expense of determining whether or not it ought to be in one of the preferred alternatives, because it seems to me that if it's not in the public interest if a determination like that is made you don't need to go to the expense and the time to do the studies that are going on right now.

To elaborate on these points and for the record Wesco opposes the proposed coal exchange for the following reasons: When the EIS addresses the end use of the coal and says that a synthetic fuels plant will be available for two plants on the two resulting 350,000,000-ton blocks of coal, it fails to consider Montana's stringent plant siting laws and the rural

nature of the area. Montana would probably not allow the siting of two plants in close proximity to one another.

The EIS also fails to recognize that a synthetic fuels plant cannot economically exist unless it has in excess of 500,000,000 tons of coal. I know that there aren't a lot of areas to look around to determine what kind of reserve base is necessary for these things, but the one close to home in North Dakota has a reserve base of at least a billion tons, and I can tell you even though it might not be germane to this that the tonnage figure for Sasol in South Africa where the project is in existence now has in excess of two billion tons for their plants.

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Wesco recognizes that many of these concerns are being addressed in the document to be done by the Miles City BLM district office. However, it would seem to me to be more prudent to have the key legal issues and the public interest test addressed before the public pays to do a separate study as well as consider the exchange possibility in the Draft EIS, especially if these issues throw the exchange out of further consideration.

The Fort Union Coal Team has concluded that alternative three is the preferred alternative which includes the coal subject to the proposed exchange. There is no discussion of what happens to the leasing target if the 350,000,000 tons is exchanged. In other words, would other tracts not presently

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included in the final leasing target be made available for the coal lease sale?

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In Wesco's opinion, the ranking of the tracts and the reasons given for ranking the Redwater tracts low in comparison to the Circle West tracts are unjustified. Wesco conducted a survey of the Circle area attitudes toward coal mining in the summer of 1980. Development was favored across the entire county by nearly ninety percent of the sample. The discussion about the Redwater River and the potential damage to it by mining the Redwater is also a concern to Wesco. There are few instances that Wesco is aware of that the Redwater River is used for crop irrigation. In fact, the river does not flow during much of the growing season. We also understand that the water quality is very poor.

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Wesco believes that the BLM's approach to predict what the end use of the coal will be is a mistake. In the not too distant past, there was a study done called the North Central Power Study. This raised intense concern among many Montanans and has proven to be an untrue forecast of the energy and power development. The economic constraints to synfuels development as well as the lack of demand for lignite coal power generation makes the projected use estimates literally useless and misleading. In Wesco's opinion, the presence of abundant water for industrial use and the presence of significant coal resources make the Circle area attractive primarily

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for synthetic fuels development.

The socio-economic impacts to Circle would be great whether Circle West or the Redwater area were developed. Wesco does not believe, however, that the Circle West site has a lesser impact than the Redwater area on Circle. Since the Redwater tracts are nearer to Circle, many of the necessary social services are near at hand. At least under initial development, while the impact may be great to Circle, Wesco believes the proximity of the in-place social services would favor the Redwater area over Circle West.

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Wesco does not hold itself out as a reclamation expert, but more data would have to be made conclusive to show that the Redwater area is more difficult to reclaim than the Circle West area. Wesco believes the contrary is true because of the nature of the terrain which is mostly rolling dry-land wheat production and grazing. The fact that the Redwater area has crop lands should not preclude it from development, especially when the majority of the surface over the tracts has existing surface owner consents where the landowners have given permission to surface mine the coal. Nothing is mentioned in the Draft EIS about how the landowners who have given their consents to mine would be affected by the proposed exchange.

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There is nothing discussed about the terms of the two coal reservations that exist in the BN and federal patents. Since the two coal reservations are different, in what manner and how

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would they be exchanged?

Wesco would like to take exception with the statement made on Page 73 regarding the Redwater tracts. Rationale was given by Wesco at the regional coal team meeting and at other meetings for inclusion of the Redwater tracts in the preferred leasing alternative. Wesco did not agree with the ranking process of the Redwater tracts and still doesn't. How the coal team can justify leasing the Burns Creek Tract in the preferred alternative and ignore tracts of interest like Redwater is beyond comprehension, especially when it is apparent that the Burns Creek Tract will not clear the leasing process.

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One final thought is the coal leasing process itself. Applying the Powder River Coal Region sale procedures of April 28, 1982, only those tracts that have valid surface owner consents will clear for leasing. Wesco assumes the same will be true in the Fort Union Region. Therefore, what harm is done if all the designated tracts are put up for leasing? In the Powder River sale, the initial leasing alternative called for 1.4 to 1.5 billion tons. The Secretary picked the maximum figure and made all the tracts available for leasing. When the sale was held, six tracts dropped out because of refusals to consent and two tracts received no bids. The result was the leasing of the original preferred leasing alternative. The 1.4 to 1.5 billion tons of coal is exactly what was leased. To preclude tracts for leasing and not provide that those tracts can replace ton-

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nages that would drop out because either there weren't any bids or because of exchanges or those sorts of things seems to make a mockery of the process and essentially the federal coal leasing process puts a burden on the interested parties to clear those tracts for leasing. It's not really done by the Secretary of the Interior. It's not really done by the coal team. The tract ranking process stymies the potential of competitive leasing, especially where leasing interest has been demonstrated. If the tracts can clear the unsuitability process and are available for leasing, they should be placed in the competitive arena and the marketplace and the interested parties should decide whether or not the tracts are leased.

Wesco Resources appreciates the opportunity to appear here tonight. Thank you.

MR. DRIEAR: That is the last of the written or the oral statements that I have an indication of on the cards. Is there anyone else who would like to make an oral statement on the Draft Environmental Impact Statement this evening? If so, would you please come forward now and do so. Let the record show that there are no additional oral comments.

If there are any written statements that you have this evening that you did not care to make an oral statement but you have your written statements with you before you leave this evening I would like to ask that you please leave them on the table for us.

With that I would like to close the meeting and on behalf of the State of Montana and Bureau of Land Management thank you for attending.

(The hearing then concluded at the hour of 9:08 p.m., this 29th day of September, 1982.)

This is to certify that the attached proceedings before the United States Department of the Interior, Bureau of Land Management, in the matter of a public hearing concerning the Fort Union Environmental Impact Statement, in the Community Room of the Dawson County Courthouse, Glendive, Montana, on Wednesday, September 29, 1982, were held as herein appears and that this is the original transcript thereof for the file of the Department or Commission.

Certified Shorthand Reporter
and
Registered Professional Reporter

BLM

FORT UNION DRAFT EIS HEARING
TESTIMONY OF MYRON SCHULTZ
SEPTEMBER 29, 1982

MY NAME IS MYRON SCHULTZ, I AM PRESIDENT OF DAWSON RESOURCE COUNCIL. I AM OWNER AND PARTNER OF A GRAIN FARM NEAR BLOOMFIELD, MONTANA.

124

IN THE INTRODUCTORY LETTER IN THE DRAFT EIS BY STATE DIRECTOR PENFOLD, HE SAYS, "TESTIMONY RECEIVED THROUGH WRITTEN OR ORAL COMMENTS AT THE FORMAL HEARINGS WILL BE CONSIDERED DURING THE PREPARATION OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT. NO DECISION ON THE PROPOSED LEASE SALE WILL BE MADE UNTIL THE FINAL ENVIRONMENTAL IMPACT STATEMENT IS COMPLETED". ON PAGE 73 IT STATES, "THE BCT WAS OPENED MINDED ON THE ISSUE REGARDING THEIR FINAL RECOMMENDATION TO THE SECRETARY OF THE INTERIOR SCHEDULED FOR JANUARY 1983, AND WAS STILL LOOKING FOR PUBLIC INPUT PRIOR TO THAT TIME". BASED ON THE ABOVE QUOTES, WHICH ARE JUST TWO OF THE MANY QUOTES I COULD HAVE STATED, IT IS APPARENT THAT PUBLIC INPUT IS TO HAVE DIRECT INFLUENCE ON FINAL DECISIONS MADE IN REGARDS TO THE FORT UNION REGION COAL. HAS THIS IN FACT BEEN THE CASE? WHEN YOU REVIEW THE PUBLIC INPUT GIVEN AT THE FORMAL HEARINGS HELD ON MAY 6 AND OCTOBER 21, 1981 AND COMPARE THAT TO THE DRAFT EIS, IT IS VERY APPARENT THAT THE SECRETARY OF THE INTERIOR'S DESIRES TAKE PRIORITY OVER THE MAJORITY PUBLIC INPUT IN THE DECISIONS THAT ARE MADE AND PROPOSED. THEN WE WERE TOLD VERY EMPHATICALLY, AT THE WIBAUX, MONTANA PUBLIC MEETING ON SEPTEMBER 1, THAT THE DRAFT EIS IS A FOREWARNING OF WHAT IS TO COME. SO IT BECOMES VERY EVIDENT THAT WE ARE BEING SUBJECTED TO NOTHING BUT DOUBLE-TALK AND IT CAUSES US TO SERIOUSLY WONDER IF THE DIE IS CAST, THE FINAL DECISION ALREADY MADE, AND THE PUBLIC MEETINGS AND FORMAL HEARINGS ARE HELD MERELY TO COMPLY WITH FEDERAL REGULATIONS. SO I CHALLENGE THE REGIONAL COAL TEAM TO LISTEN VERY CAREFULLY TO THE PUBLIC COMMENTS MADE, ESPECIALLY BY THE PEOPLE WHO LIVE IN THE AREAS PROPOSED FOR COAL MINING AND RELATED

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DEVELOPMENT, AND THEN BASE THEIR FINAL DECISIONS AND RECOMMENDATIONS ON THESE COMMENTS

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ON PAGE 1 OF THE INTRODUCTION IN THE DRAFT EIS IT STATES, "THIS MEANS THAT COAL WILL BE LEASED TO ACTIVELY SERVE NATIONAL ENERGY REQUIREMENTS, AND NOT JUST AS A RESPONSE TO INDIVIDUAL COMPANIES". THIS BEING THE CASE, WHERE IS THE IN DEPTH, ACCURATE, DETAILED, COMPREHENSIVE STUDY AS TO THE NATIONAL ENERGY REQUIREMENTS AND THEREFORE NEED FOR THE COAL LEASING TARGET? I HAVE ASKED TO SEE AND RESEARCH THIS STUDY OF NEED NUMEROUS TIMES AND HAVE YET TO RECEIVE IT. I SERIOUSLY WONDER IS ONE EXISTS. WHEN WE LOOK AT OUR PRESENT GLUT OF COAL, THE NUMBER OF PRESENT FEDERAL COAL LEASES NOT DEVELOPED IN ANY WAY, THE POWDER RIVER BASIN COAL LEASED BELOW FAIR MARKET VALUE, THE NUMBER OF NUCLEAR POWER PLANTS THAT HAVE GONE BELLY UP, A MESSAGE COMES OUT VERY CLEAR-THERE IS NO SUBSTANTIAL NEED FOR LEASING AND DEVELOPING COAL IN THE FORT UNION REGION.

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AS I STUDIED THE DRAFT EIS, I WAS APPALLED AT THE MANY CONFUSING, INACCURATE, AND INCOMPLETE STATEMENTS AND CHARTS. ON PAGE 63 IS THIS STATEMENT, "THERE WOULD NOT BE ANY ADDITIONAL AGRICULTURAL DISTURBANCE, MERELY ALTERNATIVE AREAS BEING MINED THAT WOULD OTHERWISE BE BYPASSED IN ONGOING MINING OPERATIONS".

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FURTHER ON PAGE 114 FOR ALTERNATIVE 3 WE READ, "THESE LOSSES WOULD NOT SIGNIFICANTLY REDUCE REGIONAL AGRICULTURAL PRODUCTION, NOR WOULD THE AGRICULTURE SUPPORT ECONOMY BE AFFECTED. WITHIN THE OVERALL STRUCTURE OF AN AGRICULTURAL ECONOMY SUBJECTED TO FLUCTUATIONS IN SUPPLY AND DEMAND, INTEREST RATES, AND WEATHER CYCLES, THE REGIONAL IMPACTS ASSOCIATED WITH ENERGY DEVELOPMENT WITHIN THE FORT UNION TRACTS ARE MINISCULE". BEING DIRECTLY INVOLVED IN AGRICULTURE AS A GRAIN FARMER FOR THE PAST 30 YEARS, I SERIOUSLY QUESTION THE VALIDITY OF THE ABOVE QUOTED STATEMENTS. TO BRUSH OFF THE VERY GREAT AND FAR REACHING IMPACTS ON AGRICULTURE AS BEING MINISCULE IS TOTALLY ABSURD.

127 LOSING OR DESTROYING EVEN 1% OF THE AGRICULTURAL PRODUCIONT OF AN AREA IS VERY SIGNIFICANT AND NO AMOUNT OF COMPENSATION BY ENERGY DEVELOPMENT COMPANIES WILL OFFSET THIS KIND OF LOSS. THE ENERGY COMPENSATION IS A ONE-TIME, SHORT TERM SITUATION, WHILE AGRICULTURAL LOSS IS A CONTINUING LONG-TERM PROBLEM.

128 THE DRAFT EIS ADDRESSES VERY INADEQUATELY THE ON-SITE IMPACTS, BUT IT COMPLETELY IGNORES THE OFF-SITE, OFF-TRACT IMPACTS WHICH ARE JUST AS SEVERE AND DESTRUCTIVE, OR EVEN MORE SO, THAN THE ON-SITE IMPACTS. THE ONLY COMPENSATION ALTERNATIVE IS FOR THE PROPERTY OWNER TO TAKE THE CASE TO COURT. THIS ALTERNATIVE JUST DOES NOT SOLVE THE PROBLEM AND IT INDICATES AN IRRESPONSIBILITY TOWARD THOSE SUFFERING THE OFF-SITE IMPACTS.

129 THE CONFUSING STATEMENTS REGARDING RECLAMATION MAKES THE DRAFT EIS HARDLY CREDIBLE AS A BASIS FOR DECISION MAKING. "POST-MINING LAND USE WOULD BE THE SAME AS PRE-MINING USE", PAGE 41. "SUCCESSFUL RECLAMATION OF WETLANDS, WOODY DRAWS, AND NATIVE PRAIRIE IS YET TO BE PROVED", PAGE 63. "PRELIMINARY INDICATION . . . ARE THAT AGRICULTURAL PRODUCTIVITY OF MINED LAND CAN BE RESTORED", PAGE 89. THE ABOVE QUOTES INDICATE WE HAVE A LONG WAY TO GO IN ADEQUATE RECLAMATION. THEREFORE IT IS NOT ACCURATE OR CREDIBLE TO MAKE STATEMENTS CONCERNING THE SUCCESS OF RECLAMATION.

THERE ARE MANY MORE INACCURATE AND CONFUSING STATEMENTS IN THE DRAFT EIS, BUT FOR SAKE OF BREVITY I WILL SUFFICE WITH THE ABOVE. I WOULD LIKE TO CONCLUDE BY CHALLENGING THE REGIONAL COAL TEAM AND THE OTHERS WHO WILL BE RESPONSIBLE FOR THE FINAL EIS TO SPEND SOME TIME OUT IN THE AREAS OF PROPOSED ACTIVITY AND VISIT WITH THE PEOPLE WHO WILL BE DIRECTLY AFFECTED BOTH ON TRACT AND OFF TRACT TO GET SOME ACCURATE INFORMATION RATHER THAN JUST ASSUMPTIONS AND CONFUSING STATEMENTS. I WOULD ALSO CHALLENGE THEM TO LOOK VERY CLOSELY AT THE NEED FOR DEVELOPMENT BEFORE MAKING DECISIONS OR RECOMMENDATIONS.

Dawson Resource Council
P. O. Box 886
Glendive, Montana 59330

TESTIMONY OF ROBERT AND NORMA ETZEL, SAVAGE, MONTANA
SEPTEMBER 29, 1982
GLENDIVE, MT.

WE HAVE MIXED EMOTIONS ABOUT TESTIFYING AT THIS HEARING. WE FEEL THAT THE MAJORITY OF THE INPUT FROM THE PUBLIC IS EITHER IGNORED OR GIVEN VERY LITTLE CONSIDERATION. THERE SEEMS TO BE SO MANY OF THESE HEARINGS AND THEY DO CUT INTO VALUABLE TIME.

130 AS TO THE EFFECTS OF MINING ON AIR QUALITY, IT IS ONLY A MATTER OF COMMON SENSE. WITH THE WIND WE HAVE IN THIS COUNTRY, ANY DISTURBANCE OF THE SOD WILL POLLUTE THE AIR, TO SAY NOTHING ABOUT THE PLANTS BURNING THE COAL. LIVING IN A SOUTH EASTERLY POSITION OF THE EXISTING KNIFE RIVER MINE AT SAVAGE WITH OUR PREVAILING WEST WINDS HAS GIVEN US FIRST HAND KNOWLEDGE OF WHAT HAPPENS. AGAIN, COMMON SENSE WILL TELL YOU WHAT HAPPENS TO COAL DUST IN A WIND. COULD

131 WE TURN INTO A "BLACK LUNG AREA" IF MINING WERE DONE ON A LARGER SCALE? ANOTHER AREA OF CONCERN IS WATER POLLUTION AND DEPLETION . HOW CAN A NATURAL SPRING BE

132 REPLACED, OR A WATER VEIN REACTIVATED IF DISTURBED? WHAT WILL THE RESIDUE FROM THE SYNFUEL PLANTS DO TO THE GRAZING AND AGRICULTURAL LAND? IT IS OUR UNDERSTANDING THAT CATTLE NEAR PLANTS will NOT FEED ON THE GRASS.

WE BELIEVE DEVELOPMENT IS ESSENTIAL WHEN THERE IS A DEFINITE NEED. LIKEN ENERGY TO MONEY, WHEN THERE IS NOT AS MUCH, YOU TEND TO USE IT MORE WISELY. AT

133 THE PRESENT, MANY MINES HAVE CUT BACK PRODUCTION DUE TO LACK OF DEMAND. TO DATE, RECLAMATION IN AREAS HAS NOT PROVEN UP, AS MUCH AS THE RECLAMAINED LAND HAS NOT RETURNED TO PRIOR USAGE. WEEDS SEEM TO THRIVE BEST IN MINED AREAS.

TESTIMONY OF ROBERT AND NORMA ETZEL
PAGE TWO

134 IN GRANTING PERMITS FOR PLANTS AND MINES, THERE SHOULD BE A GUARANTEE THAT ENERGY WILL BE PRODUCED, CONSUMERS SHOULD NOT HAVE TO PICK UP THE TAB FOR PROJECTS WHICH FAIL. BEING IN THE BUSINESS OF FARMING, IT WOULD BE NICE IF WE COULD PASS ON THE COST OF PRODUCING CROPS WHETHER WE GOT ANYTHING OR NOT.

WE HAVE SEEN THE SOCIAL IMPACTS OF THE OIL BOOM IN THE AREA. THINGS ARE NOW ON THE SLOW DOWN SIDE AND MANY "NATIVE" PEOPLE ARE FEELING THE EFFECTS.

135 THE WORK FORCES WILL JUST MOVE ON AND UPSET SOME OTHER COMMUNITY. WE READ RECENTLY OF THE OIL LEASE SALE AND ARE WONDERING IF THE HUGE COAL LEASE SALE PROPOSED AT SUCH A TIME WILL RESULT IN THE SAME GIVE AWAY PRICING. THIS MAY BE A TIME WHEN LEASING LESS COULD BE BETTER. WE REMEMBER OF A LEASING IN OUR AREA IN THE 60'S ON WHICH THERE HAS BEEN NO DEVELOPMENT.

WHAT ARE THE PRIORITIES OF MINING COMPANIES? PROFIT WOULD BE OUR ASSUMPTION. OUR PRIORITY IS A HEALTHLY PLACE TO LIVE. WE DO NOT GO BEGGING TO MINING CONCERNS FOR THEIR MONEY. WE DO THE BEST WE CAN WITH WHAT WE HAVE. THAT IS MORE THAN YOU CAN SAY FOR MINING CONCERNS. THEY ARE INSISTENT ON CHANGING OUR ENVIRONMENT BY ANY MEANS THEY CAN, OTHERWISE THEY WOULD NOT ALWAYS BE WORKING TO CHANGE EMINENT DOMAIN LAWS TO THEIR ADVANTAGE OR CONSTANTLY HOUNDING LANDOWNERS TO SELL AFTER THEY HAVE BEEN TOLD NO.

COULDN'T WE ALL CONSIDER DOING WITH LESS IN ORDER TO PRESERVE OUR AIR QUALITY, CLEAN WATER, ECONOMIC STABILITY, FOOD PRODUCTION, AND IRREPLACEABLE NATURAL BEAUTIES AND WONDERS?

THANK YOU FOR YOUR TIME.

Greg Veit, Beach, ND
Fort Union Coal Hearings, Glendive, MT, Sept. 29, 1982
This is the written text of statements made at the hearings on 9/29/82

My name is Greg Veit, I am Vice-President of the Golden Valley Resource Council.

I wish to make a statement concerning air pollution resulting from the Government leasing of coal to be used in energy plants. This is of interest to the Golden Valley Resource Council because the proposed Tenneco coal-gasification plant is adjacent to our county.

The use of coal to produce energy is the dirtiest method now employed. Its ultimate toxicity has not yet been determined. The BLM itself had damned the use of coal, not by any expressed opinion, but by the facts their researchers have gathered in producing their

136 Environmental Impact Statement.

Congress some time ago enacted a Clean Air Act, and is now considering an equally good one which is intended to protect the people of the United States from the dangers of air pollution. By leasing coal at its preferred alternative, the BLM is planning for and encouraging additional coal-conversion plants which will break the air standards set by Congress. Expecting to get all the coal they need, three coal-conversion companies are currently seeking waivers which undermine the Clean Air Act, creating a situation in which a government agency, the BLM, is planning development which will oppose the will of Congress.

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Proof of this is found in the Air Quality Supplement recently mailed out by theBLM. There we find that for all six alternative leasing schedules the BLM studies show that the amount of sulfur dioxide in the air would exceed Class I standards. Total Suspended Particulates will exceed the annual maximum level allowed anywhere in North Dakota and Montana. There are no visibility standards, but the "thresholds" established by BLM would be exceeded in both units of Theodore Roosevelt National Park.

There are also grave potential hazards, the extent of which are now unknown, in the areas of organic compounds, trace metals, acid rain, radioactive elements, and the effect of emissions on weather and climate. A BLM spokesman has said that leasing will take place, regardless of the findings. In view of these dangers, it is hoped that only enough coal will be leased to supply the needs of present plants and those under construction.

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A second area of concern to us in Golden Valley County is the economic impact of development of the South Wibaux-Beach tract. The Impact Statement underestimates the severity and duration of disruption to the community of Beach and the surrounding area, should development occur.

In particular, we take exception to the projections of fiscal revenues as portrayed on page A-18 of the Statement. The graph projects and initial deficit, then a $1,000,000/year surplus beginning in 1992.

Information that we have received from the Tenneco Company, from the North Dakota Legislative Council, and from the North Dakota Energy Impact Office contradicts the findings of the BLM.

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At the August 2, 1982 Legislative Task Force meeting in Beach, the Tenneco Representative said, "it is likely that mining would not take place in North Dakota for about 20 years." (taken from the minutes of the meeting) A study by the Energy Impact Office states, "As long as the coal is mined only in Montana, the communities will not receive Coal Severence Taxes, cannot borrow from the Coal Trust Fund, and cannot receive assistance from the Coal Impact Fund." (Mitigation of Impacts in Western North Dakota from Tenneco Development)

This leaves Beach with mitigation money from only two sources: front-end money from Tenneco, and property taxes. The fact is, Tenneco has not pledged any mitigation funds, nor have they ever given front-end money to any communities, anywhere.

This means that Beach is left with property taxes alone to pay for: improved school facilities, additional teachers, new water and sewer facilities, improvements to county roads and city streets, maintenance equipment, community facilities, and recreational facilities and equipment.

Given this situation, it is inconceivable that Beach will have a $1 million/per year surplus within three years of construction start-up.

Any reasonable accounting of the costs and benefits of development of the South Wibaux-Beach tract must conclude that the formidable impacts are not justified by strip-mining to produce high-priced synthetic gas.

MR CHAIRMAN, MEMBERS OF THE COMMITTEE, MY NAME IS CHARLES YARGER. I FARM AND RANCH 15 MILES WEST OF CIRCLE.

I'D HATE TO COUNT UP THE NUMBER OF TIMES THAT I HAVE BEEN TO HEARINGS, INFORMATIONAL MEETINGS, BRIEFINGS AND CONSULTATION SESSIONS CONCERNING THE R.M.F.P. OR THE FORT UNION E.I.S. OVER THE PAST SEVERAL YEARS. IF I EVER DID, I'D PROBABLY ASK MYSELF WHAT IN THE HELL ARE YOU DOING HERE AGAIN YARGER.

I COULD SPEND ONE AND A HALF HOURS STANDING UP HERE REITERATING ALL OF MY FORMER TESTIMONY POINTING OUT ALL OF THE INADEQUACIES OF YOUR STUDIES, THE DOUBLE STANDARD YOU OPERATE UNDER, YOUR FAILURE TO RESPOND TO LEGITIMATE LAND OWNER CONCERNS AND ALL OF YOUR OWN RULES AND REGULATIONS THAT YOU'VE CHOSEN TO IGNORE. I COULD TAKE ALL OF MY ALLOTTED TIME AND SAY NOTHING BUT I TOLD YOU SO. BUT BECAUSE THIS IS THE LAST OPPORTUNITY WE WILL HAVE TO COMMENT ON THIS E.I.S., THERE ARE A FEW MORE POINTS I WOULD LIKE TO MAKE.

DON'T GET ME WRONG, I DON'T HAVE ANY ILLUSIONS THAT ANYTHING I SAY WILL MAKE THE SLIGHTEST BIT OF DIFFERENCE TO YOUR BOSS ON THE POTOMAC.

THAT IS UNLESS OF COURSE THE FORT UNION REGIONAL COAL TEAM, CITIZENS AND THE STATE GOVERNMENTS OF THIS AREA HAVE THE COURAGE TO SAY, "MR. WATT, WE'VE HAD ENOUGH!".

WHAT WE SAY WON'T MATTER UNLESS WE EXPOSE THE FORT UNION E.I.S. COAL LEASE TARGETS, FEDERAL COAL PROGRAM AND THE NEW RULE CHANGES FOR WHAT THEY REALLY ARE. THE SECRETARY OF INTERIOR HAS SOLD US OUT AND HE MAKES NO BONES ABOUT IT.

THE SECRETARY OF INTERIOR WOULD DO AWAY WITH LAND OWNER RIGHTS, HE WOULD DO AWAY WITH DUE DILIGENCE, HE WOULD DO AWAY WITH THE FORT UNION

REGIONAL COAL TEAM AND THE RIGHTS OF THE STATE GOVERNMENTS TO HAVE ANY DECISION IN THE DEVELOPMENT OF THE NATURAL RESOURCES WITHIN OUR BOUNDARIES.

AND THIS IS THE NEW FEDERALISM WE'RE ALL SUPPOSED TO BE SO IN AWE OF -- FINE EXAMPLE OF MANAGING THE PUBLIC'S RESOURCES, KEEPING IN MIND OFCOURSE, MULTIPLE USE AND SUSTAINED YIELD.

ON THE 6TH OF MAY I TESTIFIED BEFORE THE FORT UNION REGIONAL COAL TEAM IN MILES CITY, AND WARNED OF THE POSSIBILITY OF OVERLEASING AND THE SUBSEQUENT SPECULATION THAT MIGHT OCCUR. I STATED THAT IF YOU MADE A LOGICAL, REASONABLY SIZED LEASE SALE RECOMMENDATION IT WOULD PROBABLY BE IGNORED, AND IT WAS. IN OCTOBER I ONCE AGAIN TESTIFIED STATING THE NEED FOR COAL LEASING WAS LESS NOW THAN IT WAS IN MAY. I ALSO WARNED ABOUT THE PROPOSED CHANGES IN THE COAL PROGRAM THAT WOULD VIRTUALLY ELIMINATE THE REGIONAL COAL TEAM.

SINCE THAT TIME THE DEPARTMENT OF INTERIOR HAS ADAPTED NEW REGULATIONS WHICH KEEP THE REGIONAL COAL TEAMS FROM HAVING ANY VOICE IN FUTURE COAL LEASE SALES, WHICH OF COURSE, THEREBY ELIMINATES THE STATES. FURTHERMORE, THE DEPARTMENT HAS ADAPTED A NEW POLICY THAT WILL LEASE COAL ON THE BASIS OF WHAT INDUSTRY WANTS FOR RESERVES RATHER THAN HOW MUCH IS NECESSARY TO MEET TRUE ENERGY NEEDS.

IN THE BEGINNING OF THE FORT UNION E.I.S., YOU DISCUSS SCOPING, ALL OF THOSE AREAS OF CONCERN THAT NEED TO BE ADDRESSED - AIR QUALITY, WATER QUALITY, EFFECT OF FACILITY WASTES ON GROUND WATER, AGRICULTURE, UTILITY CORRIDORS, IMPACT OF COMMUNITIES, INFLATION, LIFE STYLE CHANGES.

THEY'VE ALL BEEN AT LEAST ADDRESSED OR MENTIONED IN GENERAL TERMS, BUT THERE ARE NO CONCLUSIVE RESULTS FROM ANY IN DEPTH STUDIES. NOTHING THAT CAN BE PROVEN. IT'S MENTIONED IN SCOPING AND FOR THE MOST PART, THAT'S AS FAR AS IT GOES.

THE FORT UNION E.I.S. STUDIES SIX DIFFERENT ALTERNATIVES; FROM ALTERNATIVE #1 - LEASING FOR MAINTENANCE TRACTS, TO ALTERNATIVE #6 - LEASING VIRTUALLY EVERY AVAILABLE TON OF FEDERAL COAL IN THE FORT UNION COAL DEPOSIT. CONSIDERING OUR ABILITY TO CORRECTLY PREDICT THE ACTIONS OF THE SECRETARY OF INTERIOR UP TO THIS POINT, I FAIL TO SEE WHY WE EVEN BOTHER TO STUDY ANYTHING OTHER THAN ALTERNATIVE #6. WE WILL MORE THAN LIKELY RECOMMEND 5-6 SYNFUEL PLANTS AND 2-4 POWER PLANTS IN DAWSON, WIBAUX AND McCONE COUNTIES.

THE FEDERAL COAL MANAGEMENT PROGRAM WHICH REGULATES HOW FEDERAL COAL IS TO BE LEASED HAS FOUR PRIMARY GOALS OF THE DEPARTMENT OF INTERIOR. TAKEN FROM THE ABSTRACT PAGE 3-2:

"1) EMPLOY LAND USE PLANNING AND EFFECTIVE ENFORCEMENT OF ENVIRONMENTAL LAWS TO ENSURE THAT FEDERAL COAL IS COMMITTED TO PRODUCTION AND PRODUCED IN AN ENVIRONMENTALLY ACCEPTABLE MANNER WHICH IS RESPONSIBLE TO LOCAL COMMUNITIES AND LAND OWNERS EFFECTED BY COAL DEVELOPMENT."

I FAIL TO SEE HOW LEASING 1 BILLION TONS OF COAL AND DEVESTATING LOCAL COMMUNITIES AND LAND OWNERS CAN BE MISCONSTRUED AS BEING RESPONSIBLE.

"2) ASSURE THAT SUFFICIENT QUANTITIES ARE LEASED TO MEET ENERGY NEEDS."

WE HAVE TO HAND IT TO THE SECRETARY, HE CERTAINLY DID MEET THAT GOAL; UNLESS OF COURSE YOU TAKE INTO CONSIDERATION THE FACT THAT THERE IS NO PROVEN NEED TO LEASE ANY MORE FEDERAL COAL.

"3) ASSURE THAT FEDERAL COAL IS PRODUCED IN AN ECONOMICALLY EFFICIENT MANNER WITH A FAIR ECONOMICAL RETURN TO THE U.S. FOR ALL COAL PRODUCED."

CONSIDER THE POWDER RIVER LEASE SALE HELD LAST SPRING. TWO OF THE TRACTS OFFERED DIDN'T EVEN RECEIVE BIDS AND MOST OF THE OTHERS ONLY RECEIVED

ONE BID. THE SECRETARY GAVE AWAY MILLIONS OF DOLLARS OF THE PUBLICS RESOURCES TO THE COAL SPECULATORS, A FACT SO OBVIOUS THAT THE LEASE SALE IS BEING CHALLENGED IN COURT AND IN CONGRESS.

THE RESULTS OF A FORT UNION COAL LEASE SALE WILL BE EVEN WORSE, BECAUSE MANY OF THE COMPANIES WHO HAD PREVIOUSLY EXPRESSED INTEREST IN FORT UNION COAL, NO LONGER PLAN ON SUBMITTING BIDS.

"4) EMPHASIZE CONSULTATION AND COOPERATION WITH STATE GOVERNMENTS IN THE PLANNING, LEASING AND DEVELOPMENT OF FEDERAL COAL."

CONSIDERING WHAT I HAVE ALREADY STATED ABOUT THE ROLE OF STATE GOVERNMENT AND THE REGIONAL COAL TEAM, I WOULD LIKE TO READ PART OF A LETTER WRITTEN TO THE SECRETARY OF INTERIOR ON AUGUST 30, 1982, BY ALL OF THE WESTERN GOVERNORS.

"DEAR SECRETARY WATT:

ON BEHALF OF THE UNDERSIGNED GOVERNORS OF THE MAJOR PUBLIC LANDS STATES, I AM WRITING TO EXPRESS OUR COLLECTIVE CONCERN THAT OUR BEST EFFORTS TO FOSTER THE SPIRIT OF YOUR NEW FEDERALISM IN THE AREA OF FEDERAL COAL LEASING - EFFORTS THAT HAVE PRODUCED THE FIRST SUCCESSFUL COAL LEASING IN A DECADE - ARE NOW FALTERING UNDER THE CHANGED POLICIES AND REGULATIONS OF THE DEPARTMENT OF THE INTERIOR. THE EFFECT OF THESE CHANGES IS TO ONCE AGAIN CENTRALIZE ON THE POTOMAC CRITICAL DECISIONS AFFECTING WESTERN STATES - DECISIONS THAT SHOULD BE MADE IN THE REGION. THE FINAL REGULATIONS GOVERNING FEDERAL COAL LEASING THAT WERE PUBLISHED BY THE INTERIOR DEPARTMENT ON JULY 30 HAVE REDUCED THE ROLE OF STATES IN FEDERAL COAL LEASING DECISIONS. SPECIFICALLY, THE REGULATIONS EVISCERATE THE MOST VITAL ORGAN FOR STATE/FEDERAL COOPERATION, THE REGIONAL COAL TEAMS. THE REDUCED ROLE OF THE REGIONAL COAL TEAMS, AND THUS THE STATES, IS DIRECTLY CONTRARY TO THE INTENT OF THAT DEPARTMENT, AS STATED IN THE PROPOSED REGULATIONS: "THE CHANGES WOULD NOT SIGNIFICANTLY ALTER THE ROLE OF THE REGIONAL COAL TEAMS."

I WOULD LIKE TO COMMEND THE GOVERNORS FOR DEFENDING THE RIGHTS OF THE STATES AND [illegible] CITIZENS. IT SEEMS OBVIOUS AFTER USING SUCH STRONG LANGUAGE THAT THEY WILL CONTINUE TO PURSUE THE MATTER AND DO EVERYTHING IN THEIR POWER TO SEE THAT THE SECRETARY OF INTERIOR CAN NO LONGER RUN "ROUGH SHOD" OVER THE STATES.

138

MY ONE MAIN CONCERN WITH THE FORT UNION E.I.S. AND THE PROPOSED JUNE 1983 LEASE SALE IS THAT THERE IS NO NEED TO LEASE. IF IT IS LEASED, IT WILL BE FOR SPECULATIVE REASONS ONLY.

THROUGHOUT THE COUNTRY PLANS FOR SYNTHETIC FUEL PLANTS, POWER PLANTS AND NUCLEAR PLANTS ARE BEING DROPPED OR INDEFINATELY POSTPONED. THE WY COAL PLANT IN WYOMING, THE ANTELOPE VALLEY STATION IN NORTH DAKOTA, AND THE INFAMOUS WOOPS NUCLEAR PLANTS IN THE PACIFIC NORTHWEST ARE ALL EXAMPLES. MONTANA MINES ARE OPERATING AT 60% CAPACITY TWO MONTANA MINES ARE NOW IN COURT WITH THEIR UTILITY CUSTOMERS WHO WANT OUT OF THEIR COAL CONTRACTS. WESTMORLAND AND PEABODY MINES ARE OPERATING AT ONE-HALF CAPACITY.

LAST SUNDAY'S BILLINGS GAZETTE CARRIED AN ARTICLE ABOUT GILLETTE WYOMING'S HAMPSHIRE PROJECT, STATING THE SYNFUEL PROJECT WAS NOT NEEDED. IT WENT ON TO SAY IF IT WAS BUILT, IT WOULD LAY OFF WORKERS IN THE WYOMING, BILLINGS AND DENVER REFINERIES. WHY? BECAUSE THERE IS NO DEMAND, THERE IS NO NEED. THE MIDWEST POWER POOL WHICH IS THE PREDEOMINATE MARKET FOR FORT UNION COAL CURRENTLY HAS 8,000 MEGAWATTS OF OVER PRODUCTION. THAT IS 1/3 OF THEIR TOTAL GENERATING CAPACITY.

THE COAL MARKET IS DECLINING WEEKLY. IN VIRTUALLY EVERY TRADE PRESS PUBLICATION OR NEWSPAPER ONE CAN READ WE HEAR OF THE SOFT COAL MARKET NOW, FORTHE NEXT TEN YEARS OR THE FORSEEABLE FUTURE.

IN McCONE COUNTY NO ONE HAS EVEN FILED A LONG RANGE PLAN. THE ONLY POSSIBLE DEVELOPMENT IN THE FORESEEABLE FUTURE WOULD BE IF THE B.N., B.L.M. MINERAL SWAP FIASCO WERE TO TAKE PLACE.

- 6 -

AND SO I ASK YOU, IF THERE IS NO DEMAND, WHY LEASE THE COAL? THERE CAN BE ONLY ONE ANSWER. SPECULATION: THE MULTINATIONAL ENERGY CORPORATIONS OF THIS COUNTRY WANT THE DEPARTMENT OF INTERIOR TO GIVE THEM HUNDREDS OF MILLIONS OF DOLLARS WORTH OF THE PUBLICS RESOURCES. IT CERTAINLY APPEARS THAT THE ENERGY COMPANIES HAVE A WAY OF GETTING WHAT THEY WANT FROM THE CURRENT ADMINISTRATION.

138 OVERLEASING AND THE SUBSEQUENT SPECULATIVE ABUSE BY ENERGY COMPANIES IS NOT NEW. IN EARLY 1982PACIFIC GAS AND ELECTRIC SOLD THEIR FEDERAL LEASES IN UTAH TO SUN OIL FOR $20,000 PER ACRE. THESE LEASES WERE ORIGINALLY OBTAINED FROM THE GOVERNMENT IN THE 1960's FOR $3.70 PER ACRE. LAST YEAR PEABODY COAL COMPANY SOLD THEIR FEDERAL LEASES TO SHELL OIL FOR $17,000 PER ACRE. PEABODY BOUGHT THESE LEASES IN 1966 FOR $3.00 PER ACRE.

THIS SQUANDERING OF THE PUBLIC'S RESOURCES IN THE PAST IS SAD, BUT TO DO IT AGAIN ON SUCH A GRAND SCALE AS IN THE POWDER RIVER LEASE SALE AND THE FORT UNION LEASE SALE WOULD BE A NATIONAL DISGRACE.

AT A TIME WHEN UNEMPLOYMENT IS AT 10%, THE COUNTRY IS ON THE BRINK OF A DEPRESSION, AND PEOPLE NEED SOMETHING TO LOOK FOREWARD TO, IT IS INCOMPREHENSIBLE TO ME FOR THE SECRETARY OF INTERIOR TO GIVE AWAY FOREVER THE PUBLIC'S RIGHT TO A FAIR RETURN FOR THEIR RESOURCES.

GENTLEMEN, THE TEAPOT DOME SCANDAL PALES IN COMPARISON.

September 29, 1982

Comments: Fort Union Draft Environmental Impact Statement

Submitted for: Solvejg N. Howard (Landowner, Golden Valley County)
11551 Ohio Avenue
Apt. # 1
Los Angeles, CA 90025

139 1. As a document it leaves much to be desired. There are no exact references to research works, or citations for assertions made in the text. For example, on what authority are water needs (Fig. 1-5, page 45) and air emission rates (Fig. 1-7, page 47) based?

2. On page 9 there is a "Typical Fort Union Regional View." This is misleading. Exactly where is the location shown? As I have seen the country, Jeffersonian squares of farmland would be more "typical".

140 3. The maintenances of water and air quality are not covered to my satisfaction. What are the long term costs of groundwater degradation? By what authority can you dismiss the movement of mine-polluted water as not a major issue (pp. 103-104)?

141 4. Coal leasing should be deferred until the needs for the energy and the costs and capital come together. There seems no need to lease out government coal for some persons to use the leases for speculative purposes.

I think the proposals for bidding are not arranged for the "greatest good for the greatest number" over the next century. And, some futurists see the United States as becoming even more the breadbasket for everyone. Careless land and mineral use in the next few decades would, I think, jeopardize the production of food. In the meantime, we should be pushing the development of renewable energy sources: wind, sun, geothermal, tidal, and the rest. I seriously question the need for such extensive coal strip-mining as the Fort Union Statement projects.

(signed)
Solvejg Howard
Solvejg Howard
at Glendive
29 Sept. 1982

COMMENTS TO THE BUREAU OF LAND MANAGEMENT
ON THE FORT UNION REGIONAL COAL DRAFT EIS

DATE: September 29, 1982

LOCATION: Glendive, Montana

SUBMITTED BY: Marty Holmes, Meridian Land & Mineral Company
Billings, Montana

Good evening. My name is Marty Holmes. I represent Meridian Land & Mineral Company in Billings, Montana. I am currently the project supervisor for the proposed Meridian coal exchange in the Circle West area of McCone County. My first comment regarding the Fort Union Regional Coal Draft EIS is one to clarify and restate Meridian's perception of coal development in the Circle West area.

142 Earlier this year we supplied BLM with a development scenario for Circle West which we felt was the only alternative over which Meridian would have direct control should development occur. The alternative we supplied was a plant facility to manufacture 2,500 tons, 18,000 barrels per day of methanol. This number was based on the possibility that our sister subsidiary, Burlington Northern Railroad, might convert some diesel locomotives to methanol and

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represents the maximum quantity necessary for such a demand. As the market stands now, a plant of this type will not be built. The current economics are unfavorable but should the fuel situation deteriorate again in the future, the economics might change and make methanol conversion a viable plan.

142 Any other scenario in the EIS document relating to Circle West, including the generic 85,000 barrels per day synfuel facilities, are hypothetical for the purpose of BLM's assessment. We do not see development of this magnitude as that most likely to occur, and it is hoped the public would keep that in mind when reviewing this discussion and associated impacts. Given the lack of formal plans and with lengthy permitting requirements, coal mines and conversion facilities probably will not be under construction at Circle West in 1987 as Table 1-11 in the EIS shows.

143 We commend BLM for its attempt to discuss possible impacts of the leasing program in the Fort Union region as currently contemplated. It certainly was no easy task, particularly when you consider that it is not really the impact

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of leasing that the regional document addresses but rather the impact of possible development which might occur in the future as a result of this leasing action. Given the uncertain future market of lignite coal and the poor condition of current markets, it is unlikely that the number of tracts and levels of production comprising the various leasing alternatives studied in the document will materialize within the predicted time frames. Also, we hope that the public understands that, within time frames predicted, it is unlikely that corresponding impacts will actually be generated and that the larger the leasing alternative the greater the overstatement of production and resulting impacts is likely to be.

143

I should add that we encourage leasing levels large enough to promote competition between reserve holders to ensure reasonable prices to the consumers. Again, this lessens the direct relationship between leasing levels and expected production.

We strongly suggest that the BLM take a hard look at the projections for coal mining in the region and determine the most realistic level of production for selected time frames. This should be followed by an estimate of the level of impacts associated with that production. The final EIS could use this as a basis for comparison when discussing possible production levels from the various alternatives. This arrangement would clearly put impact levels for the full level of production for each alternative in perspective to what the BLM really thinks is going to happen. Everyone reading the document would have a much better idea of what the real impact of the government actions are likely to be.

143

On behalf of Meridian, I'd like to thank you for the opportunity to comment on the EIS. We hope BLM will consider our comments. We feel the proper perspective is missing in the document when comparing realistic versus hypothetical coal development. However, BLM has done the best possible job of addressing impacts for the production levels chosen; especially when site-specific plans for most of the tracts in the region are nonexistent.

TESTIMONY FOR THE BLM HEARING IN GLENDIVE ON ###. SEPT. 1982

I AM NELL KUBESH AND I HAVE HELPED MY HUSBAND JOHN FARM FOR THE LAST 36 YEARS. WE ARE CONCERNED ABOUT THE EFFECTS OF LARGE STRIP MINES AND SYNFUELS ON OUR FARM, OUR COMMUNITY AND OUR WHOLE AREA. FIRST, I WANT TO SAY THAT I APPRECIATE YOUR EFFORTS TO FIND OUT MORE ABOUT THE EFFECTS OF SYNFUEL PLANTS ON AIR QUALITY AND PUBLISHING THE AIR QUALITY SUPPLEMENT.

HOWEVER I FIND A GREAT DEAL OF DATA NEEDED TO ASSESS DAMAGES FROM SYNFUEL PLANTS ARE UNKNOWN, ESTIMATED FROM POOR BASE LINE INFORMATION, OR CONTRADICTORY, AS IS ACKNOWLEDGED IN YOUR MODELING STUDIES. ON PAGE S-37 16 MODELING OF CUMULATIVE 24 HR CONCENTRATION, IT STATES THAT STATE STANDARDS IN BOTH MONTANA AND NORTH DAKOTA AS WELL AS THE FEDERAL SEC ONDARY STANDARD ARE EXCEEDED IN ALL CASES; YET ON PAGE S-27 IT STATES THAT ALLOWABLE CLASS II INCREMENTS ARE GENERALLY NOT EXPECTED TO BE EXCEEDED. ALSO, ON PAGE S-36 IT SAYS "BASED ON CURRENT KNOWLEDGE, THERE CAN BE LITTLE DOUBT THAT EMISSIONS OF SO_2 and NO_x BY PRODUCT SOUCES WILL CONTRIBUTE ACIDITY TO ATMOSPHERIC DEPOSITION", AND ON PAGE S-37, "DUE TO THE SIGNIFICANT SIZED OF GASIFICATION AND LIQUEFACTION FACILITIES THIS IS AN AREA OF POTENTIAL CONCERN AND SHOULD BE MORE CRITICALLY EVALUATED AS MORE STUDIES ARE COMPLETED AND AS SPECIFIC COAL CONVERSION PROJECTS ARE PROPOSED." YET ON PAGE S-41 AFTER CONCEDING THAT MORE INFORMATION NECESSARY TO QUANTIFY THE EFFECTS OF AIR POLLLUTION ON WATER QUALITY IS NOT PRESENTLY AVAILABLE, THE CONCLUSION WAS (S-41) that INDIRECT EFFECTS ON WATER QUALITY RESULTING FROM AIR POLLUTION WILL LIKELY BE INSIGNIFICANT.

144

THE STUDY OF TRACE ELEMENTS IN COAL FROM NORTH DAKOTA IS REVEALING ONLY THAT ONE YEAR DISCHARGES WILL NOT CAUSE ADVERSE EFFECTS ON ECOSYSTEMS IN A ONE-YEAR SPAN, BUT NO CONCLUSIONS WERE REACHED FOR LONGER TERM EFFECTS. IS IT NOT REASONABLE TO EXPECT A CUMULATIVE EFFECT FROM THE LONG LIST OF TOXIC ELEMENTS? THE EFFECTS OF LEAD, MERCURY, ARSENIC, THE MANY VARIETIES OF URANIUM, AND RDIONUCLEIDES ARE ALL KNOWN TO BE TOXIC OR CARCINOGENIC TO ALL LIVING CREATURES, AND ARE NOT TO BE LIGHTLY DISMISSED.

ACID RAIN IS BECOMING MORE AND MORE A NATIONAL CONCERN. WITH MORE THAN 140 FISHLESS LAKES IN ONTARIO AND MORE THAN 100 IN NORTHERN NEW YORK, 150,000 in SWEDEN BEING DETERMINED TO HAVE BEEN CAUSED BY ACID RAIN IT SHOULD BE A PRIME CONCERN IN THIS AREA. WITH THE DISAPPEARANCE OF FISH IN THIS AREA WE COULD LOSE A LUCRATIVE TOURIST INDUSTRY. WHILE SOILS IN THIS AREA TEND TO BE ALKALINE AND WILL TOLERATE OR EVEN BENEFIT FROM A SMALL AMOUNT OF ACID RAIN, THERE IS NO CONSENSUS OR EVEN AN ESTIMATE OF WHERE THE DANGER LINE IS.

YOUR STUDY HAS DEVELOPED A GOOD BASIS TO WORK FROM, BUT ALSO RAISES A GREAT MANY MORE QUESTIONS. WHILE RADON### 222 and 220 WERE STUDIED AND WERE FOUND TO BE DISPERSED (BY AT LEAST HALF) WHAT HAPPENS TO THE MANY OTHER URANIUM COMPOUNDS WHICH WERE FOUND? AND THEN THERE WAS THE QUESTION ABOUT THE RADON COMPONENT BEING TRANSFERRED TO THE END PRODUCT OF SYNTHETIC NATURAL GAS. WOULD IT BE TRANSFERRED THEN TO HOME GAS STOVES AND FURNACES?

144

SO MY CONCLUSION IS THAT THERE IS NOT NEARLY ENOUGH HARD DATA TO JUSTIFY ANY OF THE LEASING ALTERNATIVES EXCEPT #1. THE WHOLE AREA OF SYNFUEL DEVELOPMENT IS STILL EXPERIMENTAL AT THIS STAGE OF SIZE AND SCOPE. DON'T YOU THINK THAT THE PELL-MELL ENERGY SEARCH SHOULD HAVE LEARNED SOMETHING FROM THE NUCLEAR BOOM AND BUST? WE ARE LEARNING, SLOWLY PERHAPS, THAT GOVERNMENT DOES NOT DO WHAT IS BEST FOR ORDINARY CITIZENS. AFTER GOVERNMENT REFUSAL TO BE RESPONSIBLE FOR DEATHS IN UTAH FROM NUCLEAR TESTING, CAN WE EXPECT MORE? ARE WE, IN THIS AREA ALSO DESIGNATED TO BE GUINEA PIGS TO FIND OUT THE ANSWERS TO THE QUESTIONS LEFT UNANSWERED? THE IRONY OF THE WHOLE MATTER IS THAT A NEW SOURCE OF ENERGY IS NOT NEEDED NOW OR IN THE NEAR FUTURE. OIL COMPANIES ARE WORRIED ABOUT SUBSIDIZED COMPETITION IN A SLOW MARKET AND COAL COMPANIES ARRE MINING MORE COAL THAN THEY CAN MARKET. THE AMERICAN PUBLIC S ALSO WILL BE THE LOSER IF THE PUBLIC COAL IS PUT UP FOR LEASE AT THIS TIME AT GIVEAWAY PRICES.

145

FINALLY, I AM REQUESTING A 30 day EXTENSION FOR ADDITIONAL COMMENTS.

Nell Kubesh
John E. Kubesh
12 John E. Kubesh
Sidney, MT 59330
Glendive, MT 59330

IRENE MOFFETT

146 In the economic section of this EIS draft on agriculture taking just the farming profit of each year for a leasee or farmer operation as the only loss is not correct. A farmer buys his machinery to match his acreage. When he loses some of this acreage due to coal mining he still has to pay for the machinery. Thereby he has this loss as well as his profit loss.

This EIS Draft says there will be good reclamation of land. Since no land has ever been released from bonding as reclaimed in the state of Montana, I really don't see how you can put in such a statement.

So far no one has ever tried reclamation of cropland in this state. One of the hardest things for reclamation is getting a good cover crop. With that as a problem, how are you going to start a crop each year?

147 Last summer in the Fort Union Coal Region in North Dakota a coal mining company was proven to be not saving even the top soil to use in reclamation. Yet you state as a fact that there will be separate removal, storage and respreading of these soils and the land will be put back together for farming and ranching in just a few years. What do you base this on when there is proof that it isn't being done in this very area.

In your conclusion the first paragraph states "Short term disturbance would somewhat exceed that acerage presently left bare annually due to summer fallow. Preliminary indication from completed and ongoing research are that in the long term agricultural productivity of mined land can be restored." This is not very accurate if you go by what has happened to coal mined land in the past and what else do we or you have to go by?

147 In the above paragraph what does summer fallow have to do with coal mining. You keep referring to summer fallowing as an example of land not being used. When you summer fallow you increase the amount of grain or food energy in the crop year. In mining you just decrease food energy - the energy that is in shortest supply on a world wide basis.

WILLIE OAY

148 I feel that leasing the coal will also commit an amount of water to process this coal. There are pending at this time, claims for a large amount of water in Montana. (Filings under the Montana water adjudication law).

I will submit in writing at a later date the facts and figures on this issue.

Dawson Resource Council
P. O. Box 886
Glendive, Montana 59330

TESTIMONY OF LEIDA HUBING
SEPTEMBER 29, 1982
GLENDIVE, MT

I AM LEIDA E. HUBING. MY FAMILY OWNS LANDS WITHIN AND IMMEDIATELY ADJACENT TO THE BURNS CREEK TRACT. I WOULD FIRST LIKE TO REQUEST A 30 DAY EXTENSION ON THE WRITTEN COMMENT PERIOD SO THAT WE MAY ADEQUATELY ADDRESS THE RECENTLY RELEASED AIR QUALITY STUDY IN REGARD TO THE ENTIRE FORT UNION ENVIRONMENTAL IMPACT STATEMENT.

149

AT PREVIOUS MEETINGS AND HEARINGS ON THE NEED FOR NEW COAL LEASING IN THE FORT UNION AREA, THE PUBLIC HAS TESTIFIED THAT THERE IS NO NEED FOR THIS LEASING. I FEEL THAT THIS STILL HOLDS TRUE.

I HAVE NEVER SEEN ANY STUDIES PROVING THAT THIS COAL IS NEEDED. PRESENTLY THERE ARE ALMOST 20 BILLION TONS OF COAL UNDER LEASE. MOST OF THIS COAL IS UNDEVELOPED BECAUSE THERE IS NO DEMAND. THIS AMOUNT OF COAL WOULD SEE US DOWN THE ROAD 15 to 20 YEARS, EVEN IF THE DEMAND SHOULD INCREASE.

150 BUT IT IS UNLIKELY THAT THE DEMAND FOR COAL SHOULD INCREASE. THERE ARE MANY REASONS FOR THIS, A FEW OF WHICH ARE;

1) CONSUMERS ARE CUTTING BACK ON THEIR USE OF ELECTRICITY AND WILL PROBABLY CUT BACK MORE AS THE COST OF ELECTRICITY INCREASES.
2) MORE AND MORE PEOPLE ARE MAKING USE OF RENEWABLE ENERGY SOURCES, SUCH AS SOLAR, WIND, AND WATER POWER.
3) THERE ARE MANY MORE NATURAL GAS RESERVES AND THERE IS MORE GAS IN THOSE RESERVES THAN THE DEPARTMENT OF ENERGY ORIGINALLY FORECASTED DUE TO NEW TECHNOLOGY.

TESTIMONY OF LEIDA HUBING
PAGE 2

[redacted] THIS NEW TECHNOLOGY WILL MAKE THE EXPENSIVE SYNFUEL PROCESS OBSOLETE IN THE NEAR FUTURE.

150 SPEAKING OF EXPENSES, WE SHOULD REMEMBER THAT THESE SYNFUEL PLANTS WILL BE SUBSIDIZED BY OUR TAX DOLLARS. YET, SECRETARY WATT INSISTS THAT THIS COSTLY DEVELOPMENT IS NECESSARY.

151 AS PREVIOUSLY STATED, WE RANCH WITHIN THE BURNS CREEK TRACT. IF THIS DEVELOPMENT SHOULD COME TO PASS, AND THE FACILITY ON BURNS CREEK IS PLACED WHERE IT IS MAPPED, IT MUST BE REMEMBERED THAT WHILE THE BUREAU OF LAND MANAGEMENT WILL GRACIOUSLY ALLOW US AS LANDOWNERS OUR TWO BIT COMPENSATION, PEOPLE ADJACENT TO THIS AREA, OR ANY OTHER AREA SLATED FOR DEVELOPMENT, WILL SUFFER SEVERE NEGATIVE IMPACTS AND RECIEVE NO COMPENSATION AT ALL.

152 HOW SEVERE THESE IMPACTS WILL ACTUALLY BE IS UNKNOWN AND THAT IS ONE OF THE BIGGEST FAULTS OF THE FORT UNION ENVIRONMENTAL IMPACT STATEMENT. THE BUREAU OF LAND MANAGEMENT WAS NOT DISCUSSED POTENTIAL IMPACTS OF ACID RAIN,

153 TOXIC WASTES, AIR POLLUTION, OR WATER QUALITY DEGRADATION. PLANNERS PROMISED TO ADDRESS [redacted] THE OFF SITE IMPACTS TO FARMERS AND RANCHERS IN THE REDWATER MANAGEMENT FRAMEWORK PLAN. SUCH AN ANALYSIS WAS ABSENT THERE AND HAS BEEN ABSENT FROM OTHER PUBLICATIONS WHICH PROMISED TO ADDRESS THIS ISSUE. WE ARE STILL WAITING FOR THIS INFORMATION.

THANK YOU.

Fort Union Regional E.I.S. Hearing
September 29, 1982
Glendive, Montana

My name is Helen Waller.

I have a few general comments to make.

154 1. I believe it would be helpful if the author of the various sections was identified. The reference in the back simply states names or firms but makes no attempt to identify which sections were contracted out to whom, or which data was generated internally.

155 2. I received the air quality supplement nine days ago. Because of its delay, I would ask that the comment period be extended an additional 30 days.

156 3. Nowhere in the document is the BN/BLM swap, third alternative addressed. An environmental assessment of that alternative is necessary.

My husband, Gerdy and I farm and ranch between the Circle West and the Redwater tracts. We have known since 1975 that our farm, along with a multitude of others in the McCone, Dawson, Richland, and Wibaux counties in Montana and Geldee Valley County, North Dakota was included in a Land Use Plan being prepared by the B.L.M., whose activities would ultimately bring us through a series of studies and documents leading up to this E.I.S. and on to a scheduled coal lease sale in June of 1983.

This document is the fulfillment of my every expectation! The quality of workmanship is consistent with previous publications. It conservatively predicts probable community tragedy with the usual candor, and draws conclusions firmly founded on documented "unknowns."

157 Throughout the planning process, issues critical to the viability of farms and ranches outside the lease tracts have been raised with the B.L.M., and they promised to analyze the impacts of leasing on agriculture in the Fort Union region. For the record, I am attaching a copy of correspondence with then Secretary Frank Gregg, and also with Loren Cabe, Economist for B.L.M. in Billings.

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157 But in March of 1981, B.L.M. called me to a meeting in Miles City to inform me that they didn't have the time or money to address the problem of what would likely happen to farm and ranch operations outside the lease tracts. Their studies would be confined to impacts on the farms and ranches immediately over the tracts. Now if they would confine their damage, such as air pollution, groundwater disruption, invading weed seeds and toxic wastes to the lease tract, I could accept their scope of study. But I doubt that will be the case.

Despite the fact that the Federal Lands Policy and Management Act requires land use plans to be prepared on a multiple use, sustained yield concept, and despite the fact that the Federal Coal Program requires consideration for lands which produce food and fibre, and even though the Federal Coal program also requires an assessment of the affects of leasing on adjacent, non-federal lands, the B.L.M. has chosen not to do so. Instead, they are satisfied to plead, "unknown". It's kind of like taking the Fifth Amendment. Consequently, most of the important questions about impacts to agriculture are not answered in this E.I.S.

158 Questions like: How far from the mines will groundwater be degraded or lost, and in what direction? What are the results of reclamation efforts in the Fort Union? Can cropland be reclaimed to orininal productivity? What will be the impacts of transmission line, pipeline, and railroad rights of way on ranch operations? What will the effect of air pollution be on crop yield? What will be the effects of toxic waste disposal on water quality? How much land will go for synfuels plants, new county and city buildings, and trailer parks? What costs must taxpayers bear before the facility comes on line to ease the burden. These questions are not answered in the E.I.S. Instead the EIS concludes that there are too many unknowns to evaluate how "off-site" impact might affect farm/ranch operations and cost.

The EIS is full of unknowns.

159 Acid Rain. The EIS contains only a very general discussion of acid rain. It doesn't even attempt to say whether or acid rain will be a problem in the region or downwind in the agricultural "breadbasket" of the country. The EIS says that acid rain will probably increase, but "whether the increase will be significant and where it may show up . . . cannot be predicted." Really, it's anybody's guess.

Page 3

160 Toxic Wastes. The EIS does not analyze the effects of toxic wastes from synfuels plants on agriculture or the general population. Although it describes some possible pollutants, which are dangerous, (and many are cancer-causing) at very low levels, the EIS gives no indication of what, or how much pollutants will come out of synfuels plants. The BLM doesn't know--they simply defer to the E.P.A. who presently has set no standards, has no plans or budget to do so.

161 Health effects of Synfuels Plants. They simply state that "any increased health costs associated with breathing conversion plant emissions are not well documented but could be significant".

162 Solid Waste. "It is still unclear exactly what solid wastes a gasification plant will produce....."

163 Air pollution impacts on water quality. "The information necessary to quantify the effects of air pollution on water quality in the Fort Union Coal Region is not presently available."

164 Greundwater. "It is impossible to predict accurately how far away from a mined area degraded water will move . . . "

165 Trace Elements. The only study going on of trace elements from coal-fired power plants in North Dakota showed no effects during the first year, but "no conclusions could be reached regarding the long-term effects" of arsenic, beryllium, mercury, and others.

166 Other unknowns include the fiscal impacts on county government which would include school budgets. BLM only figured the impacts to city budgets.

167 On the major questions concerning the survival of the agricultural industry in the Fort Union region, the only thing we know for sure from this EIS, is that if leasing takes place, the degree of environmental impacts to expect is "unknown".

168 This document fails to meet its required purpose as set forth in the N.E.P.A. regulations. Section 1500.1 B prevides that "NEPA proceedures must insure that environmental information is available to public officials and citizens before actions are taken. The information must be of high quality." And further in Section 102 of the Act 1501.2 B states "Each agency shall identify environmental effects and values in adequate detail so they can be compared to economic and technical analysis."

I believe this document fails to do so.

Meanwhile other significant and pertinent actions are taking place. The Powder River lease sale of last April is being challenged, as well as Sec. Watt's revision of various rules and regulations applying to the Federal Leasing Law, the Strip Mine Reclamation Act, the Land Use Planning Law and National Environmental Policy Act.

As evidenced by the actions of Secretary Watt, there appears to be one overriding ambition, and that is to deliver the valuable public coal resource into the hands of the energy industry, even though the coal market is depressed, knowing full well that markets are not available for potential coal production from existing mines. For the past couple of years, Montana and Wyoming mines have been operating at about 60% capacity, with some utilities unable to meet even minimum contractual agreements.

Sixteen Billion tons of federal coal are already under lease, much of it not likely to meet due diligence requirements. This must be an embarrassment to an administration which is hard pressed to find justification for the Powder River and Fort Union lease sales.

I contend that in the public interest, it is not prudent to issue new leases to companies who have not been diligent in developing commercial quantities of coal as provided in present law. Neither should congress relax diligence requirements. That would only sanction speculation and encourage further abuses. Nor is it in the public interest to offer a multitude of tracts for sale which effectively eliminates competitive bidding.

If Interior is successful in delivering to energy companies the public's coal reserves, on a depressed market, without effective due diligence requirements, I believe it would be the most notorious interior action since the scandal of the Tea Pot Dome.

* * * *

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March 28, 1979

Mr. Frank Gregg, Director
Bureau of Land Management
Department of the Interior
1800 C Street N.W.
Washington D. C. 20240

Dear Mr. Gregg,

This letter is in response to the request by you at the Billings, Montana hearing on the Federal Coal Management Statement. I appreciate your willingness to allow me to express the concerns of many farmers and ranchers living in Eastern Montana. We simply cannot accept a B.L.M. planning process which does not realistically deal with the inevitable conflict inherent in promoting the mining and conversion of coal in established agricultural areas.

Present law requires that Management Framework Plans be based upon the multiple-use, sustained yield concept. As I pointed out at your appearance in Billings on October 17th, 1978 and again at the hearing on January 24, 1979, the major resource in our area, agriculture, has been excluded from consideration in the B.L.M. planning process. Therefore, the area's agricultural resource values are not presently being inventoried or assessed, and consequently, because of its omission from the study, there is no method by which conflicts between other resources and agriculture are being resolved, only ignored. That is why I contend that the agricultural industry already established in coal areas, and the Dept. of Interior, Bureau of Land Management are on a collision course!

I would like to make three general points before going on to specific suggestions about needed change in the planning process.

Point 1. Data for URA/PAA-SEP/MFP and EISs must be gathered and compiled with an unbiased attitude toward all resources. This has not been

the case in the past.[1]

My concept of a planning system would require that the various levels of the plan development be done in an unbiased manner--from the resource inventory through the resource analysis, social consideration, right down to resolving conflicts and making recommendations. At present, the whole B.L.M. planning process is prejudiced toward the development of the coal resource. If those responsible for generating and compiling the information necessary for a good plan cannot divorce themselves from their prejudice toward coal development, than they have no place in the kind of a planning process which I envision as being useful to the decision-makers. If they are willing to approach their responsibility as data gatherers, rather than decision justifiers, then we are ready to proceed with the discussion of this proposed plan. Granted that consideration, let us proceed.

Point 2. Agricultural productivity as a resource value must be included and given due consideration along with minerals, forest products, rangelands, watershed, wildlife, recreation and cultural.

I contend that if the decision has already been made to lease the federal coal, regardless of the conflicts, then to go through the expense and pretense of "planning" and "public participation" makes a mockery of the democratic process. If B.L.M. is serious about wanting to systematically plan for the multiple-use and sustained yield of this nation's resources, then ALL resources within the planning area must be considered. The B.L.M.

1. Quoted from the Musselshell, Maxby, McCone Draft MFP-- Step 1, McCone County, Minerals Section
"Objectives: Protect and maintain those lands underlain by workable coal deposits to assure that these lands remain available for exploration, leasing and development.
Rationale: Projections published by the Bureau of Mines and other agencies indicate that the consumption of coal in the United States will double by 1990. Experts agree that coal can and must provide a "bridge" and the time necessary to shift the energy base of the United States from oil and gas to whatever the new energy base and the nation's pursuit of energy independance, it is imperative that the coal resources on federally owned lands be developed." Emphasis mine. Please note that while the rationale speaks of federally owned lands, the study does not distinguish between coal deposits on federally owned surface and privately owned surface.

cannot prepare a plan responsibly without examining the agricultural resource at the same level at which other land based resources are examined. While we agricultural people have repeatedly appealed to district, state and national officials, our concerns in this regard, up until now, have been ignored. We both heard Mr. Kennie on Oct. 17th of last year state that they could draw on the Centaur report for that information, but frankly, the Centaur report does not contain that scope of information. Please refer to Appendix "A" for a critique of that document.

Point 3. Although local B.L.M. officials still deny that they are planning for privately owned surface, those of us who have followed the activities of the B.L.M. find our land, our livelihood, and way of life threatened, while the resource values which coal development could destroy are given no consideration.

I believe that as we embark upon this revised approach to planning, it is mandatory that at the outset of the planning process there should be a distinction made between publicly owned surface and privately owned surface, regardless of the mineral estate. The conflict between the rancher--farmer and the B.L.M. does not arise from the way the public lands (surface) are being administered by the B.L.M., nor in regard to B.L.M. decisions for minerals underlying public owned surface. I believe that the local B.L.M. administrators have been good stewards of the public owned surface. They have shown a consistant desire to maintain the land's productivity. They have been good conservationists. They are to be congratulated. Where the conflict arises is from B.L.M. apathy toward and disregard for landowners who have bought and paid for the surface, developed the farm and ranch operation to its present capability,[1] established communities which we are proud to be a part of,[2] built schools which boast of discipline and

1. According to the U.S. News & World Report, June 20, 1977, McCone County, Montana ranked 79th in the nation for per capita income in 1975.

2. Unemployment in McCone County is almost non-existant, and welfare payments to recipients costs us less than administrative costs.

honor, while upholding a constitution which guarantees the right to private property. And now we find an agency of government ignoring that right, while allowing--even promoting the coal resource to be developed, to our detriment, regardless of a legitimate, but thus far unacknowledged conflict--all in the name of planning, complete with public participation!

Because of agriculture's unique relationship with the land, which is also in common with the coal resource, we find it insulting that B.L.M. should insist that they are not planning for private surface. This is only a technicality that the Bureau is hiding behind. Neither is it practical nor realistic to divorce the ecosystem on one section of land from that on the neighboring section. By the nature of our profession, we deal with reality, and this can be no exception. The fact is, if federal coal is recommended for a lease sale, permitting the coal to be strip mined, land will be turned upside-down, power plants and gasification plants will be built, railroads and transmission lines will cross our property, water supplies will be diminished or destroyed, and the remainder of our cropland and grassland will be polluted to the point of questionable economic viability. The results of decisions aimed at public lands could wield death blows to whole farming and ranching communities. The potential impacts on private enterprise must be identified and dealt with fairly. Unlike the bakery or banking businesses in the community which are quantified in a socio-economic profile, the very resource upon which agriculture depends is in danger of being traded off in the planning decisions made by the Bureau.

Those are the basic problems. I would like to suggest these possible solutions.

Following is the step by step approach to planning that I feel is essential to developing information for the Management Framework Plan.

Beginning with the resource inventory level, at which time the resource values are identified and inventoried, a new section must be included--Agricultural productivity. This section would be composed of information which is readily available.

Source of information	Subject material
Land owner/operator	Land uses a. present capability 1. crops 2. livestock 3. other b. potential capability 1. crops 2. livestock 3. other Preference toward or against federal coal lease Social attitudes
County Agricultural Stabilization and Conservation Service	Present cropland use inventory a. cropland acres b. productivity
County Assessor's Office	Present rangeland use inventory a. rangeland acres b. livestock numbers
Regional B.L.M. Office	Animal unit carrying capacity of various land classifications
County Appraiser's Office	Land Classification
County Soil Conservation District	Soils analysis a. identify fragile areas b. identify problem reclamability areas

From the above information, along with current market reports, economic values can easily be computed. Actual market value of land fluctuates, but in no way can it be said to be of so little productive value as is projected in both the Centaur Report and the computation of values of all agricultural products sold per acre of land (TABLE H-90) Draft Environmental Statement on Federal Coal Management Program.

The agricultural owner/operator consultation should take place as soon as the split estate ownership is identified. If landowners are consulted early, much information essential to good planning and good public relations would be generated, with much resentment averted. If coordinated properly,

the social studies could be conducted during the same visits.[1] I cannot stress too emphatically that for the purpose of land use planning, the factoring down of national or state statistics is totally unacceptable. The gathering of thorough agricultural data is justified since this information is essential to making decisions regarding reclaimability, areas identified as renewable resource lands, prime farmlands, and ultimately in attempting to resolve conflicts and making recommendations.

The agricultural analysis should be conducted unit-wide. Otherwise those in a decision-making capacity will be ill-equipped to make multiple land use decisions. The most compelling reason for doing a unit-wide agricultural analysis, especially in the areas of lower BTU coal is because industry has repeatedly declared that because of the low BTU content of the coal, it must be converted on-site. The pollution from those facilities jeopardizes agricultural crops and grasslands for many miles around the plant site. All this information must be a part of the M.F.P. so that these factors can be weighed and decisions justified.

During the analysis of the management situation, with a wealth of information on all resources previously gathered, an analysis of the social, economic, environmental, and institutional values can be made. At the present time, these decisions are being made with only a part of the resource information being considered.

The resource management land use plans should be prepared with the following considerations.

Step 1. Should exclude all lands where owner has indicated a preference not to lease.

Should identify and exclude lands unsuitable for mining.

Planning area analysis determinations must be seriously weighed.

Step 2. Identify the effects of a decision on other resources. This should include an assessment of effects on non-BLM administered lands.

Genuine resource conflicts are identified, weighed and resolved with careful consideration of long term cost/benefits.

1. See appendix "B" for a critique of the Redwater Planning Unit Social Study.

Step 3. The resulting land use plans identify preferred land uses, or combination of uses for the area and provide factual information upon which management decisions are based.

At this point the M.F.P. is complete and should stand on its own. The coal activity plan would proceed from here. Decisions made, based upon information generated for the M.F.P. would have to be justifiable. At the present time we are getting recommendations without justification. Past experience has taught us the danger of broad discretionary authority granted to unresponsive, ill-informed officials at any level of government.

I am sure that you have recognized that what I am suggesting in this revised planning process does not require any change in the law--only in the administration of that law. The local planners are simply not accomplishing that which the law already requires.

A word about "public participation". As the M.F.P.s are now being developed, public participation is a farce. Instead of having any impact on current activity, we always find ourselves in a position of having to respond to something that seems to be permanently cast--the usual excuse being "We can't make changes now because of short timeframes and lack of funds". We are simply tired of responding, to no avail, to a program that is designed to promote our own destruction.

The Miles City B.L.M. occasionally comes to town, about five strong, with a caravan of cars, piles of paraphernalia and ayriads of maps--determined to convince us that strip mining coal in McCone County is just what we want. They don't come here to listen to our concerns. They only try to justify their actions that are so unfair and repulsive to us. And then there's the time they went to Wibaux, Montana and later reported to their superiors that no interest exists in the Wibaux area because no one showed up for the meeting. What B.L.M. Miles City neglected to report to B.L.M. Washington, is that the meeting was not announced in the local paper and most people did not know that the meeting was being held!

We hear so much about the developing of our coal resources being in the national interest. I admonish anyone in the decision-making capacity to think seriously about the preservation of our agricultural lands as also being in the national interest.

March 28, 1979
Page 3

In President Carter's memorandum of May 24, 1977, he instructed the Secretary of Interior to "manage the coal leasing program to assure that it can respond to reasonable production goals by leasing only those areas where mining is environmentally acceptable and compatible with other land uses." Farming and mining just don't mix!

Since the rules to administer the Federal Land Policy and Management Act are just now being considered for public comment, and since they call for the E.I.S. to be done in conjunction with the resource plan, and since those rules require that impact on uses of adjacent or nearby non-Federal lands shall be considered, it seems appropriate that now is the time to implement this revised approach to planning.

The proposal I have set forth in this letter constitutes only a very cursory explanation of the problem and only general information about its implementation. Should you agree to this expanded approach to planning, I would appreciate an opportunity to make further recommendations regarding the implementation program since the basic intent of this plan could be easily subverted if not administered properly.

Any general information given in this letter can be furnished in specifics. This is not an isolated problem with B.L.M. Many "for instances" were furnished to the Dept. of Interior from the Northern Plains Resource Council research coordinator, Sarah Ignatius in a letter of January 27, 1978, accompanied by specific complaints from N.P.R.C. affiliate members throughout the State.

As farmer-ranchers in Eastern Montana, we hold in high regard the relationship we have with our neighbors. It is common knowledge in these parts that we control our property so that the results of our decisions and actions will do our neighbor or his property no harm. We have been good neighbors to the Public and the lands administered for the Public, and we only ask the same consideration in return.

Very truly yours,

Helen M. Waller

Helen M. Waller, Vice Chairman
Northern Plains Resource Council

IN REPLY REFER TO:
3500 (220)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

Ms. Helen M. Waller
Vice Chairman
Northern Plains Resource Council
419 Stapleton Building
Billings, Montana 59101

MAY 22 1979

Dear Ms. Waller:

Thank you for your March 28 letter and enclosures in response to my request at the Billings hearing. Your letter and enclosures have been placed with the comments we are now receiving on the Department's proposed planning regulations. That portion of your letter which relates to the regulations is being considered in the development of final regulations. As you are probably aware, we received comments directed specifically to the regulations from Margaret MacDonald for NPRC dated March 29, 1979.

The following specifically addresses the points raised in your letter:
Point 1 - The policy of this agency is to gather and compile natural resource and socio-economic data without bias towards the eventual allocation of a selected resource or combination of resources for future use. Anything short of this tends to compromise the final planning decision and is not condoned in BLM.

I can assure you that it is our policy for BLM land use plans to fully consider the impact of all resource use and protection proposals and alternatives on both resource and socio-economic values. This has not proven to be overly difficult for our field employees when dealing with physical and biological resources as a majority of the Bureau employees are trained in physical and biological sciences. Unfortunately, though, the Bureau does not have an adequate cadre of competent individuals trained in applying socio-economic impact analysis processes, especially in areas of private surface and Federal coal. It is apparent that our existing standards and procedures are not adequate either. We are attempting to remedy this situation as rapidly as possible by placing employees trained in social and economic analysis skills in all of our district offices. Until we are able to fully accomplish this goal, the Bureau will be required to continue to employ the services of socio-economic consulting firms. We recognize, though, that we need to sharpen up our contract requirements to insure that contractors provide sound unbiased socio-economic data in their reports.

Because of my personal concern relative to the Bureau's past use of socio-economic data, I have assembled a special task force to analyze this area and provide me with some specific options on how the Bureau can improve its handling of socio-economic data. I expect to receive this study toward the end of May 1979.

Point 2 - Until the last three to four years, Bureau field employees have not had extensive experience in planning areas of private surface underlain by Federal minerals. This situation was changed as a result of the energy shortage created by the oil producing-exporting countries' (OPEC) oil embargo and subsequent reduction in oil exports to the United States.

Evidence indicates that the shortage of energy fuels will not subside. Therefore, as an agency which manages vast acreage of energy fuels, such as coal, we must plan for the future use of these resources. During this process we must ensure that an adequate agricultural base is preserved so that our ranchers and farmers can continue to produce sufficient food and fiber to meet the nation's needs.

The Bureau, in conjunction with the Department of the Interior, is in the process of developing specific land use planning criteria for areas underlain by coal. One of the some 23 criteria being considered is the exclusion of areas from future coal development when coal deposits are located under prime agricultural lands.

Point 3 - The whole question of planning for future development of Federal coal reserves underlying private surface continues to be one of the most difficult problems confronting me. Within the Bureau, we are attempting to do our utmost to ensure that individual landowners' property rights are protected and at the same time plan to ensure that the nation's future energy fuel needs are met. As you well know, this is not an easy task and there is no simple and easy answer which will fully satisfy all concerned parties.

Let me assure you that even though our land use plans may identify an area as acceptable for further consideration for coal leasing, a decision to proceed with leasing for coal mining will not be made unless (1) the Secretary decides on a coal program including a competitive leasing element, (2) if such a decision is made, an adequate assessment of the environmental and socio-economic impacts of potential lease tracts are fully analyzed, and (3) the surface owner consultation and consent provisions (Surface Mining Control and Reclamation Act) and planning requirements (Federal Land Policy and Management Act; Federal Coal Leasing Amendments Act) are fully met. In this regard, the Bureau considers the public sector, from both a local and national perspective, as an important and necessary contributor to the planning-decisionmaking process.

One of my goals as Director of the Bureau of Land Management is to perfect a planning process that fully considers natural as well as socio-economic values in a rational and systematic fashion. Such a system must fully consider the desires of landowners and local communities and governments in balance with regional and national needs. I feel our proposed planning regulations are headed in the right direction, although they still need some refinement. We hope to publish these regulations during June 1979.

In closing I wish to express my sincere appreciation for the thoughts expressed in your letter.

Sincerely yours,

Director

July 1, 1980

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Loren Cabe
Montana State Office
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PO Box 30157
Billings, MT 59101

Dear Mr. Cabe:

The Northern Plains Resource Council has a few suggestions and comments to make concerning the draft Requests for Proposals for the Fort Union Economic Analysis and Social Attitudes surveys. We appreciate the opportunity to be involved in the activity planning process early on, rather than having to react to decisions already made, as has been the case all too often in the past.

DESCRIPTION AND SPECIFICATIONS: FORT UNION ECONOMIC ANALYSIS (Section F)

General: Economic impact should include impacts of transmission line right of way, pipeline right of way, the tipple and other mine facilities (in addition to the mine area), and railroad right of way.

Agricultural data must be collected for more than just each "mine area", or it will be impossible to guage offsite impacts. Agricultural inventory must be conducted over the planning area (i.e. the Redwater planning area).

Employment information should be noted by economic sector--it is pointless, from an agricultural point of view, to measure the aggregate effect of development on employment without considering what is happening in each economic sector (agriculture, government, service, etc.).

The contractor should also provide an estimate of boom-related inflation ("mineflation"). This inflation will uniquely impact agriculture, which alone will have to absorb all of the increased costs with no corresponding increase in revenues for agricultural production.

4.4.1: This should specifically include air quality as an environmental factor. Sources of information could include the Environmental Studies Laboratory and Environmental Studies Library at the University of Montana, and sources that the Lab might suggest.

4.4.2: This is vague. It seems to imply that the contractor is to perform all manner of research and studies that are currently lacking. While this would be desirable, it is obviously impossible. We would like to know just what this section calls for on the part of the contractor.

4.4.3: Why isn't part C required for 4.4? It should be. An operation made unprofitable by the impacts of an adjacent mine and those of an adjacent facility is just as much out of production as one put out of business by the impact of either development alone.

4.4.3.1: This section should specifically include air as a factor of production. Land should specifically include soils, and soil chemistry, not just surface area. Water should include surface water quality (which may change due to mine run-off, sedimentation, seepage of facility waste water or solids and/or the seepage of contaminated aquifers into surface water), aquifer disruptions and consequent groundwater losses, groundwater quality degradation, disrupted groundwater tables and realigned groundwater flows (which may result in flooded land, saline seep, or other problems). All of these are measurable, more or less predictable, and vitally affect agricultural economic viability.

4.4.3.2: "Direct Disruption" must be defined so as to include surface required for associated facilities (tipple, storage, etc.) which normally occupies a greater acreage than that actually mined. If failure to include indirect disruptions means ignoring aquifers disrupted, polluted, or destroye by mining and the impact on agriculture, it is totally senseless. Such disruptions must be included.

4.4.3.3: This should also include factor competition (capital, labor,

etc.) for economic sectors which depend on agriculture, or on which agriculture depends. Labor costs, for example, will be passed on by an implement dealer, a bank, a grocery store, or any other enterprises which supply agriculture. This will increase the costs of production for agricultural operators, unaccompanied by increased agricultural revenues, and will therefore mean lower returns to the agricultural sector.

Appendix 3

Agricultural impacts (#3): The definition of 'taking' of water should include degradation of water quality, since polluted water is no more useful than no water at all to an agricultural operator. (A mining company may, in some cases, "replace" an aquifer with a deeper well, if the loss of the aquifer is proven by an agricultural operator. However, the pumping costs for that deeper well would be greater, adding to the agricultural operation's costs. This is a direct impact to agriculture from mining.)

DEGREE OF QUANTIFICATION AND FORM OF ANALYSIS

While it is unclear from the draft if the fictitious examples used regarding the breakdown of the agricultural dollar are intended to be roughly representative, or whether such a breakdown is part of the information to be contracted or yet to be determined by BLM, it should be pointed out that a standard figure for multiplication of the agricultural dollar through a rural community is much higher than that indicated by the example. How will this multiplier be determined? It should be determined for each community, if possible.

The use in the example of "relocated" farmers seems very far-fetched. Is there an actual example of such a relocation and "consolidation" in a mined area that BLM knows of? Does "consolidated operations" mean consolidated farm operations? If so, (1) the contractor would have to show that the displaced family farms (or remaining portions thereof) would be economically amenable to consideration, notwithstanding the

disruption; (2) the contractor would have to demonstrate the ability of the consolidated operation to support 'foremen', and (3) the contractor would have to analyze the likelihood that a displaced farmer or rancher would want to be a "foreman", once he is displaced; such arrangements do not substitute for a family-owned farm, economically or otherwise. Much of the economic return of the family farm operation comes from the "psychic income" of passing on an operation to future generations, an income lost under the "foreman" concept.

GAPS in the contract:

Agricultural prices: The draft says nothing about what data and assumptions will be used to project baseline trend and post-impact farm income. These are critical to the results of the study. Farm income fluctuates sharply from year to year, and very misleading results could be obtained if data from certain years, or from too limited a period of years, is used to project farm income.

How will the results of the contracted study be used? From conversations between yourself and NPRC staff at the most recent Fort Union Regional Coal Team meeting, it is clear that many "unquantifiable" (though no less real) factors exist: low level, long-term air pollution, within applicable standards; disrupted aquifers; the impacts of transmission line fields, and numerous other offsite impacts. These impacts are serious threats to agricultural productivity, but data is missing, difficult to obtain, or is not readily subject to quantification.

While difficulties of precise quantification certainly exist, and while it is possible to sympathize with those faced with the problems involved publication of just the quantifiable data, without thorough explanation of the 'unmeasurables' could be extremely misleading--indeed, it could tend to whitewash the economic impact assessment.

Similarly, a county-wide approach, measuring net economic impact to the entire economy is meaningless to the existing agricultural economy. The county wide income in the Rock Springs, Wyoming area is doubtless

greater now than before the boom, but the economic well-being of the agricultural sector is almost certainly lower. Indeed, the entire pre-growth economy may be worse off. Impact by economic sector is much more important than an aggregate net result. Furthermore, even the aggregate analysis must include an assessment of the impact on real income per capita in the area.

It should be noted that many impacts which are being considered as 'unquantifiable' are the subject of some quantified analysis. In regard to air quality impacts, for example, see the Montana Ambient Air Quality Standards EIS, which cites several studies and reports which include general or specific estimates of yield losses for many crops and range grasses from various levels of several types of pollutants. We believe it would be a mistake to completely dismiss the impact of degraded air quality on the agricultural economy as "unquantifiable", and to give only a qualitative analysis.

SOCIAL ATTITUDES AND QUALITY OF LIFE.

How will the "community leaders" be selected?

How will the information gathered be used?

Will the level of awareness of the respondents be analyzed in relation to the types of responses? That is, will the contractor or the study team determine if those more informed and familiar with impact issues have different attitudes than those less informed on and familiar with those issues?

Again, thank you for the opportunity to participate at this stage in the process. We hope these comments can be used to design the most credible and useful studies. If you have any questions, please do not hesitate to contact us.

Sincerely,

Helen Waller, NPRC Chairman

People For Economic Progress

September 29 1982

169

A higher ranking should be given to the McCone County tracts for the following reasons:

1. The resources, coal and water are available.
2. The energy companies have indicated their interest in developing the tracts.
3. There were very few non consents to leasing forms returned.
4. The great majority of people in McCone County would like to see some of this coal developed.

I would like to quote from an article in the Billings Gazette, Sept. 27, 1982. "Colstrip Units 1 & 4 will generate a lot of electricity in a few few years-but for now, they're generating more jobs than any other single Montana project..."

One problem with this coal leasing procedure, is that it takes too long. I sincerely hope, that if for some reason economic or court delays pushes this lease sale past the 1983 deadline, we do not have to go back and start counting mice and so forth. I do believe we have done enough of that sort of thing.

People for Economic Progress members would like to thank the coal team and all involed for the effort they have put into this project.

David K. Kasten
P.E.P. President

MEMO

CITY / COUNTY PLANNING OFFICE
MILES CITY / CUSTER COUNTY
516 MAIN
MILES CITY / MONTANA 59301
(406) 232-6339

Barbara Kennedy • Planning Director
R. W. "Rick" Jones • Assistant Planner Margaret "Mugs" Bartlett • Assistant Planner

September 22, 1982

David Kasten
Brockway, Montana 59214

Dear David

You and I are not alone in our interest in local job development in our part of the state. Jobs come from work to be done. Most work comes from the development of natural resources. "Demand" plays its part. "Attitude" toward all this plays its part.

You and I, along with most others, can be assured that "Montanans pin their hopes for growth on natural resources, most especially on energy resources". If that sounds bold, take a look at the attached article "Montanans and Economic Growth". The article resulted from The Montana Poll. I quoted directly.

In that Poll, Dr. Maxine Johnson, reported research. As director of the Bureau of Business and Economic Research, Dr. Johnson knows of this state's economy. The poll says 91% - 91% - expect the state to grow in the next five years.

In the article, they say that while many of us think environmentalists are acting responsibly, "They go overboard. Too extreme. They should be more moderate and not bog things down". A typical reaction from Montanans.

In other works, Dr. Johnson has stated that farm income represents around 15% of total labor income. The development of mining jobs will make an important contribution to the state's economy.

I read in another report, The Montana Energy Opinion Study (too big to send to you) that 8%, a very small group, oppose development. The percent favoring coal development is 77%. Support for gasification runs at 74%. That report states that the folks in McCone County are keenly aware of the lack of job opportunities near home. "Coal" will turn that around.

I know the market is "soft" right now. "Soft" for cattle, wheat, coal; "sagging" for workers. But we have to go on with ranching, farming and families and coal. The USA has a great future. Certainly we must balance our foreign trade. Making them rich has made us poorer.

We must turn it around. Industry in cooperation with government has that responsibility on fuel. Can we even "do it" by 1990?

For coal, in particular reclamation, there are stringent regulations. Montana is tough on the coal industry. We should be tough. And, we should be fair. Tough but fair.

Sincerely,

Barbara Kennedy
Planning Director

enc

P.S. When I get held up waiting for a coal train to pass, I sit back and grin. "There goes $25,000 in taxes I don't have to pay.

MAXINE C. JOHNSON AND SUSAN SELIG WALLWORK

Montanans and Economic Growth

With the continued concern about long-term prospects for the Montana economy and the increased emphasis on the promotion of economic growth—evidenced by the creation of the state's Montana Economic Development Project and other similar joint efforts between the private sector and local governments—there is also continued interest in the question of how Montanans feel about economic growth. The Montana Poll, therefore, again questioned Montanans about their reactions to economic growth and their evaluation of Montana's prospects over the next few years.

- **Montanans overwhelmingly endorse at least a moderate amount of economic growth for the state in the near future.**
- **In June 1981, at least half of those polled felt that the Montana economy was doing pretty well or extremely well. That proportion is down to one-third today.**
- **Respondents gave state government comparatively high scores for helping the state economy to grow and for acting responsibly.**
- **Those polled generally viewed labor unions and environmental groups as holding back economic growth in the state.**
- **Montanans are about evenly split as to whether major corporations help or hinder economic growth.**
- **Montana Poll results now and a year ago indicate that Montanans view economic growth in a positive way.**

Attitudes toward growth: still overwhelmingly favorable, but expectations have fallen

The June 1982 Poll confirmed the confidence of a year ago. From the June 1981 survey, Montanans overwhelmingly endorse at least a moderate amount of economic growth in the near future. This is true of all sorts of people throughout the state—old and young, high income and low income, eastern Montanans and western Montanans, Republicans and Democrats, liberals and conservatives.

When asked what would be best for Montana, 90 percent of the Poll respondents said the state economy should grow anywhere from a moderate amount to a great deal over the next five years. Only 9 percent said not too much or not at all. A year ago, 83 percent of those questioned favored at least a moderate amount of growth (table 1).

But some things have changed since a year ago—notably Montanans' evaluation of the current economic situation and their expectations for the future. In June 1981, at least half of those polled felt that the Montana economy was doing pretty well or extremely well. That proportion is down to one-third today, while 60 percent see the economy as doing pretty badly or very badly. In western Montana, where the hard hit forest and mining industries provide much of the economic base, about 80 percent of the respondents described the economy as doing badly. East of the Divide, only half of those questioned gave that response (table 2).

Montanans also are somewhat less optimistic about the future than they were a year ago. They are more likely to predict only a moderate amount of growth over the next five years, as opposed to a good deal or a great deal. In spite of the current problems in their area, western Montanans share the view that there will be at least some economic growth (table 3).

Montanans pin their hopes for growth on natural resources, most especially energy resources. The potential for outdoor recreation and tourism and Montana's agricultural and timber resources also were named as factors encouraging economic growth. There was little consensus on what discourages growth in the location, climate, lack of major industry, taxes, transportation problems, environmental policies and "no growth" attitudes, state and local government and labor unions all mentioned as factors hindering economic growth in Montana. Some respondents also referred to national conditions or situations over which the state has no real control, such as inflation, interest rates, the housing market, and so forth.

Influencing growth: who helps and who hinders?

Any number of economic and political institutions may have an influence on economic growth in the state, and the Montana Poll asked about six in particular: small business, major corporations, labor unions, environmental groups, state government, and the public as a whole. Specifically, the respondents were asked to express their opinions about whether these groups help or hinder economic growth, or have no effect, and whether these groups act responsibly or irresponsibly with respect to economic growth.

Overall, small business received by far the strongest endorsement for helping the economy to grow. Next were state government and the public as a whole. At the other end of the spectrum were labor unions and environmental groups, which those polled generally viewed as holding back economic growth.

Montanans apparently have mixed feelings about major corporations; those who said they are helping economic growth were just about counterbalanced by those who thought they are holding it back (table 4).

When asked whether these same groups are acting responsibly or irresponsibly with respect to economic growth, small business once again received the most favorable rating. Also receiving high scores were state government and the general public. Labor unions, on the other hand, ranked lowest—less than one-half of the respondents felt they are acting responsibly. Finally, major corporations and environmental groups, for the most part, were thought to be acting responsible relative to economic growth but by noticeably smaller margins (table 5).

Why are labor unions thought to hold back economic growth and act irresponsibly? The most often cited reasons given by respondents were that labor unions think only of themselves in making demands for wages and working conditions and are not taking into account the current economic conditions and the economy in general. One respondent summed it up this way: "They keep asking for too much." A sizable number also mentioned that strikes hurt the entire economy, but the benefits accrue only to union members. Finally, some Montanans apparently feel that labor unions have become too powerful, have abused their power, and have outlived their usefulness.

Environmental groups were thought to be hindering economic growth, but their actions were generally judged to be responsible. The most often cited ways in which they are holding back economic growth were the groups' insistence on strict environmental standards, their impact on business and industry, and their negative impact on energy development in particular. "They go overboard. Too extreme. They should be more moderate and not bog things down," was a typical reaction.

But even though many Montanans think environmentalists may be hindering economic growth, a majority (about 59 percent of the respondents) believe environmental groups are acting responsibly. Typical was the Montanan who said, "They're acting responsible by what they do, but hurting industry and the economy." Sizable portions of those who thought environmental groups are acting irresponsible suggested they are interested only in their own welfare or goals and they are opposed to growth or development and will not compromise with opposing viewpoints. And an ambivalence which may be common to a number of Montanans came through in comments such as "I don't know which I want: the nature or the jobs" and "Farmers's great but you can't eat it."

Montanans have mixed emotions about major corporations also. They are about evenly split as to whether they help or hinder economic growth. A slight majority (52 percent) believe they act responsible with respect to economic growth. In describing how major corporations hold back growth, respondents used a series of words which have become familiar to all Montanans: "plant closures, cutbacks, layoffs, pullouts, and shut downs." Some respondents suggested that in some cases these actions may have been justified. A lack of interest in the needs of the public and an overemphasis on profits were mentioned by many Montanans who believed big business is acting irresponsible. "They don't care about the people; they care about the bucks" was a typical comment.

Political preferences apparently affect Montanans' attitudes toward major corporations, labor unions, and environmental groups. Even though there were many exceptions, these attitudes generally conformed with traditional stereotypes. Republicans, for example, were more likely than Democrats to say that major corporations are helping the economy to grow and are acting responsible with respect to economic growth. Democrats, on the other hand, were more favorable than were Republicans toward labor unions and environmental groups — they thought that these two groups are acting reasonably with respect to economic growth. Even Democrats, however, thought that labor unions and environmental groups generally are holding back economic growth (table 6).

A changing political environment?

Economic growth is apparently losing its "shiny sword" image in Montana (table 7). Montana Poll results now and a year ago indicate that Montanans generally view economic growth in a positive way, associating it with a healthy economy, and overwhelmingly endorse at least a moderate amount of economic growth over the next five years. And a substantial number of Montanans say they perceive some change in overall attitudes toward growth. Almost one-half of the respondents said that Montana as a whole is more receptive toward economic growth than it was a few years ago; in addition, about one-third saw no change in attitudes.

Sources that the same public perception is apparent with regard to the attitudes of state government toward economic growth. Respondents gave state government comparatively high scores for helping the state economy to grow and for acting responsible relative to economic growth. About 41 percent said state government is more receptive to economic growth than it was five years ago. Almost the same proportion, however (39 percent), saw no change in state government's attitudes.

Growth and the quality of life

Any discussion of the standard of living in Montana usually leads to references to the quality of life here. The June 1982 Poll asked respondents about the effect of economic growth on both the standard of living (defined as the things people have) and the quality of life (overall fulfillment in general) (table 8). A majority of respondents said the average Montanan's standard of living and quality of life improve when the economy grows. Fewer than one in ten believe either the living standard or the quality of life is adversely affected by economic growth.

When asked about the effect on their own lives, respondents were slightly less enthusiastic. A small majority agreed that economic growth would result in an improved standard of living and quality of life for them personally, although sizable proportions maintained things would stay about the same. Again, less than 10 percent anticipated a change for the worse. □

CHAMBER OF COMMERCE & AGRICULTURE, INC.
Glasgow AREA
BOX 832 GLASGOW, MONTANA 59230
TELEPHONE (406) 228-2222

September 22, 1982

District Director
U.S. Dept. of Interior

Dear Sir:

A natural function of any Chamber of Commerce is to promote the growth of its community and to welcome new business ventures within the area it serves.

It is with this purpose in mind we offer our support to the Circle Chamber of Commerce in their endeavor to secure the very desirable complex known as Circle West to locate near their city in McCone County.

An important part of the developers plan calls for the securing of coal leases on land controlled by the U.S. Government. We lend our voices to those who are petitioning your agency to allow leasing of this land, with the pleasant consequences of turning a rather non productive area into one offering many jobs and sundry benefits accrued from planned venture by private capitol.

Sincerely,

Ron Helland, President

RH/jh

ACCREDITED CHAMBER OF COMMERCE

WESCO resources, inc.
406-252-5695 ☐ 1500 POLY DR. ☐ SUITE 250
P.O. BOX 1181 ☐ BILLINGS, MONTANA ☐ 59103

September 29, 1982

Lloyd Emmons
Project Manager
Fort Union Project
Bureau of Land Management
P. O. Box 30157
Billings, Montana 59107

Dear Mr. Emmons:

The following comments reflect the views of Wesco Resources, Inc. on the Draft EIS for the Fort Union coal region. Our comments for the most part will be directed only to the areas considered for leasing in the Circle area which is the area designated in Wesco's expressions of interest.

Before Wesco presents its specific comments, there are some areas that we have noticed that should be corrected. These are:

170 1. Page 19 - Redwater Tract II. The surface map legend key is incorrect. State and Private Surface color key indicationa should be switched.

171 2. Page 91 - The picture showing mule deer should reflect either western North Dakota or eastern Montana, not western Montana.

172 3. The State Legislature action found in Appendix B pages A4 and A5 should reflect the proper legal cites to the new Montana Codes Annotated and not R.C.M. 1947.

173 4. In the References section page R-1, there is no mention of the study done by Westech of Helena on the wildlife in the Redwater area. The report was finished and sent to the Miles City BLM in December of 1981.

The following comments are specific comments on the draft itself. First of all, it is a pleasure to have the opportunity to comment on the Draft Fort Union Coal Region EIS. To say the least, it is a massive undertaking and Wesco Resources, Inc. compliments the BLM and its staff for their efforts.

Wesco's following comments are in relation to the EIS and its application in the McCone County area where the Circle West tracts and the Redwater

tracts are located. As the BLM is aware, Wesco has been involved in this area for the past nine years. Wesco has cooperated with the BLM along the entire leasing process and even before the area was to be considered for the upcoming competitive federal coal leasing. During this time, Wesco has seen the plans for the BN owned Dreyer ranch change from a fertilizer from coal process to a synthetic diesel fuel project to the latest proposal which involves a coal exchange with the BLM. The proposed exchange presents a problem for Wesco, and we feel it is an improper action on the part of the BLM to include the proposed exchange in the EIS process at this late date, especially when the BN, like Wesco, has expressed its interest to have the coal leased. There is nothing in the EIS that speaks to the leasing target and the effect the exchange would have on the replacement of tonnages if the proposed exchange is completed. It also seems improper to continue to consider the exchange when there has not been a determination of whether or not the exchange is in the public interest. It would follow, too, that the legal issues that may exist with the exchange should also be addressed before the impact of the exchange is addressed in this EIS document.

174 To elaborate on these points and for the record, Wesco opposes the proposed coal exchange for the following reasons. When the EIS addresses the end use of the coal and says that a synthetic fuels plant will be available for two plants on the two resulting 350 million tons blocks of coal, it fails to consider Montana's stringent plant siting laws and the rural nature of the area. Montana would probably not allow the siting of two plants in close proximity to each other. The EIS also fails to recognize that a synthetic fuels plant cannot economically exist unless it has in excess of 500 million tons of coal. In fact, the plant being constructed in North Dakota has in excess of one billion tons of coal reserves. If only one plant can be sited in the Circle West area, how does this benefit the public?

Wesco recognizes that many of these concerns are being addressed in the document to be done by the Miles City BLM District Office. However, it would seem to be more prudent to have the key legal issues and the public interest test addressed before the public pays to do a separate study as well as consider the exchange possibility in the Draft EIS, especially if these issues throw the exchange out of further consideration.

175 The Fort Union Coal Team has concluded that Alternative 3 is the preferred alternative which includes the coal subject to the proposed exchange. There is no discussion of what happens to the leasing target if the 350 million tons is exchanged. In other words, would other tracts not presently included in the final leasing target be made available for the coal lease sale?

176 In Wesco's opinion, the ranking of the tracts and the reasons given for

176 ranking the Redwater tracts low in comparison to the Circle West tracts are unjustified. Wesco conducted a survey of the Circle area attitudes toward coal mining in the summer of 1980. Development was favored across the entire county by nearly 90% of the sample. The discussion about the Redwater River and the potential damage to it by mining the Redwater is also a concern to Wesco. There are few instances that Wesco is aware of that the Redwater River is used for crop irrigation. In fact, the river does not flow during much of the growing season. We also understand that the water quality is very poor.

177 Wesco believes that the BLM's approach to predict what the end use of the coal will be is a mistake. In the not too distant past, there was a study done called the North Central Power Study. This raised intense concern among many Montanans and has proven to be an untrue forecast of energy and power development. The economic constraints to synfuels development as well as the lack of demand for lignite coal power generation makes the projected use estimates literally useless and misleading. In Wesco's opinion, the presence of abundant water for industrial use and the presence of significant coal reserves makes the Circle area attractive primarily for synthetic fuels development.

178 The socio-economic impacts to Circle would be great whether Circle West or the Redwater area were developed. Wesco does not believe, however, that the Circle West site has a lesser impact than the Redwater area on Circle. Since the Redwater tracts are nearer to Circle, many of the necessary social services are near at hand. At least under initial development, while the impact may be great to Circle, Wesco believes the proximity of the in place social services would favor the Redwater area over Circle West.

179 Wesco does not hold itself out as a reclamation expert, but more data would have to be made conclusive to show that the Redwater area is more difficult to reclaim than the Circle West area. Wesco believes the contrary is true because of the nature of the terrain which is mostly rolling dry land wheat production and grazing. The fact that the Redwater area has crop lands should not preclude it from development, especially when the majority of the surface over the tracts has existing surface owner consents where the landowners have given permission to surface mine the
180 coal. Nothing is mentioned in the Draft EIS about how the landowners who have given their consents to mine would be affected by the proposed
181 exchange. There is nothing discussed about the terms of the two coal reservations that exist in the BN and federal patents. Since the two coal reservations are different, in what manner and how would they be exchanged?

182 Wesco would like to take exception with the statement made on page 73 regarding the Redwater tracts. Rationale was given by Wesco at the regional coal team meeting and at other meetings for inclusion of the Redwater tracts in the preferred leasing alternative. Wesco did not agree

182 with the ranking process of the Redwater tracts and still doesn't. How the Coal Team can justify leaving the Burns Creek tract in the preferred alternative and ignore tracts of interest like Redwater is beyond comprehension, especially when it is apparent that the Burns Creek tract will not clear the leasing process.

183 One final thought is the coal leasing process itself. Applying the Powder River Coal Region sale procedures of April 28, 1982, only those tracts that have valid surface owner consents will clear for leasing. Wesco assumes the same will be true in the Fort Union region. Therefore, what harm is done if all the designated tracts are put up for leasing? In the Powder River sale, the initial leasing alternative called for 1.4 to 1.5 billion tons. The Secretary picked the maximum figure and made all the tracts available for leasing. When the sale was held, six tracts dropped out because of refusals to consent, and two tracts received no bids. The result was the leasing of the original preferred leasing alternative. To preclude tracts for leasing and not provide that those tracts can replace tonnages that would drop out or receive no bids, potentially affects the competitive aspect attempted in federal coal sales. Essentially, the federal coal leasing process puts the burden on the interested parties to clear the tracts for leasing, not the Coal Team and not the Secretary of Interior. The tract ranking process stymies the potential of competitive leasing, especially where leasing interest has been demonstrated. If the tracts can clear the unsuitability process and are available for leasing, they should be placed in the competitive arena and the market place and the interested parties should decide whether or not the tracts are leased.

Wesco Resources, Inc. appreciates the opportunity to offer these comments.

Yours very truly,

WESCO RESOURCES, INC.

By _____

*BLM

NORTHERN PLAINS RESOURCE COUNCIL

Field Office
Box 858
Helena, MT 59601
(406) 443-4965

Main Office
419 Stapleton Building
Billings, MT 59101
(406) 248-1154

Field Office
Box 886
Glendive, MT 59330
(406) 365-2525

Testimony of Glen and Diana Taylor, Wolf Point.
September 29, 1982
Glendive, Montana
Fort Union EIS

We ranch on Prairie Elk, north of the Circle West tract discussed in

184 this EIS. To start with, we don't believe the coal lease sale is needed. There isn't any demand for the coal--for production, anyway. It seems to us that the only result of this lease sale will be speculation by energy companies. A couple of companies will tie up the coal, just as oil has been tied up by a couple of companies.

And, as taxpayers, we object to the government selling the public coal to these companies for what will probably be bargain-basement prices.

185 We also don't believe this EIS discusses all the impacts of coal leasing and synfuels development on agriculture and on our communities.

186 There is a possibility that development of the Circle West tract will mean a railroad up Prarie Elk--through our ranch. The EIS doesn't tell us anything about how this would affect us, how much it would add to our operating costs, or whether we could still operate at all with a railroad through the place.

187 If the coal veins in Circle West, which are our aquifers, are ripped up, we stand to lose our wells. The EIS says that the mining companies would have to replace them. But with what? How much would we have to pay

187 for extra pumping costs for deeper wells? Where are the deeper aquifers to replace our wells? What is the quality of that water? How can we prove damages to the wells we're using now, when the BLM hasn't got data on the quality and quantity of aquifers that will be affected by mining? The EIS makes compensation sound real easy, but we don't know how we'll make out taking a multinational corporation to court to get it. The Interior Department has been up against these companies in court, so they should know how tough that is.

188 The EIS says workers will commute to Circle West from Glendive and Circle, by taking Highway 200 to Flowing Wells, and then taking Highway 24 and a couple of miles on a county road. That's a 46 mile trip from Circle. We think they'll take the Horse Creek road instead, since it is about 15 or 16 miles. The EIS should have analyzed the impacts to that road, not just highway 200 and 24.

189 The EIS also doesn't figure that anybody working at Circle West will live at Wolf Point. That seems short-sighted--probably a lot of people would live in Wolf Point. If they do, they'll take the shortest route to Circle West--on the Prairie Elk Road, right past us. Are we going to have to deal with vandalism, theft, and poachers? Can we have school children and cattle out on the road with a stream of traffic pouring each way on that road with every shift at the mine and the plant? How is it going to affect our ranch to have a major traffic artery going through it?

190 The EIS doesn't talk about these kinds of costs to agriculture. We don't know how BLM can ignore these costs, and still conclude in the EIS that

190 impacts to agriculture from this lease sale will be "miniscule".

We can't afford several thousand people in Circle--that's too much all at once. With that kind of a boom, the type of people who will be coming in, we wouldn't want our kids going to Circle.

We can't afford a railroad through our place, or to lose our wells, or to have our cattle poached or our town flooded with construction workers. The taxpayers can't afford to have BLM dump public resources on a soft coal market. We can't affood it, and we don't need it. Thank-you.

191 I am against coal development in this area. It will have a devastating effect on our local economy. Our economy is based mostly on farming and livestock raising. The area they plan on mining is some of the best dry land farming and grazing land in eastern Montana.

192 Most of our water wells and springs are of supper ory in. To mine this area would ruin most of our water that we depend on. Eastern Montana would not amount to much with out our water. Most of our water veins in this part of the county runs from the North west to the south east.

The way our economy is, I think our farmers and ranchers have as big a tax load as they can stand; without puting up the tax for coal development.

Edwin W. Ames Jr.

LEROY M. MOLINE D.D.S.
314 WEST TOWNE
P.O. BOX 1291
GLENDIVE, MONT. 59330
TELEPHONE 365-4114

September 28, 1982

Mr. Chairman:

In May, 1982, I attended your public meeting in Glendive, Montana. I asked you at that time what you would do if your boss ordered you to make a decision regarding Fort Union coal development which was contradictory to the wishes of the majority of the people as expressed during your public meetings. Your response was that you would do whatever your superior told you to do because you want to keep your job. This indicates to me that public input is of no consequence in the final analysis.

193 Your own coal team recommendation of development was 400,000,000 to 800,000,000 ton on May 28, 1982. I assume that this recommendation came from public input. However, on August 28, Gary Corruthers indicated that the tonnage would be 800,000,000 to 1.2billion. This overrode public input and changed the choices in tracts to be used for development. It appears that all the tracts must be used, so what is the point of public input in the EIS?

194 Is there a proven need for this development--what study substantiates a need? I believe there are federal leases for 18,000,000 acres, mostly undeveloped, and apparently there is no need at the present.

195 I would like to comment that I feel water is a critical element to be considered in this development. According to a report from the state of Montana, there are only approximately 12,000 acre feet of water in the Yellowstone River for use in development. How much water do you plan to use?

If the development proceeds according to your plan, there will probably be no further need for the BLM because we will have reverted back to the great American desert.

Sincerely,

L.M. Moline, D.D.S.

Circle, Mont
Oct 1, 1982

RECEIVED
OCT - 6 1982
Bureau of Land Management
Billings, Montana

Re: Board of Land Commissioners
Project Proposal

196 There really is no need to have any more coal in the Fort Union region except for keeping existing mines in operation. There is already so much federal coal under lease that isn't being mined. It sure doesn't make sense to lease any more. Especially with the coal demand in a slump as it is now.

197 Random land & mineral coal exchange should not be allowed. What purpose is nothing but a means to deprive the land owner of his surface owner without the right to say whether he wants his land mined or not.

198 The draft EIS states on page 105 that water quality in the mine surface aquifer will be so poor as to make it useless and this condition will continue indefinitely. I don't think any area should have to live with a

198 condition like that.

199 The reclamation seems to be a big if. The EIS says that preliminary results show that it can be done in the long term. What does that mean? Does it mean the use of extra fertilizer & irrigation for 10 years or a 100 yrs?

200 The impacts of coal mining sound like they are just to much for any small community to handle. But even a worse possibility would be to have a large mine and construction half done on a plant of one kind or another and then have the whole project abandoned. I think you should consider that possibility.

Sincerely
Glenn Walker

CIRCLE CHAMBER of COMMERCE and AGRICULTURE
CIRCLE, MT. 59215

October 4, 1982

Mr. David Darby
Project Manager, Fort Union Project
Bureau of Land Management
Billings, Mont.

Dear Mr. Darby:

The Circle Chamber of Commerce and Agriculture, would like to thank the regional coal team, for the effort they have put into the Fort Union coal lease sale.

There are two comments that we have at this time:

201 We feel that the Mc Cone county tracts should have a higher ranking.

The other is we sincerely hope that the Department of Interior does not, let the leasing of coal in Mc Cone county be stopped by a special interest group.

Sincerely
Dave Kasten
Dave Kasten
President

RECEIVED
1982
Bureau of Land Management
Billings

PETITION

WE, THE UNDERSIGNED RESIDENTS OF THE EASTERN MONTANA AREA URGE THE DEPARTMENT OF INTERIOR TO LEASE THE COAL TRACTS IN McCONE COUNTY AS THEY LIE IN AN AREA WITH READILY AVAILABLE WATER AND COAL.

NAME	ADDRESS
[illegible]	Circle Mt
[illegible]	Savage MT
[illegible]	Sidney MT
Donald [illegible]	Circle Mt
Don [illegible]	Brockway Mont.
Edwin Beery	Vida Mont
Bill [illegible]	Circle MT
[illegible]	Terry Mt.
[illegible]	Circle Mt.
Stanley [illegible]	circle Mt
[illegible]	
[illegible]	Circle Mt.
[illegible]	Glendive. MT.
John [illegible]	Circle Mt.
[illegible]	Vida Mt.
[illegible]	Circle. Mt.
Bertha [illegible]	Circle, Mt
[illegible] Johnson	Vida, Mt.
[illegible]	Circle Mont.
Bill [illegible]	Glendive Mt
Frank [illegible] Roberts	Circle Mt
[illegible]	Wolf Point Mont
[illegible]	[illegible] Mont.
Paul [illegible]	Glasgow, Mont.
[illegible]	Wolf Point Mt
[illegible]	Circle Mont
[illegible]	Circle Mont
Paul Kasten	Brockway, Mont.
Alvin Walker [?]	Circle Mont.

PLEASE MAIL COMPLETED PETITIONS TO: DAVID KASTEN, BROCKWAY, MT. 59214 by 9-27-82.

PETITION

WE, THE UNDERSIGNED RESIDENTS OF THE EASTERN MONTANA AREA URGE THE DEPARTMENT OF INTERIOR TO LEASE THE COAL TRACTS IN McCONE COUNTY AS THEY LIE IN AN AREA WITH READILY AVAILABLE WATER AND COAL.

NAME	ADDRESS
Marie [illegible]	Circle, Mt
Marjorie Twitchell [?]	"
[illegible] Twitchell [?]	
Donnell [illegible]	Circle Mt
James [illegible]	Circle Mt.
Bob [illegible]	Circle Mt.
[illegible]	Circle, Montana
David K. Kasten	Brockway, MT.

PLEASE MAIL COMPLETED PETITIONS TO: DAVID KASTEN, BROCKWAY, MT. 59214 by 8-27-82.

PETITION

WE, THE UNDERSIGNED RESIDENTS OF THE EASTERN MONTANA AREA URGE THE DEPARTMENT OF INTERIOR TO LEASE THE COAL TRACTS IN McCONE COUNTY AS THEY LIE IN AN AREA WITH READILY AVAILABLE WATER AND COAL.

NAME	ADDRESS
[illegible]	Box 129 Jordan Mt
[illegible]	Box 129 Jordan Mt.
[illegible]	Box 35 Jordan Mt.
[illegible]	[illegible] Jordan Mt
[illegible]	B 467 Jordan
[illegible]	Box 265 Jordan
[illegible]	[illegible] Jordan

PLEASE MAIL COMPLETED PETITIONS TO: DAVID KASTEN, BROCKWAY, MT. 59214 by 8-27-82.

United States Department of the Interior
BUREAU OF RECLAMATION
Upper Missouri Region
P.O. Box 2553
Billings, Montana 59103

UM-150
125.-

Memorandum

To: State Director, Bureau of Land Management, Billings, Montana

From: Acting Assistant Regional Director, Bureau of Reclamation, Billings, Montana

Subject: Bureau of Land Management's (BLM) Draft Environmental Statement for Fort Union Coal Region, Montana and North Dakota (DES 82-47)

We have reviewed the subject draft environmental statement (DES) and have the following comments.

202 On page 105 of the DES, the Bureau of Reclamation was erroneously named as a participant in the preparation of the state of Montana Department of Natural Resources and Conservation (DNRC) report. We furnished the operational study model with caveats and the inflow data. The assumptions made thereafter are theirs.

203 On the same page, average and minimum annual water availability figures from the Yellowstone River at Sidney, Montana, were extracted from the draft DNRC report and not the final report dated May 12, 1982. We suggest you use the most recent figures. In this final report "minimum annual availability" of water was not included and we suggest that this quantity be deleted or, at least, fully explained in the subject DES by listing all the depletions. When the "average annual availability" figure is revised, care should be taken in distinguishing between the average and the median quantities. The Bureau estimates that 243,000 acre-feet could be made available annually out of Yellowtail without affecting existing or likely future uses.

204 On page 7 under the cultural features issue, second paragraph, the first sentence mentions that two sections of the Dunn Center tract fall within a district which has been declared eligible for the National Register of Historic Places. On page 24 the surface ownership map of Dunn Center indicates that approximately <u>three</u> sections of the proposed Knife River Flint Quarry National Register District are within the tract boundary. This discrepancy needs clarification.

204 The cultural resource sections of the regional DES and Dunn Center Site Specific Analysis do not point out the significance of these resources. We understand as many as 14 other sections have been considered for inclusion into the National Register of Historic Places on or near the Dunn Center tract as well as the three sections mentioned. In light of this knowledge, more than just an all or none programmatic approach to lease is needed in order to comply with the CEQ regulations, section 1502.14, concerning alternatives and mitigation measures. For example, tracts might be leased excluding sections with significant features and the impacts analyzed accordingly.

The Bureau is lead agency in preparing the EIS for the proposed Dunn-Nokota Coal-to-Methanol project which would use coal from one of the tracts being considered for lease. The scoping session for this project revealed cultural resources in this area are nationally significant and were a major concern of many participants. It would be helpful if this issue is resolved before our draft statement on the plant is distributed so we can adopt the BLM document without needing to supplement the coverage of this topic.

If you have any questions or which to discuss these comments further, contact Mr. George Walker (FTS 585-6605) in our Regional Office of Environmental Affairs.

Kenneth L. Pedde

2

United States Department of the Interior
FISH AND WILDLIFE SERVICE
AREA OFFICE—NORTH DAKOTA
1500 CAPITOL AVENUE
BISMARCK, NORTH DAKOTA 58501

1982

MEMORANDUM

To: Project Manager, Fort Union Project, Bureau of Land Management, Billings, Montana (Attn: Lloyd Emmons)

From: Acting Field Supervisor-Environment, Bismarck, North Dakota

Subject: Draft Environmental Impact Statement (DEIS) Fort Union Coal Region, Western North Dakota and Eastern Montana and Air Quality Information Supplemental

The Fish and Wildlife Service (FWS) has reviewed the subject document as well as associated BLM documents pertaining to the Fort Union Coal Region DEIS. We offer the following comments for your consideration. Many of these comments were previously provided to your staff in June, 1982, following a review of the preliminary DEIS. These comments are submitted in accordance with our Memorandum of Understanding (MOU) on coal, the national BLM/FWS MOU and coordination responsibilities under the Federal Coal Management Program (FCMP). These comments have also been prepared under the authority and in accordance with the provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. et seq.). They are also consistent with the intent of the National Environmental Policy Act.

General Comments

This DEIS discusses the proposed leasing of 7 production maintenance/by-pass and 17 new production coal tracts in eastern Montana and west-central North Dakota. These tracts involve the leasing of federal coal administered by the BLM to meet the leasing target of 0.8 to 1.2 billion tons of federal coal established by the Secretary of the Interior.

Under this DEIS, 6 coal leasing alternatives were considered and evaluated by the Regional Coal Team (RCT). In addition, the Woodson Preference Right Lease Application (PRLA) and Meridian Exchange Proposal were considered in conjunction with alternative 3. The RCT preferred alternative was alternative 3 modified by removing the Central Bloomfield tract and substituting the Bloomfield tract. This alternative would make 832.8 million tons of new federal coal available for leasing.

205 We understand that it would be difficult, unnecessarily expensive and very time consuming to provide the public with a comprehensive, complete DEIS that included information provided in other BLM planning documents pertinent to the Fort Union Coal Project. However, we believe it would be beneficial to include abstracts or summaries of certain information, if available. By memorandum dated April 29, 1982, (copy attached) this office responded to BLM's Addendum Document on the West-Central North Dakota Management Framework Plan and application of unsuitability criteria. A Decision Document was subsequently issued in August, 1982. We believe that wildlife information now available from this document and counterpart documents for Montana should be summarized and incorporated into the final EIS. Specifically, acreages of wildlife habitats affected by the unsuitability process versus total acreage of wildlife habitats should be discussed in both Chapter 2 - Affected Environment and Chapter 3 - Environmental Consequences.

Specific Comments

206 1. Page 41, under the heading, Assumptions, (Mining) - To "assume that post-mining land use would be the same as the premining use", in our opinion is inaccurate and does not provide a strong basis for analysis of the impacts of mining in association with coal conversion facilities. It can be shown in North Dakota that most wetlands, woodlands and native rangelands destroyed during mining of privately owned surface are being converted to cropland. Your analysis on page 48, under the heading, Wildlife Resources, alludes to this. It is stated: "Wetlands, woodlands and native rangelands destroyed during mining would be restored or replaced unless this conflicts with the lawful desires of the surface owner."

207 2. Page 48, under the heading, Special Tract Stipulations (Wildlife Resources)- We suggest this section be expanded to include appropriate informational packages, including constraints that may be placed on potential lease areas prior to the competitive lease process. Such constraints should not be delayed to the mine permit stage. It is recommended that a mutually accepted definition of "demonstration" for reclamation be developed by BLM, OSM, state regulatory agencies and wildlife agencies. It should be noted that BLM does not have any criteria for assessing successful reclamation relating to their special reclamation stipulations.

The legal question of BLM's authority to require reclamation of wildlife habitats on private surface over federal minerals "when opposed by the landowner" should be addressed in the DEIS. Another related topic that should be addressed is that of bond release. Even if a lease stipulation requires wildlife habitat restoration, what assurance exists that these habitats will remain after bond release?

208 3. Page 90-92, under the main heading, Wildlife - The most valuable wildlife habitat and key species are discussed under this section. It is recommended that a list of wildlife species occurring or expected to occur in the Fort Union Area be included in a summary table or appendix. Those key species represented on the wildlife unsuitability lists should be denoted.

209 4. Page 91 - last paragraph under the heading, Wildlife and Wildlife Habitat - we find this section inadequate and incomplete. In 1978, North Dakota Game and Fish Department conducted an evaluation of permanent streams. Each stream was rated on a scale of 1 to 4, with those rated at 1 considered of critical importance, and those rated at 4 of limited value. Criteria considered in the evaluation included the sport fishery, use by wildlife reclamation potential, recreational use, aesthetic value, and water quality. In North Dakota, the Knife River and its tributaries, Antelope, Brush, Coyote, Spring and Otter Creeks, have been placed in category 1 -- highest value. In addition, the Little Missouri River and Beaver Creek, a tributary, are placed in category 1. A short description of these stream values follows:

a. Knife River - The Knife River from Highway 22 at Manning to the Missouri River is rated as critical importance for several reasons. It supports a highly valued sport fishery on channel catfish, walleye, sauger, northern pike and white bass. The entire reach also provides a large amount of forage fish production, and reproduction of several sport species including northern pike, channel catfish, walleye and sauger. This reach also maintains good fur-bearer populations throughout. The river and its floodplain are highly valued aesthetically and would be very difficult to reclaim or mitigate for losses incurred by coal development. Current water quality is severely degraded by overgrazing, agriculture and feedlot runoff, and municipal waste from several communities. Siltation and reduced seasonal flows are already inhibiting fish migrations. Therefore, high flows in the spring are essential for continued fishery values, reduced or stabilized flows would be very detrimental.

b. Antelope Creek - The reach from the former Shramm Dam to the Knife River has a "critical" rating because of its excellent forage fish production, northern pike reproduction, and a moderate sport fishery near the mouth for northern pike, channel catfish and walleye.

c. Brush, Coyote and Otter Creeks - These reaches from their headwaters to the Knife River are rated "critical" because of extremely high forage production. This production serves as a part of a forage base for the sport fish populations in the Knife River.

d. Spring Creek - The reach from Lake Ilo National Wildlife Refuge to the Knife River provides moderate forage production and reproduction of several sport fisheries. It also maintains good furbearer populations. Its main asset is its continuous water flow as a result of springs. The water flow from these springs is vital to overwintering of both sport and forage fishes in the creek and also in portions of the Knife River.

209 e. Beaver Creek - The reach from the Montana border to the Little Missouri River is rated as "critical" primarily because of its importance in maintaining one of the best furbearer populations in the state. It is also valued because of moderate forage fish production and reproduction of northern pike, channel catfish and sauger. The area through which the creek runs is extremely rugged and would be very difficult, if not impossible, to reclaim.

We suggest that the fishery section for the North Dakota portion of the Fort Union DEIS be expanded to include the abovementioned rivers or creeks.

210 5. Page 99, under the heading, Acid Precipitation - The discussion on acid precipitation and power plant emissions should be expanded to address the issue of white muscle or dead-calf syndrome and potential impacts to wildlife. In Taymen's terms, sulfur from power plant emissions accumulates in vegetation (e.g. alfalfa, tame pasture, native prairie). When this vegetation is ingested, the sulfur tends to inhibit selenium uptake which is important in neuro and muscular activity, especially during stressful periods. This phenomenon has been documented by Dr. Hastings, a veterinarian from Mandan, North Dakota, for dead born calves near power plants and can be substantiated by numerous ranchers near the power plants. The impacts on wildlife such as white-tailed or mule deer have not been assessed to date.

211 6. Page 123, 1st paragraph under the heading, Wildlife (Alternative 1) - We disagree with the statement, "the impacts from increased human population would be insignificant, and the acreage of wildlife habitat destroyed would be considerably less than the other alternatives, as the powerlines, roads, and other ancillary developments associated with the new plant construction would not occur." This statement is misleading since some of the facilities are under construction (Antelope Valley Power Plant, ANG Coal Gasification Plant) and little mining has occurred in this area to date. The constant influx of new workers is placing a higher consumptive and nonconsumptive demand on the wildlife resource.

212 7. Page 123, 2nd & 3rd paragraphs under the heading, Wildlife (Alternative 1) - The major point made here is that the federal coal areas to be mined contain the most significant wildlife habitats. The federal coal areas contain the more rough and broken topography and contain high wildlife values. We concur with your assessment that mining would still occur in the surrounding areas if the federal coal is not leased, however, wildlife impacts to these areas would be significantly reduced.

It is stated that the federal coal areas on the Glenharold, northern portion and Beaver Creek drainage of the Renner tract and portions of the Underwood tract contain 34,421 acres of native prairie, 4,444 acres of wetlands, and 5,417 acres of woodlands. You further state that most of these areas would be destroyed during mining if federal coal is not leased. How? This statement should be supported or clarified.

213 8. Page 124, last paragraph under the heading, Wildlife (Alternative 1) - This paragraph discusses the potential use of strip mine pits to enhance fishing opportunities. Based on current fishery management experience in North Dakota, we believe these "excellent opportunities" are overrated. Small bodies of water in North Dakota pose particular fishery management problems because they are subject to chronic problems such as winterkill, summerkill, and water quality degradation from agricultural runoffs and siltation. These impoundments generally require significant management efforts to maintain a viable and harvestable fishery. Ponds created from strip mine pits in the state would most likely suffer from similar problems as well as potential contamination from leaching of sodic overburdens, heavy metals, dissolved solids, and salts. The potential limitations should be discussed in this section.

214 9. Page 124, 2nd paragraph, under the heading, Wildlife (Alternative 2) - The last two sentences state: "Reclamation of native prairie has achieved vegetative production equal to premining conditions, but species mix and diversity has been more difficult to reach. However, it appears that reclamation would be adequate for wildlife and impacts would be short-term." We believe these statements are misleading. Drastic changes occur to the plant and animal composition on native grasslands when the grasslands are destroyed. Vegetation on native grassland is composed almost entirely of deep-rooted (up to 15 feet) perennial or biennial plants that have evolved under conditions of grazing, burning and extreme fluctuations in climate. Variations in soil moisture, slope, direction of exposure, and geologic origin create a variety of grassland plant associations. Only a few studies have been conducted to determine the total biological productivity of native prairie in North Dakota. Those studies that have been conducted, however, indicate that native prairie supports diverse and abundant populations of birds, mammals and invertebrates. For example, during a 1967 study by biologists at the Fish and Wildlife Service's Northern Prairie Wildlife Research Center, native prairie was found to support an average breeding bird density of 142.7 pairs/km^2. The breeding population of birds included a minimum of 26 species. Most mammal species in North Dakota are dependent in one way or another on grasslands. Carnivores, except for aquatic-orientated species, secure most of their food from grasslands in the form of birds, mammals, amphibians, reptiles and insects. Carnivores such as red fox, coyote and badger generally choose this habitat for rearing young. Grasslands are essential for ground squirrels and many other small mammals. Reclamation of native prairie has been advanced further than woodland or wetland reclamation, but to consider it adequate for wildlife and to consider the impacts short-term, in our opinion is premature.

We appreciate this opportunity to provide comments on the DEIS for the Fort Union Coal Region. If you require additional information or clarification, please contact Roger Collins (783-4492) or Steve Young (783-4406) of my staff.

John M. Hall

Attachments (2)

cc: RO, Denver (ENV)
(Attn: F. Cole)
FWS, OEC, Washington, O.C.
ES Supervisor, Billings, MT
(Attn: O. Christopherson)
BLM, Dickinson
(Attn: C. Steele & M. Hoffer)
NDG&FD, Bismarck
(Attn: M. McKenna)

APR 2 9 1982

MEMORANDUM

To: District Manager, Bureau of Land Management
Dickinson, North Dakota

From: ACTING Area Manager
Bismarck, North Dakota

Subject: West-Central North Dakota Management Framework Plan Addendum (March 15, 1982) - Wildlife Unsuitability Recommendations

The Fish and Wildlife Service (FWS) has reviewed the subject document as well as associated BLM documents on the West-Central Management Framework Plan (MFP) Recommendations (May 1980), Decision Document (September 1980) and Summary (July 1981). We offer the following comments on BLM's recommendations for areas to be excluded from further consideration for leasing or mining based on the analysis of new wildlife data and the wildlife unsuitability criteria. These comments are submitted in accordance with our Memorandum of Understanding (MOU) on Coal, the National BLM/FWS MOU and coordination responsibilities under the Federal Coal Management Program (FCMP). We will first address some general issues and follow with specific comments on the addendum.

General Comments

Your documents indicate that in excess of 170,000 acres of federal coal in the West-Central MFP have undergone the application of wildlife unsuitability criteria. Of this total, we understand 480 acres in the Center-Stanton Deposit are recommended for exclusion from further consideration for leasing. We also understand that BLM has decided not to recommend high value wildlife lands in other deposits as unsuitable for leasing and mining, but has identified these lands for delayed leasing consideration beyond the 1983 lease sale. These recommendations cause us some concern.

We believe that a number of inconsistencies presently exist in the manner in which the coal unsuitability process was applied on the North Dakota portion of the Fort Union Coal Region. In particular, we are referring to the application of those unsuitability criteria (No. 9, 11, 12, 13, 14 and 15) that relate to wildlife.

We believe that the application by the Dickinson District is not totally consistent with the BLM regulations in Subpart 3461 - Federal Lands Review - Unsuitability for Mining. We had an opportunity to be briefed on the wildlife unsuitability recommendations in Montana. Will this apparent discrepancy between the unsuitability application process by two BLM Districts in the Fort Union Coal Region cause problems in the preparation and analysis of alternatives in the Fort Union Regional Coal EIS?

The addendum document states that ". . . exemptions and exceptions to proposed unsuitable determinations were made wherever mitigations are allowable, acceptable, and feasible". It is not clear how exemptions and exceptions can be applied when no areas were recommended as unsuitable. As we understand the unsuitability assessment procedures from a review of Section 3461.3 of BLM's coal planning regulations, the sequence is as follows: Recommendation of lands as unsuitable, apply exemptions and exceptions (consultation with state and/or federal fish and game agency), public review, final BLM decision and petition to OSM for formal designation of land as unsuitable.

Exceptions are discussed in Section 3461.3-1(a)(1) of BLM's coal regulations. This section states that "the authorized office shall state in the plan or analyses those areas which could be leased only subject to conditions or stipulations to conform to the application of the criteria or exceptions". BLM's addendum on the West-Central does not seem to specifically meet these requirements. More important though, the general public, state and federal agencies, and private industry are not afforded the opportunity to review a complete package of information on specific areas within a coal deposit or proposed lease that are identified for exclusion or reclamation. We discussed this issue in more detail in our October 20, 1981, memorandum (copy attached). Since BLM is currently in the activity planning stage in the West-Central, we suggest this type of information be provided upfront to industry to assist in development of logical mine plans.

Coordination requirements between BLM and the FWS or state game and fish agency are discussed in Section 3461.3-2 of the regulations. The exception clause for wildlife unsuitability Criteria 9, 11, 13 and 14 require consultation with the FWS. We consider our day-to-day coordination with BLM quite good, but believe coordination requirements for the exceptions process has not been fully met and should be addressed further before specific areas subject to lease stipulations for reclamation are identified.

The narrative states that "wetlands, woodlands and native prairie destroyed by mining will be restored or replaced. Mining will be allowed upon demonstration of satisfactory restoration or replacement." We believe "demonstration" is a key word and should be based not only on a narrative reclamation plan, but also on practical field research and long-term demonstration sites. Some prairie wetlands and native woodlands may have to be sacrificed in this endeavor, but BLM should strive to protect most of these valuable habitats until resource professionals can reach a concensus whether or not they can be adequately restored. We anticipate that a thorough discussion of reclamation potential of these habitat types will be presented in the Fort Union Regional Coal EIS.

BLM acknowledges the existence of important wildlife habitats as evidenced by the descriptions on Renner's Cove and North Garrison Deposit. Renner's Cove is characterized as a ". . . large undisturbed block of essential wildlife habitat, with some of the best native woodlands, riparian wetlands and native prairie left in North Dakota." North Garrison is described by: ". . . seven-mile-long complex of native prairie, woodlands, and riparian wetlands is some of the finest remaining in North Dakota." BLM also states that coal in the Renner's

Cove area may never need to be mined . . . and that development potential of coal in North Garrison is relatively low, and loss of the coal reserves for the immediate future is inconsequential. Since this is the case, we believe it would be preferable to use the unsuitability process rather than the delayed leasing concept.

Section 3461.5(a) describes the process whereby petitions to designate or terminate a designation of federal lands shall be filed with the Office of Surface Mining. If lands are currently recommended as unsuitable and subsequently become designated as such, industry has a pathway to petition for termination of this designation in the future if advanced reclamation technology, national energy needs, etc., warrant such a petition. The Public Service Commission's proposed amendments to the state's coal regulations also provide for petitions for designation and termination of lands unsuitable, Section 69-05.2-04-03 of the North Dakota Administrative Code Article. Both the state and federal process would legally provide protection to significant wildlife resources at this time while allowing industry the opportunity to file for a termination at a future date when they have fully demonstrated both a need for the coal and successful reclamation technology for the habitats under question. This would appear to be a practical alternative that conforms to the guidelines and regulations of the FCMP as well as meeting the needs of private industry.

Specific Comments

Dunn Center Deposit - The vast majority of this deposit does not contain high quality habitat. No federal lands are recommended by BLM as unsuitable based on the wildlife criteria. Some protection will be afforded the riparian habitats along the Spring Creek corridor because of archaeological exclusions and tract boundary modifications, but some areas are subject to application of exceptions at the mine plan stage. The major wetland complex in the southeast corner (T. 143 N., R. 92 & 93 W.) is not afforded protection by the wildlife criteria, multiple-use trade-off analyses, delayed leasing or other alternatives. Has this area been overlooked or will reclamation stipulations apply?

Center-Stanton Deposit - Approximately 480 acres of federal coal land (T. 144 N., R. 85 W., Section 22, S½NE¼; T. 144 N., R. 85 W., Section 24, S½SE¼; T. 144 N., R. 84 W., Section 30, N½) are to be excluded from further consideration for leasing based on criteria 9, 11, 12, 13, 14 and 15. Criteria 9, 11, 12 and 13 do not apply to these particular parcels.

We concur with your recommendation to exclude Section 30 which is typical Missouri River breaks habitat with interspersed woodlands, shrubs and prairie. Our coordination with Consol reveals that they do not plan to mine this half-section but may use portions for stockpiles which does not require a federal lease for the coal. The 80-acre tracts in Sections 22 and 24 are predominantly agricultural lands. The exclusion of these two areas on the strength of wildlife habitats appears to be inconsistent with other recommendations.

Renner's Cove Deposit - The Renner's Cove Deposit contains excellent wooded breaks habitat in the northern tier. Reclamation of these breaks is a controversial issue. Although none of these federal coal lands are recommended as

unsuitable, BLM suggests that leasing in this particular area be delayed and that industry delay mining of 400 acres of federal coal currently under lease until well into the future. To ensure adequate protection, we believe that an unsuitable recommendation would be preferable.

On page 3 we noted how BLM can use the unsuitability process to address wildlife concerns without precluding additional industry input at a later date. If that process were accepted, 400 acres of leased land would be impacted and industry would have to be fairly compensated for the loss of this coal. As we suggested in our October 20, 1981, memorandum, the lease exchange process (Subpart 3435 of BLM's regulations) would be applicable and may provide an adequate solution.

North Garrison Deposit - The U.S. Government has a vested interest in the wetland habitats of this deposit through the FWS's wetland easement program. We have wetland easements located in 23 sections of land within the Missouri Coteau in this coal deposit. The basic elements of wetland easements are prohibitions against draining, burning, filling and leveling of wetland areas. These easements are an integral part of the National Wildlife Refuge System. Those areas overlying federal coal have previously been excluded by unsuitability criterion 1. No other federal coal lands will be excluded for the wildlife criteria, but some with important wildlife habitats will be placed in a category for delayed leasing consideration. Our concerns previously discussed on this issue in the "General Comments" section are applicable here.

Conclusion

Our role throughout this process has been to provide you with recommendations for protection of the most important wildlife habitats under the guidelines of the Surface Mining Control and Reclamation Act, OSM Coal Regulations, PSC Coal Regulations, and BLM's Coal Planning Regulations. We have also noted inconsistencies in your application of the wildlife unsuitability criteria, potential ramifications and means of rectifying the situation.

In summary, we believe that the BLM recommendations in the West-Central addendum, specifically the 400 acres of unsuitable lands in the Center-Stanton coal deposit, do not accurately reflect the status of important wildlife habitat in the West-Central MFP. This may be more of a reflection of the approach to the application process by the Dickinson District than due to actual differences of opinion on essential wildlife habitats. We favor the preliminary September 14, 1981, recommendations by BLM and believe they are more appropriate in meeting the intent of the unsuitability procedures. Granted, delayed leasing and tract boundary adjustments will afford short-term protection to these habitats through the June 1983 lease sale at a minimum, but do not provide the magnitude of protection as could be attained through the regulatory process. If, however, BLM's recommendations become final, we will continue to cooperatively work with BLM to ensure the protection of these selected wildlife areas and assist you in future applications of wildlife unsuitability criteria during the next round of leasing in the West-Central.

We hope that our comments are accepted in a constructive manner and that they may be beneficial in dealing with some very difficult decisions in the FCMP in North Dakota. We are hopeful that through this coordinated effort, we can assist you in keeping impacts to wildlife habitats down to an acceptable minimum

and simultaneously develop areas in the Fort Union Region for coal mining. If you believe further discussions on any issues may be worthwhile, we would be available to meet with you and your staff.

Attachment

MERLE O. BENNETT

cc: RD, Denver
(Attn: F. Cole, ENV)

ABSTRACT OF DR. HASTINGS PRESENTATION AT AN INTERNATIONAL SYMPOSIUM ON PATHOBIOLOGY OF ENVIRONMENTAL POLLUTANTS - ANIMAL MODELS AND WILDLIFE AS MONITORS

June 1-3, 1977
University of connecticut
Storrs, Connecticut

NEWBORN CALF LOSSES ASSOCIATED WITH ENERGY CONVERSION FACILITIES IN NORTH DAKOTA

Selenium deficiency is unexpected in North Dakota, a State generally regarded as having adequate amounts of selenium in the soil and in livestock diets. A stillborn calf and weak calf problem developed in a herd of 400 beef cows wintered at a ranch one mile from the thermoelectric plant and oil refinery. A second occurance at another ranch six miles from another thermoelectric complex had similar calf losses. The dead calves displayed by gross and histopathology a skeletal myopathy. This myopathy is associated with a metabolic deficiency of selenium, a trace element which is part of a body enzyme, glutathione peroxidase. Both ranches were in areas prone for forage fumigation by inversions.

The dead calf and weak calf syndrome encountered at each ranch was reversed in 24-48 hours through an injection of a selenium pharmaceutical and now prevented by the feeding of a good source of selenium, wheat or wheat bran, during the last 60 days of pregnancy.

Lignite coal burning thermoelectric plants and oil refineries produce large quantities of sulfur dioxide. The growing alfalfa plant is capable of responding to, and absorbing, sulfur dioxide through its leaf stomata resulting in a high level of sulfate in its forage. Prior research has determined that ingested sulfate can influence the ruminants selenium levels. Analysis of the alfalfa samples at these ranches found normal selenium levels but higher sulfate levels, comparable to levels fed in related research.

Studies are continuing to find methods of preventing the problem by monitoring forages or the dam's blood. Further studies are being conducted to find better methods of diagnosing the marginal, a-typical, selenium deficient calf. Also under investigation are the roles of other influences, such as stress and concurrent trace elements deficiencies or excesses.

Donald H. Hastings, DVM
Dakota Foundation for Animal Health
Box 911, Bismarck, N. D. 58501

study partially funded by North Dakota Beef Commission

CIRCLE CHAMBER of COMMERCE and AGRICULTURE CIRCLE, MT. 59215

September 28, 1982

Bureau of Land Management
Box 30107
Billings, Montana 59107

The Circle Chamber of Commerce and Agriculture support the land exchange between BLM and Meridian Land Co.

We feel that a larger tax base is needed, and also that more jobs would help the local economy. According to a survey taken some time ago, over 80% of the people in Mc Cone county support development. That indicates a big need for jobs, tax base etc. When our young people get out of high school, some go on to college, and leave Montana bedause there aren't any good jobs available. The average age of the farmers in the United States, is over 55, so it shows that there isn't enough jobs on the farm to sup Ort all the family.

Ft Peck Lake and an adjoining coal field are two major ingredients for a successful development. Let's use both of them

Yours truly,
Elmo E.R. Dreyer
Past President

Flying V Apts. Inc.

ELMO DREYER, PRES. BOX 137 CIRCLE, MONTANA 59215 EFFIE DREYER, SEC.
PHONE 406/485-2566

Sept. 28, 1982

Bureau of Land Management
Box 30157
Billings, Montana 59107

I support the land exchange between the BLM and Meridian Land Co. in McCone county.

Another lawsuit was filed in Washington D.C. yesterday by the Northern Plains Resource Council, Powder River Basin Resource Council with the Sierra Club and others, against the Interior Dept. They want the coal leasing laws changed to their specifications. If all those orginizations had their way, there wouldn't be one coal train leaving Montana or Wyoming. Those coal trains bring lots of dollars to our state, thru much needed jobs and .3% severance tax.

McCone County needs a much large tax base and a lot more jobs. That would help the economy in Circle and over the entire county. It would help bring much needed repairs to our roads, etc.

We need the land exchange.

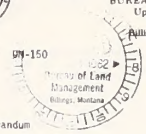
Yours truly,

Elmo V. Dreyer

We cannot live on blue sky alone.

United States Department of the Interior
BUREAU OF RECLAMATION
Upper Missouri Region
P.O. Box 2553
Billings, Montana 59103

IN REPLY REFER TO: UM-150



OCT 7 1982

Memorandum

To: State Director, Bureau of Land Management, Billings, Montana

From: ACTING Regional Director, Bureau of Reclamation, Billings, Montana

Subject: Bureau of Land Management's Air Quality Information Supplemental to the Fort Union Coal Region Draft Environmental Impact Statement (DES 82-47)

We have reviewed the subject document and have no comments.

Kenneth L. Riddle

October 5, 1982

FORT UNION COAL REGION ENVIRONMENTAL IMPACT STATEMENT DRAFT

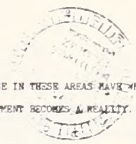
MY NAME IS DARRELL GAROUTTE. I AM A FARMER-RANCHER NEAR WELDON IN MCCONE COUNTY.

THERE ARE SEVERAL AREAS OF CONCERN REGARDING THE FORT UNION DRAFT EIS AND PROPOSED COAL LEASE SALE IN 1983.

215 THE DRAFT EIS SEEMS TO BE VERY DEFICIENT IN KNOWN EFFECTS THAT SYNFUELS COAL GASIFICATION PLANTS WILL HAVE ON AGRICULTURE. ACID RAIN, GROUND WATER POLLUTION AND POLLUTION FROM OTHER TOXIC MATERIALS ARE NOT ADEQUATLY ANSWERED IN THE EIS.

216 VERY LITTLE IS ANY ATTENTION HAS BEEN GIVEN TO COAL IMPACTS ON AGRICULTURE OUTSIDE OF THE COAL TRACT AREAS. THERE IS LITTLE DOUBT THESE IMPACTS WOULD BE SIGNIFICANT. THE SUMMARY STATEMENT IN THE EIS, THAT IMPACTS TO AGRICULTURE IN THE FORT UNION COAL REGION WOULD BE MINISCULE, CANNOT BE CONSIDERED VALID IN LIGHT OF ALL THE UNKNOWN ASSOCIATED WITH COAL IMPACTS ON AGRICULTURE.

217 SOCIAL CONSEQUENCES OF COAL DEVELOPMENT OUTLINED IN THE EIS ARE MIND BOGGLING AND MAY STILL BE UNDERESTIMATED. THE BLM SHOULD HAVE DONE A BETTER JOB OF BRINGING THE INFORMATION BEFORE THE PUBLIC IN IMPACT AREAS. I SINCERELY DOUBT IF THE GENERAL



217 POPULASE IN THESE AREAS HAVE WHAT'S IN STORE FOR THEM IF COAL DEVELOPMENT BECOMES A REALITY.

218 ALL THESE AREAS OF CONCERN NEED TO BE ANSWERED AND BROUGHT BEFORE THE PUBLIC FOR COMMENT BEFORE ANY COAL LEASE SALE IS CONSIDERED. THERE ALSO APPEARS TO BE LITTLE NEED FOR A COAL LEASE SALE IN 1983. LACK OF COMPETITION BIDDING AND LOW PRICES IN THE POWDER RIVER COAL LEASE SALE POINT TO THIS FACT. ANY LEASE SALE AT THIS TIME WOULD ONLY SERVE COAL SPECULATION AND NOT THE PUBLIC INTEREST.

Darrell W Garoutte

Nokota

October 7, 1982

Mr. Lloyd Emmons
Acting Project Manager
Fort Union Project
Bureau of Land Management
222 North 32nd Street
P. O. Box 30157
Billings, Montana 59107

SUBJECT: FORT UNIDN COAL REGIDN DRAFT
ENVIRDNMENT IMPACT STATEMENT

Dear Mr. Emmons:

The Nokota Company has reviewed the July, 1982, Draft Environmental Impact Statement (DEIS) and the September, 1982 Air Quality Information Supplement. This letter contains the comments of The Nokota Company on those documents.

Before proceeding with the comments, however, we would like to advise the Regional Coal Team that we support its choice of Alternative 3 as the preferred alternative, primarily since it includes the Dunn Center tract. As you are aware, The Nokota Company has plans to build and operate a coal-to-methanol plant within the Dunn Center tract.

Dur comments are as follows:

219 1. The DEIS states at page 7 under "Cultural Features," that a portion of the Knife River Flint Quarry, including a part of the Dunn Center tract, has been declared eligible for the National Register of Historic Places and is "proposed as a National Register District."

Comment: In the opinion of the Keeper of the National Register of Historic Places, based on an office review of information submitted by the BLM, a portion of the Dunn Center tract is eligible for the National Register. Before such a District can be created, however, the regulations require the consent of a majority of landowners. The legal status of an approved District is significantly and substantially different than that of an area which has merely been determined to be "eligible" for inclusion in the National Register. To the best of our knowledge, no such designation has been

219 formally proposed to the Keeper of the National Register and there is no indication that the requisite consents would be received. Therefore the reference to the "proposed" status of the Knife River Quarry is incorrect and misleading and should be deleted.

2. On page 7 of the DEIS, under "Cultural Resources," the statement is made that the question of the suitability of two sections of the Tract for mining after mitigation will be determined when the mining plan is developed, leaving open the possibility that the BLM will continue its announced plan to hold open the suitability determination under Criterion 7 until mine plan time.

Comment: In its comments on the Addendum to the West-Central North Dakota Management Framework Plan, filed April 14, 1982, Nokota noted that the BLM has no legal authority to declare an area unsuitable for mining merely on the basis of a determination of its eligibility for listing in the National Register and requested the BLM to delete that portion of the Addendum which provided for a conditional unsuitability determination and to restore these sections to the area considered suitable for leasing.

220 In responding to this comment, the BLM, in its August, 1982 "Decision Document," states that its action is under review by the Director of the Bureau of Land Management, and that it has not been incorporated into the West-Central North Dakota Management Framework Plan. Under these circumstances, it is inappropriate and inaccurate for the DEIS to again state, without reference to the pendency of this question within Headquarters, BLM, that the suitability determination will be deferred to mine plan time. Accordingly, Nokota respectfully requests that this statement be eliminated.

Nokota is not opposed to appropriate mitigation of archaeological sites within the Dunn Center Tract, whether the sites are within the area considered eligible for inclusion in the National Register or not. Nokota will include in its surface mining permit application a provision for such mitigation in accordance with the recommendation of an archaeological firm retained by it for this purpose. Nokota believes that such mitigation may be coordinated with mine development and that it will provide sufficient research information about the prehistory of the area to meet the

220 requirements of the public interest and the needs of archaeological research without excluding areas from mining or preventing orderly mine development.

3. Dn pages 7 and 105 of the DEIS, statements are made concerning disposal of facility wastes in open mine pits.

221 Comment: To our knowledge, the North Dakota State Department of Health no longer permits the disposal of waste materials in open mine pits. Disposal of waste materials will only be allowed in a manner designed to prevent any effect on groundwater.

4. The subsurface ownership map of the Dunn Center tract, which appears on page 24 of the DEIS, shows federal coal ownership of less than 100% in the Southeast quarter of Section 11, Township 144 North, Range 94 West. This is the area marked in gold on the map.

222 Comment: The map is incorrect. There is no federal ownership of coal in the Southeast quarter. All coal in the Southeast quarter is privately owned. This fact is confirmed by a July 1, 1976 letter from Roland F. Lee, Chief, Branch of Lands and Minerals Dperations, Bureau of Land Management, Billings, Montana. A copy of this letter is attached for your information. You will note that on July 1, 1976, Mr. Lee stated that the BLM records would be corrected to reflect the absence of federal coal ownership in the Southeast quarter of Section 11. We trust that you will now ensure that your records are indeed corrected.

5. Dn page 65 of the DEIS, under "Water Quality," reference is made to the "Spring Creek alluvial valley floor." Dn page 85, in the section entitled "Water Use," the statement is made that Spring Creek in the Dunn Center tract is a stream that has a good potential for being designated as an alluvial valley floor. Dn page 105, under the section entitled "Problems," the area around Spring Creek is again referred to as an alluvial valley floor.

223 Comment: The statements within the DEIS refer, in two places, to the Spring Creek area as an alluvial valley floor, and in one place, states that the Spring Creek area has the "potential" for being designated as an alluvial valley floor. Dn the basis of our research and analysis concerning the Spring Creek area and the Dunn

223 Center tract, we believe that the Spring Creek area is not an alluvial valley floor, nor does it have the potential for such oesignation under either the federal Surface Mining Control and Reclamation Act of 1977 or the North Dakota law on the same subject contained in North Dakota Century Code Chapter 38-14.1. We would also like to point out that the final decision on whether the Spring Creek area is or is not an alluvial valley floor as defined in state and federal law and regulations will be made by the North Dakota Pulic Service Commission and will not be made until such time as an application for a surface mining permit is submitted to that agency. Consequently, it is premature, in the DEIS, to refer to the Spring Creek area as an alluvial valley floor.

6. On page 65 of the DEIS, under the section entitled "Cultural," the BLM suggests that the principle of mitigation through data recovery has been accepted, subject to "special tract stipulations." On page 128 under "Cultural Features" for Alternative 2, the DEIS refers to the possibility of Memoranda of Understanding as a management device for site mitigation.

224 Comment: Nokota agrees that a Memorandum of Understanding with the BLM would be useful in managing a cultural resource mitigation program.

7. Dn pages 85, 89, 105 and 106 of the DEIS, reference is made to irrigation activities within the Dunn Center tract. On page 89, reference is made to hay production amounts on irrigated hay lands on the Dunn Center tract. On this page it is further stated that 311 tract acres of crop land are under irrigation in the Dunn Center tract.

225 Comment: We dispute this conclusion concerning the use of irrigation in the Dunn Center tract. To the best of our knowledge there is no irrigated hay land or crop land anywhere in the Dunn Center tract. It is our understanding that in the past 20 years the North Dakota State Water Commission has issued five or six conditional water permits for irrigation in this area. All but one of these conditional water permits were never perfected. The remaining conditional water permit was used for a short term for irrigation purposes, but has long since been abandoned. Consequently, it appears that the DEIS has extrapolated the granting of conditional water

225 permits into actual use of those permits for irrigation purposes in the Dunn Center tract, including, average hay land production from irrigated land in the Dunn Center tract. These conclusions in the DEIS are erroneous.

226 8. On page 105 of the DEIS, under the section entitled "industrial Wastes," reference is made to materials which will be produced by gasification plants which are classified as hazardous by the Environmental Protection Agency.

Comment: Insofar as the Nokota coal-to-methanol project is concerned, there are no waste materials which are presently classified as hazardous by EPA. Solid wastes will be generated by the plant and will be disposed of in accordance with the requirements of the North Dakota State Department of Health, however, none of these wastes are hazardous wastes.

227 9. On page 124 of the DEIS, in the description of wildlife under Alternative 1, a statement is made that mitigation for and in some cases improvement in wildlife habitat would be possible by leaving portions of high walls in strategic places to create cliffs and nesting habitat.

Comment: The BLM should note that both federal and state surface mining and reclamation laws currently require high walls to be eliminated as a part of the environmental protection performance standards for reclamation operations.

228 10. On page 124 of the DEIS, under the section on wildlife for Alternative 1, the statement is made that the State of North Dakota will not allow surface mining of significant wooded areas until mining companies can demonstrate that woody draws can be reclaimed. This statement is inconsistent with that appearing in the Summary on page 127 in which it is concluded that habitat destruction of woody draws would occur from mining.

229 11. On page S-9 of the air quality supplement, in Table 2-3, the federal and state PSD increments are shown. The table is incorrect in that the Class II North Dakota increments for particulates are now the same as the federal increments.

230 12. As a general comment insofar as the air quality supplement is concerned, it is our view that the BLM has not properly emphasized the fact that the air quality impacts described are based on worst-case scenarios, none of which are likely to occur. Without proper emphasis on this fact, the public is likely to be seriously misled concerning the potential air quality impacts.

We appreciate this opportunity to comment on the Fort Union Coal Region Draft EIS. If you desire any further information concerning the Dunn-Nokota Methanol Project, please feel free to contact us.

Sincerely,

THE NOKOTA COMPANY

G. E. Andersen
President

GEA/Lcw

Enclosure: July 1, 1976 Letter

IN REPLY REFER

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
316 North 26th Street
P.O. Box 30157
Billings, Montana 59107

M 30436(ND)
(943.8)

July 1, 1976

Mr. A. M. Weiss
Director Coal Developement
Natural Gas Pipeline Company of America
122 South Michigan Avenue
Chicago, Illinois 60603

Dear Mr. Weiss:

In your letter of February 26, you questioned the fact that our records indicate that the United States owns a one-half mineral interest in the following-described land:

T 144 N, R 94 W, 5th P.M.
Sec. 11. SE¼

Dunn County, North Dakota

We have obtained an Abstract and an opinion from our Field Solicitor as to these lands. He has advised that title to the minerals is vested in the current record title owner rather than the United States.

Our records are being corrected. We thank you for calling this discrepancy to our attention.

Sincerely yours,

Roland F. Lee
Chief, Branch of Lands and
Minerals Operations

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

TED SCHWINDEN
GOVERNOR

State of Montana
Office of the Governor
Helena, Montana 59620

October 8, 1982

ROUTING	INITIAL	DATE IN	DATE OUT
1 SO			
2 ASO			
EEC			
Spec Asst			
PA			
3 RES			
OPP			
ADM			
ACTION			
FILING			

Mr. Mike Penfold, Director
Bureau of Land Management
P.O. Box 30157
Billings, Montana 59107

Dear Mike:

This letter conveys the State of Montana's comments on the Fort Union Coal Region Draft Environmental Impact Statement (DEIS) prepared by the Bureau of Land Management. They were compiled from comments submitted by various state agencies following their review of the DEIS. Montana's previous comments submitted in 1981 regarding the site specific analyses (SSA's) still apply, although in some instances, changes or improvements were made which corrected problem areas.

I am submitting, in their entirety, the comments received from the Montana Department of Fish, Wildlife and Parks. The comments are detailed, and reflect issues and concerns with the applications of unsuitability criteria to the Fort Union process. Additional comments regarding the Air Quality Supplement are being prepared by the Montana Department of Health and Environmental Sciences, Air Quality Bureau, and will be submitted prior to the October 19 comment deadline.

Thank you for the opportunity to comment on the Fort Union DEIS. Your staff and others involved in the preparation of the document are to be commended for conscientiously carrying out an extremely complex and sensitive process.

Sincerely,

TED SCHWINDEN
Governor

cc: Governor Olson

MONTANA

DEPARTMENT OF

FISH, WILDLIFE AND PARKS

Helena, MT 59620
September 20, 1982

Mr. Ralph Driear
Department of State Lands
Helena, MT 59620

Dear Ralph:

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The following are comments prepared by our field personnel relative to the "Fort Union Coal Region" Draft EIS dated July 1982:

The Fort Union Coal Region draft environmental impact statement (DEIS) has resulted in a circumvention of the intent of unsuitability criterion No. 15 contained in the Federal Coal Management Program (43 CRF 3400). The unsuitability criteria were incorporated into the lease process to ensure compliance with the stated target, "to meet energy production goals through 1987 while carefully protecting the environment" (Redwater MFP, D-1). Criterion 15 also supplied one of the few avenues for input into federal coal leasing open to state governments, as it provided for the protection of resident wildlife species. Problems arose, however, when the intent of the criteria was converted to actual application\$.

The Fort Union coal lease sale was one of the first to be conducted under the new federal regulations. The first order of business was the production of a comprehensive land use plan. This was accomplished with the release and acceptance of the Redwater Management Framework Plan (MFP) (1979) covering the Montana portion of the Fort Union coal area. This document contained one of the first applications of the unsuitability criteria. Input for criterion No. 15 was obtained during three meetings with Montana Department of Fish, Wildlife & Parks (MDFWP) regions 6 and 7 personnel (Redwater MFP, C-4). This resulted in 3210 acres of the 235,599 acres of federal coal under study being declared unsuitable for mining. Included were a one-half mile buffer around nine sharp-tailed grouse dancing grounds, two pronghorn antelope wintering areas totalling 688 acres, and one white-tailed deer/pheasant wintering area covering 630 acres. The lack of an adequate wildlife data base for the meaningful application of criterion 15 to the Circle Known Recoverable Coal Lease Area (KRCRA) was commented on by MDFWP region 6 personnel. In response, the BLM gave assurances that data could be incorporated and unsuitability applied at any stage up to the time of mine plan submission (Public hearing, Redwater MFP, Analysis of oral and written comments, 1980).

The Reagan administration began a critical review of the coal leasing program in general and the unsuitability criteria in particular shortly after assuming office. The Department of Interior's Office of Policy Analysis contended, "that Criterion 15 for the protection of high state interest wildlife should be deleted." It goes on to claim, "the criterion has been viewed instead by the field as giving license to state fish and game departments to veto potential coal lands. Also, according to some wildlife biologists, determinations under the criterion require at least two seasons of observations. This lengthy process has become a source of delay in the

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program...and all Fort Union region sales were held up largely because of it." The Montana BLM office also recommended abolishing criterion 15. This position, percolating from the top, has probably influenced field level applications of the criteria. The complaint of encumbering the Fort Union lease process was curious, since only a perfunctory application had been administered.

Ongoing data collections confirmed the existence of an important pronghorn antelope range that overlapped a proposed coal lease tract. This information was relayed to the BLM and the Regional Coal Team (RCT). In a meeting with the BLM, our field personnel were informed it was too late to include new data in the Site Specific Analyses (SSA). However, the Circle West SSA's stated, "pronghorn habitat and resultant populations are the most important wildlife values on the tract. The area shown on map 3 is used year-round and contains essential winter range and kidding areas. The pronghorn that winter and are raised on the tract provide a significant portion of the animals for a large area. Exact information on the amount of hunting provided by the herd is unknown, but it is a significant amount (Stoneberg, personal communications)." Although this would appear to satisfy the requirement of unsuitable to mine under criterion 15, no such designation was proclaimed. Instead, the SSA's stated: (a) "The land use planning process included applying unsuitability criteria as much as possible," (b) "among other items, the unsuitability criteria (43 CFR 3461) were reconsidered on this site-specific basis. Any new findings of unsuitability are reflected in this report," and (c) "criteria Nos. 9 through 13 and 19 involving fish and wildlife are pending further study. This criteria (sic) will be applied prior to the final EIS as the data becomes available."

The DEIS continued the recognition of this critical area when it stated, "the Circle III tract contains some of the most important wildlife habitat in the Fort Union region. The destruction of this habitat would severely impact the high value pronghorn herd by destroying their winter range and year-round habitat" (p. 126). They go on to state, "unsuitability criteria have been applied with the exception of the area identified as ferruginous hawk nesting habitat." Although the antelope range in the Circle West area received considerable attention, protection under criterion 15 was not forthcoming.

In summary, the unsuitability criterion 15 was designed to protect resident wildlife from the effects of strip mining federal coal. It specifically mentioned winter ranges most critical for antelope. In one of the first applications of the criterion, an antelope wintering area covering 688 acres of federal coal in the Circle KRCRA was declared unsuitable for mining. Thus, a precedent was set. However, another more significant winter range was not afforded the same protection even though its importance was acknowledged by the BLM. In an effort to correct this contradiction, the DEIS stated the Circle West tracts were covered by stipulations protecting critical antelope range (p. 48). The stipulations, however, were not described but were probably intended to justify the inclusion of the Circle West tract in the RCT's preferred alternative (number 3). Apparently, the BLM relegated the decision to the state's mine permitting process. As a result, state wildlife managers were left with indecision rather than precedents or guidelines to follow in the application of criterion 15 to antelope winter ranges.

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Another species which received special attention when criterion 15 was first applied to the KRCRA's was the sharp-tailed grouse. A one-half mile radius around nine male leks located over federal coal was removed from the lease process, "to preserve the integrity of these grounds." A total of 1892 acres of federal coal was excluded. Since all leks located over federal coal were not declared unsuitable, the basis for guidelines was established. Three leks in the Wibaux-Beach KRCRA were considered expendable based on, "the relative number of males in attendance on all leks in the area and the distance to other leks which were declared unsuitable or located outside the coal area" (Redwater MFP, p. 40). Stipulations covering reclamation and revegetation to native plants and the size of operation relative to the area-wide grouse populations were to be applied if coal development occurred.

In the Circle West area 3, dancing grounds were identified in the Redwater MFP and portions of the one-half mile radius overlying federal coal were removed from the lease process. The Circle West III SSA noted one lek had been located on the tract but the lack of activity in 1979 led to the conclusion it was abandoned (Circle West III SSA, p. 111).

In 1982, an intensive spring survey was conducted in the Circle West area north of Nelson Creek. Five previously located grounds were checked and six new ones were located. In addition, one ground was found in 1981 and was not checked in 1982. These data were relayed to the BLM and they were acknowledged in the DEIS, "Eleven known sharp-tailed grouse dancing grounds...in and around the Circle III tract make this a very important and sensitive wildlife area" (p. 126). Of special importance was one ground located over federal coal in the center of the Circle III tract. In addition, the lek previously listed as abandoned was active in 1982. Neither of these grounds received the protection previously granted their neighbors. Instead, they were shielded by unspecified special stipulations that apparently defer a decision to the state's mine permitting process.

The application of criterion 15 to sharp-tailed grouse leks provided the first suggestion of guidelines used by the BLM decision makers. Apparently, leks located outside or along the boundary of delineated coal tracts had all underlying federal coal declared unsuitable for mining. However, those located within a tract, where an unsuitability decision could impact the exploitation of the tract, were included in the lease sale with stipulations. The stipulations lifted the burden of decision making from the BLM's shoulders. State wildlife managers, therefore, apparently must limit the application of criterion 15 to those leks which do not interfere with the designation of a logical mining unit.

The Bloomfield tract was subjected to a four-season wildlife inventory by Matthews of the BLM. He identified the Sheep Mountain Divide along the western edge of the tract as "crucial mule deer habitat." The area was labeled as "essential mule deer winter range" on map 3 of the Bloomfield SSA. It was also delineated as having the potential to be declared unsuitable based on existing information. The tract map on page II of the DEIS indicated this declaration did not occur. Although the Bloomfield tract was included in the RCT's preferred alternative, no mention was made of the costs to the resource this entailed. The critical area was not even

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afforded any special stipulations. The removal of this tract from alternative 4 was cited as a plus because it, "reduces the reclamation difficulty associated with the rough topography on the mule deer winter range contained on this tract" (DEIS p. 126). Apparently state wildlife managers can scratch critical deer winter ranges as qualifying for unsuitable-to-mine status based on criterion 15.

The primary wildlife data base for two of the tracts was collected by private consultant firms under contract to energy companies. In the case of the Burns Creek tract, Mobil Oil Corporation has not, and apparently will not, release its information to the BLM. Since private landowners will not allow access to BLM biologists, the unsuitability criteria cannot be applied to this tract. Therefore, this tract cannot be offered for lease. The RCT, however, included Burns Creek in its preferred alternatives. Information on the Redwater tracts, collected for WESCO Resources, Inc. was not available for inclusion in the SSA's (Redwater SSA I p. 14). Whether unsuitability criteria were applied to these tracts and, if so, what data base was used were not explained in the DEIS. The discussion under alternative 6 mentioned Redwater I and II tracts contained valuable wildlife habitat (DEIS p. 127). In addition, Redwater II was included in the tracts covered by stipulations protecting sharp-tailed grouse and critical antelope range (DEIS p. 48). The use of data collected for energy companies intent on leasing federal coal for application of unsuitability criterion 15 should be closely monitored by the state.

The Fort Union coal lease sale, one of the first to be conducted under the new federal coal management program, has so far failed to provide a basis for determining the impacts on coal development of implementing the unsuitability provisions found in the regulations. This was unfortunate in light of the high level procedural attacks aimed at these provisions. Had they been accurately and properly applied, the results could have been evaluated and changes proposed to improve the process. Unfortunately, this opportunity has been lost.

Unsuitability criterion 15 was intended to protect resident wildlife species through the cooperative efforts of the surface management agency and the state. However, the result was often a confrontation over interpretation and application between state and federal agencies (i.e., correspondence from North Dakota Game and Fish Department to BLM dated June 24, 1981). The Fort Union coal leasing process which culminated in the release of the DEIS indicated the provisions in criterion 15 were applied in an arbitrary manner designed to meet the needs of the coal lease target rather than the needs of the resident wildlife species.

As you can see, the identification and application of criterion 15 designations is being seriously compromised. Where conscientiously applied in the past, we have through negotiation developed meaningful wildlife protection programs and still accommodated coal leasing. We feel it is imperative that critical wildlife areas be designated and some protection afforded to resident wildlife. We need a strong objection to the way identification and deisgnation of critical wildlife habitat is being compromised in the current planning and leasing process.

231 In the past we have developed a very positive program for protecting wildlife while developing our coal reserves. The foundation for that program has been an objective identification and classification of critical wildlife habitat. This process can continue, but it will surely falter if we abandon strict objectivity when dealing with criterion 15.

Sincerely,

James A. Posewitz, Administrator
Ecological Services Division

JAP/RS/sa

cc: Dick Johnson
Harold Wentland
Arnold Dood
Neil Martin

STATE OF MONTANA

COMMENTS

FORT UNION COAL REGION

DRAFT ENVIRONMENTAL IMPACT STATEMENT

OCTOBER 8, 1982

232 The state of Montana has been an active partner in the evaluation of the future coal leasing potential of the Fort Union coal region through participation on the Fort Union Regional Coal Team during the past 2½ years. One of the more ambitious and complex phases of the evaluation has included the facility and end use analyses for each of the proposed lease tracts. The DEIS contains appropriate caveats stating that comprehensive reviews of individual facilities will be done in accordance with all applicable state and federal laws whenever each facility is formally proposed. However, the level of leasing that would occur in 1983 if the Regional Coal Team's preferred alternative or any of the alternatives with higher tonnages are chosen is not substantiated by the demand for coal indicated in long range facility development plans received by Montana under its Major Facility Siting Act. No facilities associated with the Burns Creek and Bloomfield tracts have been identified. So leasing of these tracts in 1983 would be well in advance of any apparent coal demand.

The DEIS generally underestimates the magnitude of the effect the more ambitious leasing alternatives would have on the natural and cultural environment. Full development of the coal tracts in all options, except 1 and 2, would substantially change the character of eastern Montana. The magnitude of the potential change which would result from Alternative 6 would likely be far greater than any change which has occurred in this century.

233 The DEIS does not fully discuss the implications of the Meridian Exchange, especially in conjunction with a new alternative which would provide for an exchange in the Redwater tract as well as the Circle tract. This alternative apparently is being considered as part of the Miles City BLM District Office's Environmental Assessment of the Meridian Exchange and would involve consolidation of about 700 million tons of Meridian coal in the Circle tract and 700 million tons of federal coal in the Redwater tract. This may enhance the development opportunities of both federal and private coal. The Environmental Assessment should adequately consider the full range of potential consequences to the resources of Montana resulting from such an exchange. Montana may be submitting additional detailed comments regarding the exchange following a review of the forthcoming Environmental Assessment.

234 The DEIS points out that "usable storage" of 13.6 million acre-feet exists in Fort Peck Reservoir. That amount may not, in fact, be available. The Fort Peck Indian Tribes are presently negotiating their reserved right. The State of Montana has 300,000 acre-feet to sell and the Corps of Engineers views the reservoir and its water as part of an integrated system, which may or may not have water available depending on downstream needs. This situation should be specifically addressed in the FEIS.

235 Montana's previous comments questioned the use of the term "economic stability" to describe the effect of coal development on the local economy. Changes to reflect this comment appear to have been made in the DEIS, but some additional points still need to be made. When several developing major energy-related projects were recently cancelled in neighboring states, homeowners and the local communities were left with significant socioeconomic costs. Given the uncertainty of demand, the high capital costs, and the environmental uncertainties associated with synfuels, this possible scenario should be mentioned in the FEIS and an estimate made of the socioeconomic costs if a project fails. The WPPSS project in the Pacific Northwest has shown that when a utility project fails, there is also a cost borne by the ratepayers, in addition to the costs borne by the local communities and individuals who planned for growth.

The Figures 3-3 to 3-15 showing "fiscal balance" for affected Montana towns indicate a continuing deficit: development will cost more than it returns in revenues. The possibility for the coal impact fund to provide assistance is mentioned, but no analysis is made about the sufficiency of this fund to cover deficits. In any case, it is a situation that deserves specific explanation, as it portrays a negative economic consequence of development which will be borne by local communities as a result of a federal leasing decision. In contrast, all of the figures for North Dakota communities show an eventual fiscal surplus.

236 Higher operation and maintenance costs to water users who may have to dig deeper wells is mentioned. The DEIS states that in a case where a landowner believes his/her water has been affected by mining, he/she can recover damages. However, experience at Colstrip has shown that the causes of water level changes are very hard to identify. As a result, there may be a significant nuisance factor and cost to a landowner attempting to prove an adverse effect on his/her water resources, which may not be recoverable.

237 The DEIS states that the agricultural support economy would not be affected. If any of the alternatives are chosen which involves more industrial activity than Alternative 2, the economy of eastern Montana may undergo such major shifts that it seems improbable that the agricultural support economy would remain unaffected.

238 On page 130 is a discussion of energy corridor planning which has been ongoing in Montana over the past two and one half years. The intent on that page was to reference the Montana Major Facility Act. However, it is North Dakota's siting act that is referenced.

239 Appendix I of the DEIS contains a fairly detailed discussion of how the North Dakota siting process is used to mitigate socioeconomic impacts of major facilities and to encourage consultation and coordination among various affected parties, including local government officials. No discussion of the Montana Major Facility Siting Act (MFSA) is provided, although the MFSA serves much the same function. Attached is a copy of a brief discussion of this topic which was a part of a Department of Natural Resources and Conservation staff presentation at a recent conference. This should aid in preparing text for the FEIS to include the MFSA.

240 The Department of Commerce has assumed many of the functions of the (defunct) Department of Community Affairs. The Department is presently providing impact mitigation assistance to coal impacted and potential coal impacted communities. This local government assistance is provided by one full-time land use planner and by one part-time program coordinator. "On-site" technical assistance is provided in impact mitigation, local planning, development controls (development permit systems, subdivision review, etc.), land-use law, and other relevant matters. Under this program, assistance is also provided to Montana Coal Board grant applicants and grantees. In addition, the program participants act as liaison between local government, state government, federal government and industry.

One Montana statute which could provide impact assistance to local governments and which was not mentioned in the DEIS is known as Tax Prepayment for New Industrial Facilities (15-16-201, MCA). By applying this law, a local government could require the owners of a new industrial facility (e.g. coal gasification plant, coal-fired electrical generation plant) to prepay the property taxes on the plant, thus providing "up-front" revenues which could be used to provide for the needed increase in local governmental services. Only the governmental taxing jurisdiction in which the industrial facility is to be located could require prepayment (e.g. county government). This statute does not apply to those jurisdictions which would be affected but would not have the plant located within their borders (e.g. city government, adjacent county government).

The Farmer Home 601 Program is essentially terminated. It would be appropriate for the FEIS to delete any reference to the program. However, if the summary of the 601 program is retained, one significant correction should be made. On page A-27 the last full sentence should be changed to read as follows:

> The FmHA 601 Program provides grants to designated, approved coal impacted areas for planning and for site acquisition and development for public facilities and services and publically owned housing sites.

The 601 program funds only planning and site acquisition and development; it does not fund the construction of public facilities or the operation of public services, as is implied by the sentence currently appearing on page A-29.

241 The EIS (Appendices A & B) does not fully demonstrate an awareness of agency responsibilities towards the consideration of cultural resources in project planning. These responsibilities and the steps of compliance should be outlined in the first portion of the EIS. Chapter 2 should include a description and evaluation of relevant surveys for cultural resources. While recognizing a relative lack of inventory for historic sites, the discussion of these properties is weak. Specifically, the discussion should include the qualities that make sites such as homesteads and mines eligible for listing in the National Register, their associative values, architectural values, informative values, and what constitutes integrity in the various kinds of historic properties. The discussion of rock art and historic sites generally does not include information on possible associative and architectural values. Such information is needed along with an analysis of possible and appropriate mitigation.

242 The DEIS lacks discussion of the effects of changes in water quality and quantity on aquatic ecosystems. The discussion of water impacts in the DEIS centers on the effects on wells, groundwater, and municipal water supplies; almost no mention is made of effects of altered streamflows and water quality on aquatic macroinvertebrates, fish, and other fauna. Acid rain effects are briefly mentioned (p. 125), but other sources of water pollution are inadequately covered. Many of the tributaries to Fort Peck Reservoir and the Redwater River provide important spawning habitat for sauger and/or walleye. Reduction in in-stream flows in these tributaries as well as Beaver Creek near Wibaux and the Yellowstone River below Intake could have significant effects on the fishery.

243 The legend identifying surface ownership for the Redwater Tract II on page 19 of the DEIS has transposed ownership for state and privately owned surface. This can be corrected by indicating state ownership in blue as has been done with the other tract ownership maps.

While other tract maps indicate those areas of state coal that are presently leased, the Woodson Preference Right Lease Application (PRLA) map on page 35 of the DEIS does not. The map should identify the existing state coal lease on section 16, Township 20 North, Range 56 East of the PRLA.

244 The discussion regarding the purpose or relevance of the Montana Environmental Policy Act contained in Appendix B of the DEIS should include reference to the requirement for impact statements for major state actions which have the potential to significantly effect the human environment, as is included in the discussion for the National Environmental Policy Action on page A-2.

The references to legislation found in Appendix B for the Montana Department of State Lands do not reflect the 1979 recodification of state legislation. The corrections for the FEIS are as follows:

1. Replace State Antiquities Act, Chapter 25 of Title 81, R.C.M. 1947 with State Antiquities Act, Section 22-3-401 et seq., MCA.
2. Replace Section 81-103, R.C.M. 1947 with Section 22-3-424, MCA.

244 3. Replace Section 81-501, R.C.M. 1947 with Section 77-3-102, MCA.
4. Add Section 77-2-102, 103, MCA. This authorizes the Board to grant easements for the siting of structures, roads, etc. on state-owned lands that may be associated with energy development.

245 Page 72 of the DEIS states that the preferred alternative would also have unleased state coal being made available for sale concurrently with the federal lease sale. While Montana is actively evaluating the affected state-owned coal resources within and adjacent to the proposed federal lease tracts for possible future lease sale, a committment to a joint state-federal coal lease sale in June 1983 is not possible at this time. Following the evaluation of state-owned coal, a decision will be made regarding Montana's participation in the future federal coal lease sale.

246 Page 103 of the DEIS reports that drawdown of area water wells as a result of mining will be limited to the mining tracts and an area within about one mile of the tracts. It is likely that the drawdown could be greater than one mile as stated. The distance could be as great as two miles, depending on the porosity and permeability of the affected aquifers.

The DEIS on page 104 states that there is sufficient impermeable material below the mineable lignite to prevent the degradation of the lower aquifers. An indication that an analysis of the local geology (lithology and thickness of lower layers), hydrology (aquifer properties of lower materials, head differences between units) and structure (presence of faults, folded or fractured zones) has been completed should be added to the text to qualify the statement.

247 Page 105 of the DEIS indicates that hazardous organic wastes will be produced. An identification of these wastes would be helpful to the reader and aid in the understanding of potential impacts.

248 Also on page 105 of the DEIS, the reader is told that there is no practical way to restore alluvial valley floors. This is false. The Montana Department of State Lands received plans for restoration of the South Fork of Spring Creek adjacent to the Tongue River Reservoir prepared by NERCD in 1981. Initial review of these plans indicates that, with minor modification, the plans could provide an acceptable method for reclaiming an alluvial valley floor. It may be possible to apply similar practices to the Fort Union area.

MAJOR FACILITY SITING ACT

The Montana Major Facility Siting Act (MFSA), enacted in 1973, provides for comprehensive review of proposals to construct and operate certain kinds of facilities for generating, converting or transmitting energy in Montana. The Act covers: 1) facilities that can generate 50 megawatts or more of electricity; 2) facilities that can produce 25 million cubic feet or more of gas per day; 3) facilities that can produce 25,000 barrels of liquid hydrocarbon products per day; 4) uranium enrichment facilities; 5) facilities that can use, refine or convert 500,000 tons of coal or more per year; 6) electric transmission lines greater than 69 kilovolts capacity, with certain exceptions for lines covering short distances; 7) facilities for developing and using geothermal resources capable of producing 25 million Btu per hour or more; 8) facilities for in situ coal gasification; and 9) pipelines leading from or to a facility as defined above. Facilities under exclusive federal jurisdiction are exempt. Oil and natural gas facilities are also exempt. Thus the Northern Tier oil pipeline from Port Angeles, Washington to Minnesota, and the Northern Border natural gas pipeline (which eventually will connect with the Alaska pipeline) are covered only by MEPA and not by MFSA. Mining is covered by other laws, which I will describe later.

The Major Facility Siting Act has four provisions which are important for impact mitigation. First, the Act requires all parties planning to construct a facility (as defined by the Act) within the ensuing 10 years to file a long-range plan with ONRC. All proposed facilities must be adequately described in a long-range plan at least two years before ONRC may accept an application. The plans are submitted on April 1st of each year and any new plans are generally covered by the press. The plans thus serve to notify the public of any proposed facilities substantially in advance of when they will actually be constructed.

Second, the Act requires that an application for a facility must be filed with the ONRC. The application must include a description of the proposed facility, with discussion of alternative sites, an explanation of need for a utility facility, discussion of efforts to promote conservation and reasonable alternative energy sources, and a filing fee, based on the estimated construction cost of the facility, to finance the state's evaluation.

Now if you will turn the flow chart (Figure 3) that describes the application and certification steps, I will walk you through the process. The ONRC has 90 days to determine whether an application is complete; that is, whether it contains the information required by the law and associated rules. When the DNRC accepts the application as complete, it then has 22 months (in the case of generating plants) or 12 months (in the case of small transmission lines) to do an independent analysis, including preparation of an EIS under MEPA, holding public hearings, and preparing a final report to the Board of Natural Resources and Conservation (BNRC).

In the meantime, the Department of Health and Environmental Sciences and the Board of Health have a year, plus an additional six months if applicable, to determine whether the project will comply with air and water quality standards, and other laws administered by the Department of Health and Board of Health.

Note that this period of state evaluation contains opportunity for working with the affected local communities to analyze impacts and suggest mitigation strategies. It also has a mandatory public hearing where the public can comment on DNRC's and the Department or Board of Health findings.

The third provision of the Siting Act that provides opportunities for mitigation is the Board of Natural Resources and Conservation decision as to whether to issue a certificate for project construction. The Board is a seven-member citizen board, appointed by the Governor. A certificate may not be granted unless the Board finds and determines: 1) the nature of the probable environmental impact; 2) that the facility represents the minimum adverse environmental impact, considering the state of available technology and the economics of various alternatives; 3) that the facility is consistent with regional plans for expanding utility grids and will serve system economy and reliability; 4) that the facility's proposed location conforms to state and local laws and regulations; 5) that the Board of Health has certified that the facility will not violate air and water quality standards and implementation plans; and 6) for a utility application, that the facility serves the public interest, convenience and necessity. Need, environmental impact, benefits to the applicant and the state, effects of resulting economic activity, and effects on public health, safety and welfare must be considered in making these determinations.

After receiving the DNRC's final report on the proposed project, the Board has 11 months to make its decision. As part of its decision-making process, it must hold public hearings under the Montana Administrative Procedures Act. These are contested case hearings involving attorneys, witnesses, and cross-examination. The affected local government must be a party to the proceedings or state why it will not be. The applicant, of course, participates. Citizen groups and industry groups usually participate also. The Board must consider all the evidence and prepare Findings of Fact and Conclusions of Law. It has three options in granting the Certificate: 1) Deny a Certificate, 2) Issue a Certificate for the project as proposed by the applicant, or 3) Issue a Certificate for the project, but with conditions attached. It is this power to condition the Certificate that enables the Board to specify mitigation that the applicant must follow. Certificates may be revoked for failure to meet safety standards or failure to comply with any other conditions imposed by the Board. Unlike Montana's mining laws, the Board is not restricted in the kinds of mitigation it can specify. Thus socioeconomic and cultural mitigation measures can be required.

Examples from the Certificate which was issued in 1976 for the Colstrip coal-fired generating plants include two provisions affecting the Northern Cheyenne Tribe. The Northern Cheyenne Indian Reservation is about 20 miles south of Colstrip, and the Tribe opposed the plants because of the potential effects of air pollution, because of the impacts to their culture from a large influx of construction workers, and because they had gotten only a handful of jobs from construction of the earlier Colstrip plants. Thus they felt they received no economic benefits, yet had to suffer the adverse environmental and cultural effects of the plants. The Board's conditions to the Certificate required Montana Power Company to work with the Tribe to set up, at MPC's expense, an air quality monitoring program. They also required that MPC work with the Tribe to establish training programs to develop skilled labor so that Tribal members could be employed during construction and operation of the coal plants. The result has been that, while Northern Cheyennes obtained only a small percentage of jobs on Colstrip Units One and Two, well over 100 have been consistently employed on Units Three and Four.

The fourth important provision of the Siting Act from the point of view of mitigation is the requirement that DNRC must monitor the construction and operation of the facility to ensure that the Board's conditions are being met. The applicant must pay for the monitoring program. If the Board finds that a condition is not being complied with, it can revoke the Certificate. This enforcement power has two benefits. First, it ensures that mitigation efforts are carried out. Second, it provides information on whether the mitigation measures are succeeding or failing to solve the problems, whether the anticipated problems turned out to be real ones, or whether unanticipated problems developed. This information is valuable for future impact assessments.

FIGURE 2

MONTANA MAJOR FACILITY SITING ACT:
PROVISIONS RELEVANT TO SOCIOECONOMIC IMPACT MITIGATION

- Long Range Plans provide advance notice to public

  Persons planning to construct facilities in the ensuing ten years must submit a long range plan each year identifying proposed facilities. A facility must be identified in a long range plan at least two years before an application is filed.

- Application, independent state study and public hearings under MEPA provide information to public and opportunity for public comment

  The law and rules specify a broad range of environmental, social, economic, and cultural factors that must be included in the analysis and recommendation. For utility applications, analysis of need for the project is also included.

- Board of Natural Resources and Conservation decision on issuance of Certificate includes public hearings and ability to attach conditions to a Certificate

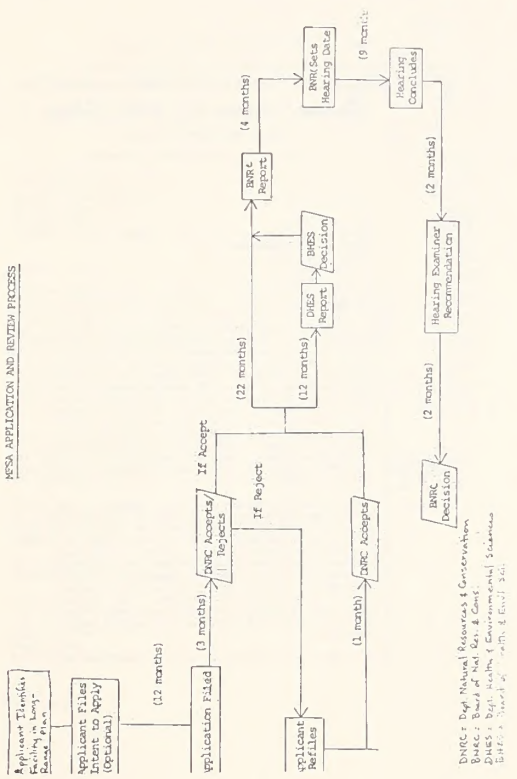
  The law specifies that a facility must meet the standard of minimum adverse impact, considering the nature and economics of the various alternatives. For utility facilities, standards for public convenience and necessity must be met. Public again has opportunity to comment. Board may approve or deny a Certificate. Board has broad powers to specify mitigation measures as conditions to a Certificate.

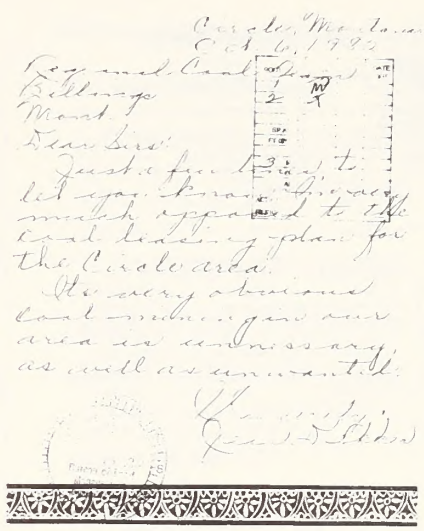
- Monitoring facility construction and operation

  DNRC monitors to ensure Certificate conditions are complied with. Project sponsor pays costs of monitoring.

FIGURE 3

MFSA APPLICATION AND REVIEW PROCESS





Comments of S. N. Howard on the Fort Union EIS

October 7, 1982

Lloyd Emmons
Acting Project Manager
Fort Union Project
Bureau of Land Management
222 N 32 Street
P.O. Box 30157
Billings, MT 59107

Thank you for sending me the July 1982 Draft Environmental Impact Statement, the Air Quality Supplement, and other items on the Fort Union Coal proposals.

The publications which I have, have displeased me. I find the writing poor, the presentation of evidence fragmented, and the argument for strip-mining coal not proven. Straight logic seems not to have been of concern in these publications.

To support my criticism item by item would be a waste of time. It is difficult to be specific and emphatic about reports where sentence after sentence, paragraph after paragraph, and page after page do not 'hang together'.

It is difficult just to read the prose. A minor example: failure of agreement between subject and verb occurs twice in the same paragraph on page 39. "Development of new mines...have..." and "Each facility...are....". Such careless use of language suggests careless thinking.

249 That perhaps explains the fragmentation of the material. Among the several environmental factors impacted by strip-mining and attendent uses of coal, water seems to be the one in greatest jeopardy. The material on water is to be found all through the DEIS. On a quantitative basis, water as a water problem is rather lightly covered in just eight and one-half pages of text. To find all the material, the assumptions, the conclusions, the forecasts, and the like re water, I had to go through the whole report and look under all headings. Why is it that the summary on water seems buried? The damage to the water supplies will be irreversible and far too great should strip-mining proceed on the scale projected. I should like an answer to my questions: do these reports deliberately obfuscate the known facts about, and the projections of scientific inquiries into, hydrology on the plains?

With reference to other factors in the environment, the reports seem to treat them in a cavalier way. There are scattered statements to show that the environment will be harmed. This is especially the case in water, air, and soils. I cannot find any parts of the reports which demonstrate that our resources will be guaranteed protection from strip-mining.

250 Do we really need coal now? Today's paper had a story on E. F. Hutton's plan to finance ethanol on a large scale. This will be a cleaner source of energy than coal. It is also a renewable source of energy.

250 Why should the Department of the Interior put out leases so prematurely? The public lands and the minerals beneath them belong to us as a nation. I hope they will not be given away, but maintained as a reserve. We are decreasing our dependence on OPEC. Let us not increase our dependence on similar domestic cartels which would rape the land. I see no need to sell leases, or public lands at this time.

There are so many inconsistencies in the reports as published that I am overwhelmed at the prospect of listing them. As I wrote above, the writing is poor, and the material is contradictory in many places. But I do wish to commend those who put together the maps, charts, and graphics. This, apart from a misleading photograph on a "typical" view, p. 9. To me a more typical view would show the Jeffersonian squares of farmland. The visual aids are well done. They support my conclusions that the leasing of public minerals is untimely and disastrous to the future of us all

Respectfully,

Solvejg N. Howard
11551 Ohio Avenue
Los Angeles, CA 90025

RECEIVED
OCT 12 1982
Bureau of Land Management
Billings, Montana

County of McCone

OFFICE OF

County Commissioners

CIRCLE, MONTANA 59215

October 6th, 1982

Bureau of Land Management
Miles City
MT 59301

Gentlemen:

The McCone County Commissioners appreciate the opportunity to comment on the Fort Union Coal Regional Draft E.I.S.

251 The analysis of the impacts of leasing on population and local government budgets in the EIS gives figures for cities (Circle), but not for counties. As the elected officials responsible for county government administration, we would find the EIS much more helpful if it also included the figures for county population and budget impacts.

We suggest that the final EIS should include this information for McCone County.

Thank you for your consideration on these comments.

Sincerely yours,

McCONE COUNTY COMMISSIONERS

Lyle Quick, Chairman

Edwin Moos, Member

Melvin Skyberg, Member

COMMISSIONERS:
Edwin Moos, Circle
Lyle Quick, Circle, Chairman
Melvin Skyberg, Fort Peck

TELEPHONE NUMBER AREA CODE (406)
485-3505

COUNTY CLERK
Paula L. Kuntz

THREE AFFILIATED TRIBES • FORT BERTHOLD RESERVATION

Mandan, Hidatsa and Arikara Tribes

TRIBAL BUSINESS COUNCIL

P.O. Box 220 • New Town, North Dakota 58763 • (701)627-4781

Austin H. Gillette, *Chairman*
August Little Soldier, *Vice Chairman*, South Segment
Tillie Walker, *Secretary*, West Segment
Gerald White, Sr., *Treasurer*, East Segment
Matthew Mason, North Segment
Roy Bird Bear, West Segment
Nathan P. Goodiron, West Segment
Thomas Eagle, Jr., East Segment
Willard Little Owl, South Segment
Marie D. Wells, Northeast Segment
Willard Yellow Bird, Sr., East Segment

October 8, 1982

Mr. Loyd Emmons
Acting Project Manager, Fort Union Project
Bureau of Land Management
222 N. 32nd Street
P.O. Box 30157
Billings, Montana 59107

Dear Mr. Emmons,

252 After reviewing the "Air Quality Information Supplemental to the Fort Union Coal Region Draft Environmental Impact Statement" the Three Affiliated Tribes feel there is sufficient reason to express concern for the fate of air quality on the Fort Berthold Reservation. The North Dakota State Department of Health has sent the Tribes three "Notices of Intent to Issue an Air Pollution Control Permit to Construct". All three of the projects involved will contribute to an exceedance of the 24-Hour PSD Class I increment for sulfur dioxide for the Theodore Roosevelt National Park, and one will also exceed the same increment for the Lostwood National Wildlife Area.

If the 24-Hr PSD Class I increment in areas near the reservation is exceeded by present or planned PSD users the Tribes will be severely stifled in developing the fossil fuel resources on the Fort Berthold Reservation. Because the extent of the coal reserves under the reservation are just now being ascertained it seems extremely inequitable to limit the number of options the Tribes and their members have in developing their resources. Air Quality regulations pertaining to off-reservation areas should not become the limiting factor for Tribal resource development.

The Tribes are following Air Quality legislation and

252 have taken an active role in establishing an Air Quality Monitoring Station on the reservation which is now operational and collecting data for present and future uses. The Tribes should work together with federal and state entities to protect air quality and insure that the Tribes and their members have viable alternatives available for the development of their energy resources.

Sincerely yours,

Austin H. Gillette
Tribal Chairman

ac: Tribal Business Council
Lawrin H. Baker, Administrator, NRD
Leo Brocke, Superintendent, Fort Berthold Agency
101.2

October 7, 1982

Mr. Bob Kaiser
Governor's Office
State Capitol
Bismarck, ND 58505

COMMENTS ON FORT UNION COAL FORMATION ENVIRONMENTAL IMPACT STATEMENT

253 The Highway Department has some concerns about the proposed development of coal deposits in the state. Our analysis indicates that many of the routes that will be impacted by the proposed developments are weaker and older sections of highways. The statement did not address truck volumes which would enable us to better determine what the impacts upon these highways would be. In addition, the proposed scheduling of improvements may conflict with the movement of workers and materials to plant sites. Finally, the Killdeer rail branchline which serves the Killdeer-Dunn Center area is currently proposed for abandonment within three years.

During the construction of the Coal Creek, Coyote, and Antelope Valley I power plants, segments of highways directly impacted by the developments required increased maintenance efforts. In one instance, resurfacing was required to preserve the road from certain failure. This caused some congestion and increased travel time for construction workers to the sites.

These are the type of occurrences the department would like to avoid in the future. In order to do this, more information on time frames and the movement of materials is required. This will enable us to anticipate the consequences of these movements upon the affected highways. This information would also aid the department, if it is necessary, to keep the Killdeer branchline from being abandoned and to determine the additional truck volumes which would be generated should the line be abandoned.

We feel that the movement of materials on the transportation system is an important issue that the Department of Interior should address in the final environmental impact statement. It is also important that the Highway Department is provided as much lead time as possible prior to project construction in order to protect the highways and to provide safe and uncongested movement of people and goods to the sites.

Gary L. Berreth
Planning Engineer

KO/kk

2419.42

UTAH INTERNATIONAL INC.

550 CALIFORNIA STREET · SAN FRANCISCO, CALIFORNIA 94104
CABLE ADDRESS: UTAHINTL · (415) 981-8105

18 October 1982

Mr. Lloyd Emmons
Fort Union Coal Project Staff
Bureau of Land Management
222 North 32nd Street
P.O. Box 30157
Billings, Montana 59107

Dear Mr. Emmons:

Utah International, Inc. (UTAH) is a diversified mining corporation with coal mines in the Western United States. We have a substantial interest in the Garrison Tract in North Dakota and are vitally interested in the leasing of coal in the Ft. Union Region. We have reviewed the Bureau of Land Management's Environmental Impact Statement on Federal Coal Leasing in the Ft. Union Region and we would like to make three points.

First, we commend the Bureau of Land Management for their fine effort in the Environmental Impact Statement in identifying all the major areas of concern and assessing the regional impacts associated with coal development within the Ft. Union Region.

Second, UTAH supports the preferred leasing alternative (alternative three) of 832.8 million tons of federal coal for new production in 1983 which includes the leasing of federal coal on the Garrison Tract. This level of leasing will insure free competition and allow the marketplace to determine the allocation and development of the coal resources of the region.

Finally, on the issue of wetland reclamation, UTAH recognizes the importance of wetlands as wildlife habitat, and believes that wetlands can be successfully reclaimed, and that mining and reclamation can provide an opportunity for enhancement of the wetland resources.

Attached are UTAH's detailed written comments on the Environmental Impact Statement. Thank you for the opportunity to express our views.

Sincerely,

Paul Schipke
Manager, Mining Evaluation

PS/vs
Attachment

COMMENTS ON THE FORT UNION COAL REGION ENVIRONMENTAL IMPACT STATEMENT
and AIR QUALITY INFORMATION SUPPLEMENT

1. Pages 52 - 61, Tables 1-5 through 1-11. The following changes should be made for the Garrison Tract in the tables:

254 a. Annual production should be changed from 5.7 MM TPY to 2.8 MM TPY.

Current market conditions indicate that a 400 MW mine-mouth power plant will be built in conjunction with the development of the Garrison Tract. Preliminary engineering estimates show that 2.8 MM TPY will be needed to supply an electric generating station of that size. This production figure is consistent with figures presented in Table 1-3 on page 50 for facilities of similar size (e.g. Coyote #1 and Big Stone Generating Stations).

255 b. The acreage required for the mine facility sould be changed from 240 acres to 160 acres.

The mine facility acreage figure is high and should be changed to 160 acres to be consistent with the mine facilility acreage requirements for the other tracts.

256 c. The electric power plant non-potable water needs should be cut from 12,000,000 gallons per day to 6,000,000 galllons per day to reflect the needs of a 400 MW plant.

On page 73 of the Northern Great Plains Resource Report entitled Effects of Coal Development in the Northern Great Plains (U.S. Dept. of Interior, 1975), the water requirements for a 1000 MW power plant are estimated at between 10,900,000 and 17,200,000 gallons of water per day (assuming 360 days of operation per year). This range of water usage is in line with the figure of 12,000,000 gallons per day presented in the EIS for a 1000 MW facility. But since the Garrison Tract is only planning a facility of 400 MW, as stated on page 51 of the EIS, the water figure should be cut in half to provide a more accurate estimate of water usage.

257 d. The anticipated date of facility operation should be changed from 1992 to 1991.

258 2. Page 93, Table 2-9. The Garrison Tract is shown to contain a total of one cultural resource site but the type of site is not indicated in the table.

259 3. Page 123, Column 2, Paragraphs 3 and 4.

Utah International, Inc. recognizes the importance of wetlands as wildlife habitat, but strongly believes that not only can wetlands be successfully reclaimed, but that mining and reclaimation provide an opportunity for enhancement of the wetland resources.

259

It must be recognized that all wetlands of the Pothole Region are slowly dying as they proceed through stages of natural succession from deep water, to shallow water, to dryland. Succession has been expedited in many areas since agricultural practices were introduced. Plowing of adjacent lands, with the attendent erosion, has contributed to the import of soil into the wetlands. This has contributed in large measure to the decline in deep water habitats and the attendent decline in "diving" on deep-water ducks, such as canvasbacks, an issue of great concern to sportsmen. This concern has resulted in the establishment of man-made wetlands by government agencies, conservation organizations and private individuals across the Prairie Pothole Region (Wildlife Use of Man-made Wetlands in the Prairie Pothole Region: A Selected Annotated Bibliography; South Dakota Cooperative Wildlife Research Unit, Technical Bulletin No. 2, October 1981). It should be noted that the U.S. Fish and Wildlife Service has spent millions of dollars in dredging and modifying wetlands to enhance waterfowl production.

Many wetland ecologists agree that if a similar contour and surface retention capability is restored, natural succession will restore the wetland in 15 to 20 years. This process could be accelerated with the use of reclamation procedures (e.g., topsoiling, seeding, transplanting and fertilization). Wetland enhancement can be achieved by combining a series of small scattered wetlands in the course of reclamation to form one large, deeper wetland. This would provide improved habitat for deep-water ducks, while at the same time increase the efficiency of farming operations by reducing the number of small wetlands that interfere with efficient farming methods.

Thus, it is clearly within our technical capability not only to reclaim wetlands, but to address regional wetland concerns and to enhance wetlands or optimize them to benefit certain featured wildlife species.

260

4. Page 5-6, Table 2-2. The title of Table 2-2 should be changed to read, Proposed Intergral Vistas Associated with the Theodore Roosevelt National Park.
The word proposed should be added to the title of Table 2-2 because no final agency action has been taken on the list of integral vistas (as discussed on Page 5-5, Column 1, Paragraph 2). Currently, these integral vistas have no legislative standing and this should be clearly indicated in both the text and associated tables in the entire document.

Sidney Chamber of Commerce

Sidney, Montana 59270
(406) 482-1916
or 482-5790

October 15, 1982

Lloyd Farnum
Acting Director
Bureau of Land Management
Regional Coal Team

Dear Lloyd,

This letter is in regards to the proposed future coal production in eastern Montana.

The Sidney Chamber of Commerce would like the record to show that it supports the idea of coal extraction in eastern Montana under proper guidelines and management.

Again, assuming proper management of coal extraction, the Sidney Chamber of Commerce will do everything in its power to help accelerate coal production and the companies involved, in our area.

Sincerely,

Ken Davis
Executive Vice President

"A PROGRESSIVE COMMUNITY OF UNLIMITED OPPORTUNITIES"

UNITED STATES GOVERNMENT

memorandum

DATE: [illegible] 82

REPLY TO ATTN OF: Division of Trust, Land Operations

SUBJECT: Comments concerning Draft Environmental Impacts on Fort Union Regional Coal (DES 82/47)

TO: State Director, Bureau of Land Management, Billings

From: Billings Area Director

We have been requested to review and provide comments to your office concerning the draft Fort Union Coal Region EIS.

Alternative 3-6:

261

(1) Water:

Under provision of Alternative 3-6, Meridian Coal Company would be involved in a coal exchange for the purposes of developing a methanol facility. The water which would be required for the synfuel development would originate from the Fort Peck Dam reservoir.

The Sioux and Assiniboine have paramount water rights to that water. Therefore, we urge consultation with the Sioux and Assiniboine Tribes of the Fort Peck Reservation concerning this matter. In addition, we recommend consultation with the Fort Berthold and Turtle Mountain Tribes, as well as other Indian down stream water users.

262

(2) Air Quality

The Fort Peck Tribes are considering redesignation to a Class I air quality for the Fort Peck Indian Reservation. Therefore, provision to adequately address this standard would have to be applied to stack emissions from the Meridian methanol project.

263

(3) Socio-Economic

The relatively close proximity of the towns of Wolf Point and Poplar to the Meridian proposed minisite and methanol plant indicates a potential for increased population. If Meridian should reach the full production phase, the influx of people associated with the project could apply significant strain upon each towns municipal services. Consultation with the Sioux and Assiniboine Tribes is recommended.

Area Director

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

OPTIONAL FORM NO. 10
(REV. 7-76)
GSA FPMR (41 CFR) 101-11.6
5010-112

State of North Dokota
EXECUTIVE OFFICE
BISMARCK

ALLEN I. OLSON
GOVERNOR

October 15, 1982

The Honorable James Watt
Secretary of the Interior
U.S. Department of the Interior
Washington, D.C. 20240

Dear Mr. Secretary:

Reference is made to the Draft Environmental Impact Statement for the Fort Union Coal Region.

My office, through my representative on the Fort Union Regional Coal Team, has been involved with Bureau of Land Management state and regional offices in holding two public information meetings and one formal hearing in North Dakota designed to receive public comment on the Fort Union Coal Team's preferred leasing alternative and the Draft Environmental Impact Statement. The meetings went well, and public comment was generally positive.

Aside from the draft air quality section, I am pleased with the systematic and detailed approach used by the Coal Team in the leasing process. The results indicate to me that the majority of our residents have no objection to the leasing plan outlined in "Preferred Alternative No. 3" proposed by the Fort Union Regional Coal Team.

Barring any new impact, I am looking forward to a June '83 lease sale which would include all the North Dakota tracts in the Fort Union Regional Coal Team's "Preferred Leasing Alternative No. 3."

If I can be of any assistance, please let me know.

Kindest regards.

Sincerely,

ALLEN I. OLSON
Governor

AIO:wcg

MERIDIAN LAND & MINERAL COMPANY

First Northwestern Bank Center
Post Office Box 2521
Billings, MT 59103-2521
406 256-4500

October 18, 1982

David Oarby
Bureau of Land Management
PO Box 30157
Billings, MT 59107

Dear Mr. Oarby:

Meridian Land & Mineral Company would like to submit the following comments on the Oraft Fort Union Coal Region Environmental Impact Statement of July 1982. Our interest in this document stems from our position as a major owner of lignite reserves in the region and as a party to the proposed coal exchange near Circle, Montana. The checkerboard pattern of our ownership means that our ability to manage our minerals is governed by federal coal leasing activity in the region. Unless the government undertakes either leases or exchanges, it will be difficult to mine the Meridian controlled coal.

Meridian commends BLM for its attempt to discuss possible impacts of the leasing program in the Fort Union region. This is a very difficult task when the level of development which is likely to occur is hard to forecast. In addition, the BLM has not had site-specific plans for each tract from which they could determine potential impacts. Not withstanding some problems, the BLM has made the best of this task. The following comments reflect some concerns and changes Meridian would like to see addressed in the final EIS.

264 1. Meridian's possible coal development in the Circle West area should be clarified and distinguished from hypothetical generic synfuel scenarios used for the purpose of worst case assessments. Earlier this year, Meridian supplied BLM with a development scenario for Circle West which we felt was the only alternative over which Meridian would have direct control should development occur. The alternative we supplied was a plant facility to manufacture 2,500 tons, or 18,000 barrels, per day of methanol. This number was based on the possibility that our sister subsidiary, Burlington Northern Railroad, might convert some diesel locomotives to methanol, and represents the maximum quantity necessary for such a demand. As the market stands now, a plant of this type will not be built because the economics are unfavorable. Should the fuel situation deteriorate again in the future, the economics might change and make methanol conversion a viable plan. In any event, given the lack of formal plans and lengthy permitting requirements, coal mines and conversion facilities probably will not be under construction at Circle West in 1987 as Table 1-11 in the DEIS shows.

Any other scenario in the DEIS document relating to Circle West, including the generic 85,000 barrels per day synfuel facilities, should be designated as hypothetical for the purpose of BLM's assessment. We do not see development at this magnitude as that most likely to occur, and it is hoped the public would keep that in mind when reviewing the discussion and associated impacts. We would point out that a proposed plant at 85,000 barrels per day is capable of nearly 200% of BN Railroad's total diesel fuel demand today.

265 2. BLM's impact assessment should address the likely level of development which might occur in the future as a result of this leasing action. As currently written, the DEIS addresses only the highest level of development and assumes that every leased tract would be developed. We support the need for this analysis and commend the BLM for its attempt to take on this difficult task. Our concern, however, is that such an analysis does not give the decision-maker or the public a very realistic picture of the likely level of development. Given the uncertain future market of lignite coal and the poor condition of current markets, it is unlikely that the number of tracts and levels of production comprising the various leasing alternatives studied in the document will materialize within the predicted time frames. Also within the timeframes predicted, it is unlikely that corresponding increased impacts will actually be generated by increased levels of leasing because it is unlikely that all leased tracts will reach production. This means that the larger the leasing alternative is, the greater the overstatement of production and resulting impacts is likely to be.

We strongly suggest that the BLM examine closely the projections for coal mining in the region and determine the most realistic level of production for selected time frames. This should be followed by an estimate of the level of impacts associated with that production. The final EIS could use this as a basis for comparison when discussing possible production levels from the various alternatives. This arrangement would clearly put impact levels for the full level of production for each alternative in perspective with what the BLM really thinks is going to happen. Everyone reading the document would then have a much better idea of what the real impact of the government actions are likely to be.

266 3. The DEIS Summary (p. ii) and most other sections of the document should identify and separate the temporary impacts from the permanent impacts. NEPA requires that an EIS identify short term impacts and we do not believe this has been accomplished. This is particularly critical in the document's summary where it is not clear that any of the stated impacts would be short-term. In addition, the statement summarizing impacts under Alternative 5 (p. ii) is unintelligible and would be unlikely to occur. Surface mining in compliance with federal and state statutes would not allow "completely destroying a portion of the Redwater River Valley." We suggest that the BLM review the discussions (particularly those on water, agriculture, and wildlife) to identify clearly those impacts which are temporary.

267 4. The statement of general assumptions (pp. 40-41) makes it clear that the analysis assumes all state and federal laws and regulations will be enforced but several subsequent discussions do not reflect this. The statements regarding impacts to water resources from Alternative 5 (referenced above) are perhaps the best example of this. There are numerous federal and state statutes which protect the quality and quantity of water from mining impacts. Where these impacts cannot be mitigated, the laws would prohibit mining. Thus, it seems somewhat pointless to discuss these impacts as though they would occur. We recommend that the BLM review the discussions on water, agriculture and wildlife in order to add appropriate statements regarding the net impacts following application of the required mitigation measures.

268 5. Many of the statements, tables, and figures in the Comparison of Alternatives section of Chapter 1 are unclear. Most of the problem seems to stem from having no definition or rationale for the units of analysis within this chapter. Most of this necessary definition and rationale is contained in Chapters 2 and 3. We would recommend, therefore, that the BLM remove the Comparison of Alternatives section (pp. 63-73) from Chapter 1 and place it at the end of Chapter 3, preferably as a new Chapter 4.

269 6. All discussions of environmental consequences should contain an analysis of the impacts from the preferred alternative at a minimum, and from all alternatives in the ideal. We would commend the BLM for completing this extensive analysis for all alternatives for most resource programs. This is a difficult and time-consuming task, especially when site-specific plans for most of the tracts in the region are nonexistent. We are concerned, however, that the air quality discussions (including those in the supplement) have not clearly identified the impacts from the preferred alternative. The information on the location and degree of impacts given in the discussion section (pp. 5-16 to 5-32) is extremely difficult to follow and digest into a useable form. We would recommend that the BLM add figures to the Air Quality Supplement showing comparable information for the preferred alternative as is currently in Supplement Figures 3-2 through 3-13. The existing figures in the Supplement are useful and, in combination with additional figures on Alternative 3, would provide a more complete analysis. We would also recommend that the BLM restructure the discussions in the Air Quality Supplement to conform to the basic format used by the other resource programs in Chapter 3. This format is easy to follow and brings the analysis into conformity with the decision format.

270 7. Discussions of environmental consequences should make a better attempt to quantify the net income gain or loss to the income of farm/ranch operators. The discussions identify the fact that most operators receive variable levels of compensation from mining companies, however, no serious attempt has been made in the DEIS to subtract this compensation from the losses described. The emphasis in the DEIS seems to be solely on losses. We would point out that if the average annual peak year loss in net income for operators is $17 per acre, then compensation in the range from $160 to $870 per acre should receive attention as a net gain. We would recommend that the BLM clarify this fact in each discussion on agriculture in Chapter 3.

271 8. Meridian believes that the analysis of economic impacts are generally very good. We would commend the BLM for attempting to quantify a large number of variables which are not always easy to quantify and for identifying most of the major factors which could influence these variables. These are difficult tasks to achieve without bias and the BLM was quite even in its treatment. Our only concerns would be that: a) we do not think enough discussion has been given to the likelihood that new populations might be handled by "company town" approaches; and b) the DEIS should attempt to quantify for each alternative the Montana coal impact money available for grants. The DEIS has identified its assumptions regarding population locations and tax returns; however, it does not discuss the extent to which company towns and impact grants could mitigate the described economic impacts. We believe the public should be made aware of the extent to which these available options could mitigate the impacts.

272 9. Meridian would like to commend the BLM for its creative use of graphic illustrations in the DEIS. The figures, tables, and maps in this document attempt to complement and summarize the text with remarkable ingenuity. We are concerned, however, that some of the figures (particularly Figures 1-1 through 1-17) contain so much information in such a clever format that they are misleading. When looking at some of these figures it is difficult to tell which time periods they cover, whether they include or exclude baseline data, and what some of the units of analysis are. Most of these problems could be rectified by amending the titles, by adding explanations to the legends, and by moving Figures 1-10 through 1-17 to the end of Chapter 3. Our primary concern is that most of the figures appear to show that either the Meridian exchange or the Woodson PRLA must increase the tons of coal mined and the impacts. Most of this stems from the fact that the DEIS has described these alternatives in conjunction with Alternative 3, but has not clearly separated the impacts of Alternative 3 from Meridian's proposed plan or from BLM's hypothetical worst-case scenario. A casual reading of the document might indicate that impacts from the Meridian-BLM exchange are equal to leasing the by-pass tracts plus eight other tracts, whereas the potential impacts attributable to the exchange are only a small fraction of this. The text seems to be less confusing on this point than the figures. We would recommend that the BLM revise the figures to make the distinction clearer between Alternative 3 leasing and the exchange.

Meridian would like to thank the BLM for this opportunity to comment on the DEIS and we hope the BLM will consider our comments. We feel that various aspects of the document's presentation and organization are confusing or misleading. However, BLM has done the best possible job of addressing impacts for the production levels chosen and, with minor revisions, can address the majority of our concerns.

Sincerely,

Charles W. Rech

C. W. Rech
Land Manager

819I/MJT/eks

October 18, 1982
Lindsay, Montana 59339

Mr. Lloyd Emmons, Acting Project Manager
Fort Union Project, Bureau of Land Management
222 N. 32nd Street
P.O. Box 30157
Billings, Montana 59107

Dear Sir:

I was unable to attend the Fort Union Draft EIS Hearing in Glendive, Mt., on Sept. 29, 1982, but I have a few comments that I would like to make about the Draft EIS. I am particularly concerned about off site impacts to agriculture and the social impacts to our communities.

273 When my great grandfather moved to this part of the country and homesteaded 13 miles southwest of Lindsay he quickly learned that only the homesteads that had an easily available source of water succeeded. My family and I still farm this original homestead and now, as then, water is an absolute necessity to our farm and ranch operation.

I am concerned about industrial claims on Eastern Montana water, particularly ground water sources. We run cattle near a proposed facility siting. As an off-site water user, where do I stand if an industrial water user uses, or degrades, the water that I depend upon for my livelihood.

I realize that the BLM does not deal with water rights, however, you do address the issue of water quality in the Draft EIS. You state "mining activity in all of the alternatives would have varying degrees of impacts upon the groundwater resource;" that "the chemical quality of the groundwater could be changed;" that "the number of wells that would experience water level downdrawa or have the quality degraded varies from 45 to 734;" and that this will mean a "higher operating expense and maintainance costs to the water user." What you are actually saying is that you do not know what is going to happen; that you cannot accurately predict the adverse affects brought on by industrial development. You do assume me however, that it will cost me more, and even with the increased cost I may never be assured of the original quality or quantity of water that I had before development.

274 I am also concerned with the degradation of our air quality in Eastern Montana. What effects will increased SO_2 emmissions have on crop yield? I have read studies indicating that crop yield may decrease by as much as 15%. What about the problem of acid rain? You say that "the environmental consequences of acid pollution cannot easily be predicted" and that "monitoring studies should be continued... particularly in Montana." In other words me, as off-site landowners, are to be the guinea pig with no assurances or recourse if the worst case develops.

275 I withdrew from an Engineering Ph.D. program to return to farming and ranching primarily because of social values. As an example I embrace the Western doctrine of a man's handshake is his bond. However, I have quickly learned that this custom is completely foreign to anyone connected with the Energy business. I fear that with the projected industrial development of this area, the social values that I and many others cherish will be destroyed.

276 According to your figures, populations in some of the small towns will double or triple. Circle, for instance, is expected to grow from 900 at present to 9000 in alternative 6, a 10 fold increase. As an off-site landowner, I am concerned as to the source of community service money, money which has trditionally come from property (land) taxes. The Draft EIS is very unclear as to what is included in the fiscal balance calculations. Since the Draft EIS figures budgets only for the cities, it may be assumed that the county and school district budgets were not included which may greatly underestimate the taxation immact on off-site landowners.

In conlcusion, I am concerned about the many unanswered questions in the Draft EIS in respect to off-site impacts on water quantity, water quality, and cost of social programs and deeply concerned about the probable and irreversable loss of our social values and our way of life.

Sincerely,

Frank S. "Ed" Eaton

State of Montana
Office of the Governor
Helena, Montana 59620

TED SCHWINDEN
GOVERNOR

October 19, 1982

Mr. Lloyd Emmons
Acting Project Manager
Fort Union Project
Bureau of Land Management
P.O. Box 30157
Billings, Montana 59107

Dear Mr. Emmons:

The Air Quality Bureau of the Montana Department of Health and Environmental Sciences has reviewed the September 1982, Air Quality Information Supplemental to the Fort Union Coal Region Draft EIS and the August 1982, Air Quality and Climate Technical Report. We have also had a chance to review comments made by the North Dakota State Department of Health in their September 27, 1982, letter.

The following comments are made with regard to the documents.

277 1. As stated in North Dakota's letter (comment 1) the purpose of the document is to study the desirability of various leasing alternatives and their impact on air quality. In the event that a tract was leased and a facility was proposed, another impact statement would have to be written and appropriate PSD and construction permits would have to be obtained.

278 2. The Montana Air Quality Bureau wishes to disclaim direct involvement in the development of the modeling study plan as implied on page S-11 of the Supplemental. The Bureau did, however, attend meetings and expressed its opinion in regard to the modeling. Information was supplied from time-to-time at BLM's request.

279 3. On page S-3 of the Supplemental, it is correctly stated that the SO_2 baseline date for Montana was established as of August 7, 1977. However, it should be noted that the State Air Quality Bureau has proposed a new rule which would set a statewide SO_2 baseline date as of March 26, 1979. The final PSD rule may contain a county-by-county or an impact area mechanism for triggering baseline dates.

280 4. The modified version of COMQC and MESOPUFF are not EPA-approved models but may be the best models available for regional modeling. As stated in North Dakota's letter (comment 7) use of MESOPUFF "requires EPA approval in each PSD new source review." Two questions arose concerning COMQC:

a. Is it valid to composite STAR decks from several cities to produce a STAR deck for the region?

b. Can COMQC be used for regional modeling? Or should this model be used for receptor distances less than 50 km?

281 5. Appendix F is unclear as noted in North Dakota's letter (comment 5). On page S-14 of the Supplemental it is stated that "other major sources near the Fort Union Coal Region, such as the Colstrip and Poplar River power plants, are included in the 1997 baseline inventory." It appears from Appendix F that Colstrip Units 3 and 4 have not been included in the 1997 baseline inventory.

282 6. We agree with North Dakota's comment 12. The 1975 baseline emission sources impact upon air quality may be included twice. With regard to measured background concentrations, this problem may be more significant for North Dakota than Montana. This is due to locations of monitors and level of activity.

283 7. A discussion of the emission estimations would be helpful. This would include the emission factors used, production rates, and control techniques or efficiencies. This type of information could be included in the Technical Report.

Thank you for the opportunity to comment on the reports.

Sincerely,

TED SCHWINDEN
Governor

cc: Air Quality Bureau
Department of State Lands

COMMENTS OF THE ASSINIBOINE & SIOUX TRIBES OF THE FORT PECK RESERVATION ON FORT UNION COAL REGION DRAFT ENVIRONMENTAL IMPACT STATEMENT

The Assiniboine and Sioux Tribes of the Fort Peck Reservation submit these comments on the Fort Union Coal Region draft EIS because we believe that the draft EIS does not provide enough information to adequately measure the environmental effects of alternatives under consideration, and that the environmental effects which are revealed by the draft EIS are sufficiently serious as to warrant selection of an alternative with minimum possible additional coal leasing.

I. The Interest of the Tribes

The Assiniboine and Sioux Tribes occupy the Fort Peck Reservation located in northeastern Montana. The Reservation is in the Fort Union Region, approximately 30 to 50 miles north of the proposed leasing sites in Montana. Leasing would occur on tracts south of the Reservation in all alternatives except alternative one.

The remoteness of the Fort Peck Reservation has so far protected its natural environment. The air is relatively clean and pure; there remain areas of natural vegetation typical of the shortgrass prairie habitat, with some timbered areas; and the Reservation supports a diverse wildlife population including white-tailed and mule deer, migratory

pronghorn antelope, and a variety of birds, including migratory game birds.

Development in the region threatens the environment of the Reservation and to the extent possible the Tribes have sought to preserve their natural resources. In particular, concern for the air quality has led the Tribe to seek Class I status under the Clean Air Act for the Reservation. That redesignation is under active consideration, and approval is expected shortly.

284 The Fort Union Coal Region leasing and development potentially will have a serious impact on the Reservation. Air pollution resulting from the project will degrade the quality of the Reservation air, in some instances exceeding the Class I increments on the Reservation. Wildlife on the Reservation, especially migratory wildlife, may suffer as a result of injury to habitats south of the Reservation. One of the towns to be affected by influxes of workers, Wolf Point, is the largest population center on the Reservation. In addition, tribal members, as residents of the area, have an interest in the environment of the area around the Reservation. For example, tribal members use the fishing and recreational facilities of Fort Peck Lake.

II. The draft EIS does not adequately document the scope and number of possible violations of NAAQS and PSD standards.

Although the draft EIS focuses almost exclusively on whether and to what extent the alternatives under consideration would violate air quality standards or PSD increments, it fails on at least three counts to document the full extent that the proposals would violate those standards.

285 First, the worst case episodes were selected for analysis on the basis of the impact at Theodore Roosevelt National Memorial Park (TRNP). The draft EIS states specifically that there might be events which would have larger impacts on other Class I areas. TRNP was selected for the worst case analysis "for the obvious reason of its status as a PSD Class I area located virtually in the middle of the Fort Union Coal Region." (DEIS, page S-16.) However, examination of the wind rose for Dickinson, North Dakota (Figure 2-3) shows that the prevailing winds are from the west and northwest, with the second most common winds from the south and southeast. TRNP is located west of the extensive proposed lease tracts in North Dakota and far enough south so that it misses much of the pollution dispersed when the winds are from the south.[1/] Thus, while centrally located, it may not be the best choice location for the

1/ TRNP south unit is south of all but a few of the tracts proposed for leasing. TRNP north unit is just a few miles north of most tracts -- not enough to bring it within the dispersion pattern for south or southeasterly winds.

worst case analysis. It would have been more informative to analyze the air quality at a location southeast of the bulk of the leased lands and another north of the leased lands.[2/] Examination of worst case episodes at TRNP may also result in understatement of the impact on Class II areas closer to the proposed lease sites.[3/]

285 Furthermore, there is no information from which it could be determined whether the worst case events selected were typical, unusually good or unusually bad. They were selected because they were the worst cases in 1964, the year for which the most complete and detailed data were available. (DEIS, page S-16.) However, some comparison of 1964 with other years is needed to determine whether 1964 was a typical year. If not, then conclusions based on that year are meaningless.

286 Finally, the modeling outcomes admittedly contain an error of a factor of two. DEIS, page S-15. To provide a complete picture of possible violations of Clean Air Act standards, this potential error should be taken into account.

2/ It is worth noting that in the two worst case events for which contour maps were drawn, pollution dispersed to the north, and that PSD violations were projected for both Fort Peck and Lostwood National Wildlife Refuge, which are farther north than TRNP.

3/ Furthermore, violations of Class II standards may be concealed in the 10 km. grid size used for the modeling. This grid size is larger than the scale for some impacts. Thus, the average effect in a 10 km. grid near a leasing site may be less than the most serious impact in that grid.

287 The contour maps should have lines at increments equal to one-half the increment which would be a violation, and "possible" violations should be noted when increments twice those showing would violate PSD or NAAQS requirement. This is not done in the draft EIS.

288 Thus, although it focused primarily on identifying possible violations of Clean Air Act standards, the draft EIS does not succeed in fully determining the extent of possible violations. Violations could well turn out to be more frequent and widespread than the draft EIS indicates.

289 III. The draft EIS does not summarize the air quality effects of the proposed alternatives in sufficient detail to permit an evaluation of the overall air quality effects of those alternatives.

In focusing on the extent to which development under the proposed alternatives will violate national ambient air quality standards or prevention of significant deterioration standards, the air quality portion of the draft EIS fails to provide the information necessary to evaluate the overall effects on air quality of the proposed development. This is a crucial shortcoming. The National Environmental Policy Act requires that the agency prepare a detailed statement of all environmental effects of any proposed action. The EIS must be sufficiently complete to enable intelligent evaluation of the action. If compliance with other environmental statutes were sufficient NEPA would be superfluous.

The environmental impact statement does not even attempt to describe a number of potential environmental effects which it concedes are or may be significant. For example, the discussion of organic compound emissions amounts to less than half a page, concludes that the data to determine the effects are not available and that (DEIS, p. S-37):

> Due to the significant size of gasification and liquefaction facilities associated with development alternatives of the Fort Union Coal Region, this is an area of potential concern and should be more critically evaluated as more intensive studies are completed, and as specific coal conversion projects are proposed.

289 This casual dismissal of the problem is unacceptable. The necessary work will have to be done eventually,[4/] it should be done now. After the leasing is approved and the development is underway, the pressure to build the gasification and liquefaction plants to utilize the coal will be enormous. Any adverse environmental information turned up at that stage may well be irrelevant to the decisions as a practical matter. Moreover, many of those projects may be undertaken by private parties with private funds, and thus would not be subject to NEPA. Since there is as yet no NAAQS for these emissions, they would be essentially unregulated. Clearly, the time to evaluate this environmental impact of the Fort Union coal development is before that development begins.

4/ Unless the entire project, including the particular facilities, is to be completed without any analysis of this problem.

290 Another environmental impact not adequately addressed by the draft EIS is acid rain. The EIS concedes that increasing acidity would eventually consume the buffering capacity of local soil, and that emissions of SO_2 and NO_2 will contribute to acidity of precipitation. DEIS at S-36. But little attention was devoted to attempting to estimate the effects, even within broad ranges. The only information provided is that which turned up in the modeling study directed toward visibility problems.

291 Effects of the air pollution on weather and on water quality were dismissed with the assertions that the information necessary to assess them was not available. There was no attempt to collect data, or to determine the range of possible effects. To ignore a potentially significant problem because of lack of information about it will not make it go away. Again, the time to collect the information is now, before the decisions are made and become irreversible.

292 Those problems and impacts which are addressed by the draft EIS are not adequately described or analyzed so as to make determination of the project's desirabiltiy --as opposed to its compliance with the Clean Air Act -- possible. Thus, the discussion of dispersion of total suspended particulates (TSP), SO_2 and NO_2, focuses exclusively on whether NAAQS or PSD standards will be violated. There is

292 no discussion of the differences in impacts between those alternatives which do not violate a particular standard. For example, contour maps showing the SO_2 24-hour average incremental concentrations for the December 4-5 event are given for alternatives 1 and 5, and for the July 4-5 event for alternative 6. However, maps showing the impact of the other alternatives are not given, so comparison of those alternatives with each other or with the alternatives presented is not possible.[5/]

293 In addition, there is no attempt to determine what the average or normal pollution effects will be. The EIS looked only at 3 two-day worst case events; we have no way of knowing whether the normal situation is significantly better than those worst cases, about the same, or, for some areas, worse.[6/] The normal pollution level is clearly important in measuring the overall environmental impacts of a project.[7/]

The draft EIS contains no discussion whatsoever of the effects the concentration of pollutants resulting from

5/ Figures at some locations for some of the other alternatives are given in the text; but again the information provided does not permit a comparison of all alternatives.

6/ The worst cases were worst cases at TRNP. Other locations could suffer worse pollution under conditions which were not the worst case for purposes of that analysis.

7/ Nor is there any discussion at all of impacts in Canada. The contour lines on many of the maps extend across the Canadian border; but there is no discussion of Canadian standards or whether they will be violated.

293 the project would have. Thus, for example, there is no discussion of the impact on vegetation which might be expected from SO_2 resulting from the proposed coal development. While this information may not be directly relevant to determining whether the development would violate the Clean Air Act, it is certainly crucial to evaluating the overall environmental impact of the project and determining whether development should proceed.

294 The analysis of secondary air pollution impacts associated with population and economic growth is also inadequate. No information is provided on the air pollution impacts during the period of peak population due to construction. The draft EIS states only that "later years [after peak construction] were selected on the premise that the effect of vehicle emissions on ambient air quality is expected to be greater once the facilities * * * become operational and are themselves discharging emissions * * *" (DEIS at S-39). However, all of the comparisons are with baseline vehicular emissions; there are no comparisons which depend on the emissions from the other facilities contemplated in connection with the leasing. Furthermore, in some communities the vehicle emissions might be locally more significant than the other facilities. Evaluation of these temporary effects is relevant to the selection of the most desirable alternative. They should be included in the EIS. In addition, the analysis of secondary air pollution impacts

does not even consider TSP emissions due to dust from unpaved roads, construction, etc. That these effects could be significant is illustrated by significant secondary TSP effects found in the draft EIS for the Unitah Basin synfuels project. Unitah Basin Synfuels Development, Draft Technical Report -- Air Quality, 5-87. These effects should be evaluated, both for the peak construction period, and for the permanent increased population after construction is complete.

294 In sum, the air quality portion of the EIS should focus more on describing the overall environmental effects, and comparing those effects for the different alternatives. The purpose of the EIS is to allow evaluation and comparison of the alternatives from an environmental standpoint, so that environmental factors are adequately factored into the final decision. The draft EIS falls short of this goal. While possible violations of the Clean Air Act are relevant and important, other information is also needed.

IV. The draft EIS shows that the environmental effects of large scale leasing in this region are sufficiently serious that an alternative with little or no additional leasing should be selected.

Notwithstanding the deficiencies discussed above, the draft EIS, particularly the air quality portion, demonstrates that most of the proposed alternatives will have substantial detrimental effects on the environment of the region, including the environment of the Fort Peck Indian

Reservation. For this reason the Tribes urge selection of an alternative with minimal additional coal development, preferably alternative 1. The Tribes are strongly opposed to any development of the tracts in Montana south of the Fort Peck Reservation.

294 The air quality supplement to the draft EIS shows that every alternative, including alternative 1, will result in violations of air quality standards promulgated under the Clean Air Act. Moreover, each alternative involving more development also increases the number and/or scope of such violations -- there is a direct trade-off between the scope of the leasing and the loss of air quality. Thus preservation of air quality requires minimal leasing.

Alternative 1 violates three Clean Air Act standards: the NAAQS for TSP (24-hour), the PSD Class I standard for SO_2 (24-hour), and the PSD Class II standard for TSP (annual). Alternative 2 violates these and adds a significant impact on visibility of TRNP. Alternative three (with or without the Woodson PRLA and Meridian Exchange proposals) violates the above standards, plus the PSD Class I standard for SO_2 (3-hour). Alternatives 4, 5 and 6 add violations of the PSD Class I standard for SO_2 (annual).[8/] It is clear

8/ Indeed, alternatives 4, 5 and 6 violate all of the PSD Class I standards for SO_2. Clearly SO_2 emissions are a serious environmental problem with this development.

that extensive development should not go forward in the face of these anticipated widespread violations of federal air pollution control laws.[9/]

294 Furthermore, the proposed leasing project would have serious adverse impacts on air quality at the Fort Peck Indian Reservation itself. Alternatives 5 and 6 would cause violations of PSD Class I standards for SO_2 (24-hour) over a wide area of the Reservation. DEIS, page S-27; and figures 3-7 and 3-10. Under alternative 6 the incremental increase in SO_2 would reach three times the Class I increment.[10/] In addition, although the data and the contour maps are not presented in the draft EIS, it appears the increments on the Reservation may approach the point of violations within the margin of error of the modeling for several other alternatives. In any event, it is clear that all of the alternatives for which contour maps are shown (except alternative 1) will result in increases in SO_2 and/or TSP on the Reservation, with a resultant degredation of the air quality of the Reservation.

9/ The potential violations of the Clean Air Act may be even more extensive; the draft EIS does not adequately document them; see part II above.

10/ The Fort Peck Indian Reservation is not yet designated as a Class I area, but such designation is under current consideration and the Tribes expect it will be so designated shortly.

The draft EIS also discusses other significant impacts on the Fort Peck Reservation. Impacts on wildlife will be serious. While most of these impacts result from destruction of wildlife habitat in or near the proposed mining sites, Fort Peck will be affected. Migratory wildlife and migratory bird habitat will be destroyed; this may have an adverse effect on the wildlife of the Fort Peck Reservation. Wildlife on the Reservation will also be directly affected by increased hunting and poaching on or near the Reservation. In addition the Tribes are concerned about possible impacts of the coal development on the fishery at Fort Peck Lake. While the lake is not on the Reservation, it is close, and is an important source of recreation for many tribal members.

The economic and social impact of a large influx of workers to the area also gravely concerns the Tribes. Wolf Point, a community which is expected to bear a portion of the influx if the Montana sites are developed, is the largest population center on the Reservation. The influx would strain available resources, quite probably at the expense of the Indians and other long time residents. The draft EIS indicates (in Appendix H, page SA-11) that Roosevelt County's population is expected to increase by as much as 4 percent under some alternatives. Essentially all of that growth will be in communities like Wolf Point, Poplar,

and Brockton, which are on the southern boundary of the Fort Peck Reservation, where most tribal members reside.

The draft EIS convinces the Tribes that the environmental consequences, to the region and the Reservation, are not worth the potential benefits from the development of these resources. The Tribes urge that a minimal development alternative, preferably alternative 1, be adopted. The Tribes strongly oppose extensive coal leasing, especially of the tracts in Montana.

Respectfully submitted,

David Johnson
Office of Environmental Protection
Assiniboine and Sioux Tribes of the Fort Peck Reservation
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Attorneys for the Assiniboine and Sioux Tribes of the Fort Peck Reservation

October 18, 1982

United States Department of the Interior

DEPT. OF INTERIOR
BUR. OF LAND MANAGEMENT
1982 OCT 25 AM 2
NATIONAL PARK SERVICE
WASHINGTON, D.C. 20240

IN REPLY REFER TO:
N3615(492)

RECEIVED
MONTANA STATE OFFICE
BILLINGS, MONTANA
OCT 28 1982

Memorandum

To: Director, Bureau of Land Management

Through: Assistant Secretary for Fish and Wildlife and Parks OCT 27 1982

From: Director, National Park Service

Subject: NPS Comments on the Fort Union Coal Basin Draft EIS

We have reviewed the subject DEIS to determine the potential effects of leasing in the Fort Union Basin on National Park Service units in North Dakota. The following comments are submitted for your consideration.

Air Quality

As you are aware, the National Park Service recently performed a technical analysis to determine whether or not a certification of no adverse impact on Theodore Roosevelt National Park and the wilderness portion of Lostwood National Wildlife Refuge should be granted to five proposed sources in North Dakota. That analysis showed that the proposed sources would not adversely impact the air quality related values of the class I areas, even though the emissions from the sources would cause or contribute to SO_2 concentrations which exceed certain maximum allowable increases for the class I areas. Therefore, the Assistant Secretary for Fish and Wildlife and Parks, acting as the Federal Land Manager, granted the certifications on September 15, 1982.

295 The National Park Service analysis of the impact of the proposed sources was thorough and comprehensive, and we recommend that BLM follow a similar methodology in all parts of its air quality analysis for the Fort Union EIS. The EIS should recognize that no future major facilities will be able to locate in the vicinity of Theodore Roosevelt National Park as long as increment violations persist, absent a variance from the Governor or the President, if the Federal Land Manager determines that the facility would adversely impact the park. In this regard, conclusions reached in the September 15, 1982 certification should not be extrapolated to any future permit applications in the vicinity of Theodore Roosevelt National Park. Each new applicant must demonstrate to the Federal Land Manager's satisfaction that the proposed source will not cause or contribute to an adverse impact on the resources of Theodore Roosevelt National Park.

We recommend that the Bureau of Land Management carefully review, and if necessary revise, its analysis of potential impacts on Theodore Roosevelt National Park. For example, we suggest the review examine estimated concentrations and potential effects that development of leases could have on vegetation and

295 wildlife in the park. We suggest the review analyze the cumulative impacts on the park from existing sources, plus the sources analyzed by the NPS in its technical analysis. A cumulative impact analysis includes direct and secondary emissions associated with development of proposed coal tracts and associated facilities.

Other issues to be addressed are identified below.

296 . While we recognize the uncertainties involved in predicting the development that will ultimately result from leasing decisions, we suggest that modeling be performed for worst-case scenarios for both the North and South Units of Theodore Roosevelt National Park, and predicted impacts be stated for both units.

297 . Mine development and/or associated industrial facilities at the Zenith and North/South Wibaux-Beech tracts, because of their location, are most likely to cause air quality impacts on the South and Elkhorn Ranch Units of Theodore Roosevelt National Park. Therefore, we suggest that these tracts be analyzed assuming worst-case meteorological conditions for the South Unit, as was done for the North Unit of the park. Based on the Service's experience, using the same model applied to Theodore Roosevelt National Park in the recent FLM certification, we estimate that the additional modeling runs and analyses could be performed for less than $20,000, and completed in approximately a two week period.

298 . The analysis of visibility reduction as a result of regional haze concerns us for three reasons: (1) it was based on only two three-day time periods; (2) it failed to include an analysis of the geographic extent, frequency, and duration of the estimated degradation; and (3) it used the terms "adverse" and "baseline" ambiguously, inconsistently, and apparently without consideration of the definitions found in the legislation and applicable regulations (see, for example, Tables 3-6 and 3-7). Contrary to the implication of the DEIS, visual impact at the threshold of human perception is not necessarily adverse.

299 . We share several of the concerns raised by the North Dakota State Health Department on September 27, 1982 particularly those related to the uncertainties in the emission inventory (Appendix F), the differences between the two regional scale models used, and the acid deposition data base.

300 . The discussion of integral vistas in both the DEIS and the air quality technical report should be revised. First, the term "integral vista" is defined by EPA and should be revised in the DEIS to read: "the view perceived from within the mandatory class I federal area of a specific landmark or panorama located outside the boundary of the mandatory class I area". See 40 CFR §51.301(n)(1981)... The criteria for identification of integral vistas includes, but is not limited to, a determination of "whether the integral vistas are important to the visitor's visual experience associated with a mandatory class I area". Id. §51.304(a). Second, the EIS should note that the regulations identifying integral vistas have not been promulgated. As a "major rule" under Executive Order No. 12291, these regulations are currently undergoing a Regulatory Impact Analysis. Third, both the EIS and the technical reports should include a statement explaining that once a Federal Land Manager has identified integral vistas, the State is responsible

300 for incorporating the integral vistas into the State's air quality planning process (specifically the State Implementation Plan). In addition, the State is responsible for making final determinations regarding the degree of protection, if any, afforded to integral vistas in the permitting and land use planning processes, subject only to the general requirement that the State make "reasonable progress" toward the national visibility goal specified in Section 169A of the Clean Air Act.

301 The DEIS does not contain a complete inventory of vegetation and wildife resources for the Fort Union region, nor does it identify the air pollution threshold sensitivity levels of the resources. Where possible, we suggest the analysis relate predicted air quality concentrations to effects on sensitive species.

Members of the Air Quality Division met with your staff and BLM's air quality contractor for the EIS in Denver on October 14, 1982 to go over specific comments on the draft EIS and the air quality technical reports. Additional technical comments may be submitted to you as a result of that meeting. At your request, the National Park Service is prepared to provide air quality technical assistance to your staff, and to work with your staff in reviewing and making any necessary revisions to the Fort Union EIS and technical support documents.

Water Quality

302 Two segments of the Missouri River, the first from Square Butte Creek to the Oliver/Mercer County line, and the second from the Knife River to the Garrison Dam, have been included in the final list of the Nationwide Rivers Inventory. Rivers which have been included on this list have been selected after consideration of the degree to which the river is free-flowing, the degree to which the river and corridor are undeveloped, and the outstanding natural and cultural characteristics of the river and its immediate environment. While it appears that the segment from the Oliver/Mercer County line to the Knife River was excluded due to mining activities already taking place, we would encourage every possible effort be taken to limit adverse downstream impacts to the Square Butte Creek to Oliver/Mercer County line segment.

Recreational Facilities

303 We are concerned about projected demand for additional local recreational facilities, and impacts to existing facilities which will result from large-scale development of leases in the project area. The draft document does not appear to address the issue of mitigation of impacts, nor does it discuss any alternatives for providing additional facilities to meet the demand illustrated in Appendix J. There is ample precedent for project sponsors to provide recreational facilities and other assistance to communities in impacted areas. The final environmental impact statement should discuss alternatives for mitigation measures for impacts to local and State recreational facilities, including potential for provision of additional facilities by the project sponsors.

Historic Preservation

304 We suggest consideration be given to the impact that mining the Warner-Dunn Center Tracts may have on the Knife River Flint Quarries. As stated in the

304 EIS, "mining at the Warner-Dunn Center Tracts will jeopardize important and irreplacable cultural information". Portions of the quarries have been included on, and other portions are eligible for inclusion on, the National Register of Historic Places.

The quarries served as an important raw materials source for the prehistoric and historic peoples inhabiting the villages now preserved in Knife River Indian Villages NHS. The existence of these resources was doubtlessly one reason for the establishment of the settlements in the places where they exist. Preservation of the quarry sites is important for future research into the prehistory of the Hidatsa, in particular, and the Northern Plains in general. Their preservation is also important to visitor understanding of the cultural and historical importance of the Knife River Indian Villages NHS. BLM and the project sponsors should consult with the Advisory Committee on Historic Preservation and the Montana and North Dakota State Historic Preservation Officers to evaluate potential impacts on cultural resources as described in the Draft Environmental Impact Statement.

We appreciate the opportunity to comment on this report, and look forward to working with you on the EIS and air quality technical report. If you have any questions, or if we can be of further assistance, please contact Mary Ann Grasser of the Air Quality Division at FTS 234-6419.

Thomas J. Hutchinson

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80295-0699

NOV 19 1982

Ref: 8MD

BUREAU OF LAND MANAGEMENT
1982 NOV 29 PM 12 21
RECEIVED
MONTANA STATE OFFICE
BILLINGS, MONTANA

Mr. Lloyd Emmons
Acting Project Manager
Fort Union Project
Bureau of Land Management
P.O. Box 30157
Billings, Montana 59107

Dear Mr. Emmons:

We have completed our review of your Agency's draft environmental impact statement on the proposed leasing on the Fort Union Coal Region. These comments will not reach your office by the October 8 deadline stated in the EIS because we only recently received the "Air Quality Information Supplement." Because of EPA's concern and role in air quality management, we did not believe we were able to adequately review the EIS until this supplement was available.

We found the draft EIS to be a straight-forward discussion of the environmental impacts that would result from proposed leasing of Federal coal and development of power generation and conversion facilities.

The environmental impacts from the proposed coal leasing will be substantial. The major ones relate to air quality, groundwater, reclamation of soils, and wildlife. Even with required mitigation there will be substantial changes and impacts on these media. Air quality will be degraded. Wells will be lost in and around mining areas. Wildlife habitat will be destroyed and reclamation of woody draws uncertain. Soils will be severely impacted with succesful reclamation of agricultural soils remaining a question mark. The EIS points all this out.

It would appear that the major restraint on development and use of the coal would be the PSD Class I air quality limitations. According to the Air Quality Supplement the increments for TSP and SO_2 have already, or are about to be consumed. Additional gasification or power generation facilities in this area may not be constructed unless alternatives such as emissions, offsets or variances were obtained.

In summary, we believe the EIS points out the major environmental impacts that would result from leasing of the coal and also admits there are substantial "unknowns" related to some factors. According to EPA's system for rating draft impact statements this EIS is rated EU-2 (environmentally unsatisfactory - insufficient information). Based on the coal mines and facilities modeled in the EIS, we find the air quality impacts of the development described to be unsatisfactory. Under all alternatives there are one or more mines which cause exceedances of the ambient total suspended particulate (TSP) standard as well as the PSD Class II TSP increments. Further, the composite impact of the facilities under each alternative show exceedances of the 24-hour sulphur dioxide increment for one or more Class 1 areas. Unless adequate reduction in emissions offsets or waivers are obtained, air quality permits for the individual mines (with TSP problems) and those facilities which cause Class I increment exceedances could not be issued. These determinations will be made by North Dakota and Montana as they process individual permits for the mines and facilities. We also have reservations about the lack of knowledge of some of the impacts of this development, in particular as related to air quality and reclamation.

Several specific comments are found in the attachment. If you have any questions please contact Mr. Gene Taylor in our Montana Office in Helena at FTS 585-5486.

Sincerely yours,

Steven J. Durham
Regional Administrator

Attachment

305 1. Numerous comparisons are made in the EIS between amount of land to be mined and that presently left on summer fallow. What is the point of this comparison?

306 2. Page S-2: Last paragraph, organic compounds should be mentioned.

307 3. Page S-8: First column, first paragraph, "residual home heating oil?"

308 4. Page S-9: Figure 2-5, the arrow opposite "nonattainment areas" should be reversed to point upward and the one opposite "attainment areas" should point downward.

Column 2, paragraph 5, "sufficiently major" - could this be elaborated upon so as to make it more clear?

309 5. Page S-11: Column 1, paragraph 1 - should discuss how emissions estimates were derived.

310 6. Page S-12: "Emissions" sections - were maximum emission rates used in all of the modeling exercises?

311 7. Page S-36: Column 2, paragraph 5, last sentence - this conclusion appears to be inconsistent with the content of the subsequent paragraph.

312 8. Page S-39: Column 2 - "Secondary Impacts" section - what about impacts from secondary stationary sources? There would also be TSP emissions from unpaved roads, road sanding, etc.

COMMENTS OF

THE DAKOTA RESOURCE COUNCIL

on the

FORT UNION DRAFT ENVIRONMENTAL IMPACT STATEMENT

DAKOTA RESOURCE COUNCIL

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Mr. Lloyd Emmons
Acting Project Manager
Fort Union Project
Bureau of Land Management
Billings, MT

October 18, 1982

Dear Mr. Emmons,

In general, we support the direction of the findings of the Draft Environmental Impact Statement, as summarized on page ii of the Statement. The findings point to the fact that severe impacts to water, agriculture, air quality, and community services can be expected from leasing at any amount over the 203.3 million tons needed for production maintenance.

However, we find the DEIS inadequate in that it omits consideration of some impacts altogether, especially those which occur away from the mining site. Also, it fails to discuss important air quality impacts in anything but the most superficial manner, it does not accurately portray the severity of community impacts, nor does it give a full account of groundwater damage.

At best, the DEIS gives only a partial accounting of the impacts which will occur from new Federal coal leasing, and at worst, it is an attempt to minimize and gloss over the decidedly adverse affect that coal development will have on the Fort Union Region. Our specific comments follow.

313 1) The need for Federal coal leasing above 203.2 million tons has not been established which would justify the substantial negative impacts expected. Currently, there exists an eight megawatt excess electrical generating capacity in the region, a soft coal market, and a weakening industry interest in synthetic fuels.

Because of these conditions it seems unlikely that development of the tracts will take place in the forseeable future. But, far from making us complacent about leasing and possible development, the situation only furthers our suspicions that coal leasing at this time will result in speculation at the public's expense. If the coal is not needed now, it should not be leased now.

The rationale for leasing in excess of 203.2 million tons, given on page 4, does not take any current market realities into consideration. Furthermore, it is at odds with the 1981 Office of Technology Assessment Report which researched the needs for and availability of Federal Coal in an exhaustive and conclusive manner. The report concluded that adequate amounts of coal are already available for mining that would last at least fifteen more years.

314 2) The findings of the Air Quality Supplement to the DEIS do, we believe, show that Federal coal leasing is unwarranted and impractical because development of the tracts would violate standards for SO_2 and Total Suspended Particulates, as set by Congress in the Clean Air Act. Currently,

314 the Class I PSD increment is consumed. Any more leasing is considered to be either 1) an exercise in futility and a waste of taxpayers' money, or 2) an act that deliberately challenges Congressional efforts, and attempts to undermine the process whereby agencies are to regulate resources in accordance with Congressional directives.

The North Dakota State Department of Health, in conjunction with the Environmental Protection Agency, is beginning a study of pollution "off-setting". The study may enable plants to obtain reductions in current pollution levels, and thereby create room for more development. However, this possible policy change is several years down the road. It is at that time that any consideration for further leasing is in order.

315 3) We find it inexcuseable that the serious issues of toxic hydrocarbons, radioactive emissions, trace elements, effects on weather and climate, and acid precipitation were given only lip service in this document. The manner in which each was recognized as an important concern, and then ignored, shows negligence on the part of the BLM. We fear that the BLM is, in effect, attempting to minimize recognition of the negative aspects of coal development by not allocating the time and effort to study them. As interested citizens we are aware of the hazards of synfuel emissions, acid rain, and the like. We expect the BLM to have more information, pursue the issues with diligence, and we demand a better assessment of these dangers.

316 4) In conjunction with point 3 (above), it appears that whenever inadequate research time and funds were allocated to make a proper assessment, minimum impacts were assumed. This is apparent in the areas of reclamation, groundwater, and off-site impacts.

The fact is, reclamation is unproven in semi-arid areas such as the Fort Union Region. In North Dakota, no reclaimed land has yet been released from bond, nor withstood the test of cropping year after year. Scientific evidence on reclamation in this area is not conclusive to date. And yet, the DEIS assumes 100% reclamation potential when calculating impacts on agriculture. We know that the law says land should be reclaimed to an equal or better condition than it was before mining. We also know that practices are not always equal to the intent of the law. Until more evidence and experience illustrates otherwise, an assumption of 100% reclamation is indefensible.

317 With respect to groundwater, the report is misleading. It gives the impression, on page 104, that groundwater degradation is not a major issue because the impact "will likely (be limited) to no more than a couple of miles distance from a mine." This finding is despite the statement that, "it is impossible to predict accurately how far away from a mined area degraded water will move. . ." Again, the lack of research leads to an assumption of minimum impact. Even if the "couple of miles" is correct, it means that 60-80 square miles around each mine will be contaminated. Is this not a significant deterrent to leasing?

318 A third area where lack of effort leads to lack of recognition of impacts is in off-site agricultural impacts. We will just reiterate that polluted air and polluted water extend beyond the facility site. These factors are not accounted for in the DEIS. Nor is there discussion of transmission lines, pipe lines, or land lost to urban development. Admittedly, these costs are difficult to track down in full, but they deserve proper attention.

DRC Comments, page 3.

319 5) The analysis of impacts on community services is inadequate and misleading. For example, Golden Valley County will not benefit from coal severance taxes, coal conversion taxes, or coal trust fund grants for 20 years after construction starts. To date, no front-end money from industry has been negotiated. How then can Beach show a surplus of revenue within three years of construction start-up--a time when demands on services will be the greatest? (graph, page A-18) The gross inaccuracies in these forcasts should be corrected. The rosy predictions of long term fiscal surpluses for North Dakota communities do not find support in the current realities of Mercer County.

320 6) Finally, we are especially displeased with this document in light of the time and effort we have expended during previous stages of BLM planning for energy development in this area. We have been asking for three years that off-site agricultural impacts be examined, that more attention be paid to reclamation of land, that alternative sources for energy be examined, and that alternative uses of public lands be considered. We have protested the status of the Redwater Management Frameword Plan as a planning document (to the State Director, May 6, 1980). At this late stage we are still waiting for answers to our legitimate concerns.

Respectfully,

Duane Sebastian
Chairman, Dakota Resource Council

NORTHERN PLAINS RESOURCE COUNCIL

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Lloyd Emmons
Project Manager
Fort Union Project
Bureau of Land Management
222 N. 32nd Street
P.O. Box 30517
Billings, MT 59107

October 19, 1982

Dear Lloyd:

Enclosed please find the comments of the Northern Plains Resource Council (NPRC) on the Bureau of Land Management's Draft Environmental Impact Statement, Fort Union Coal Region.

NPRC appreciates the opportunity to comment on the Environmental Impact Statement. If you have any questions about these comments, please feel free to contact us.

Sincerely,

Margaret Nelson
NPRC Staff
Glendive Office

for Margaret Nelson

Comments of the

NORTHERN PLAINS RESOURCE COUNCIL

McCONE AGRICULTURAL PROTECTION ORGANIZATION

and the

DAWSON RESOURCE COUNCIL

On the

Bureau of Land Management's

Draft Environmental Impact Statement

Fort Union Coal Region

October 19, 1982

The Northern Plains Resource Council (NPRC) and two of its affiliates, the McCone Agricultural Protective Organization (MAPO) and the Dawson Resource Council (DRC) are jointly submitting these written comments on the Draft Fort Union Environmental Impact Statement. These comments supplement the oral testimony give by affiliate members at the September 29 Fort Union Lease Sale Hearing in Glendive.

GENERAL COMMENTS:

321 According to the Introduction, "The purpose of this analysis is to look at the consequences of leasing and development of federal reserves in compliance with the federal coal management regulations and NEPA." (Fort Union Coal Region EIS, p. 2.) After reviewing this draft EIS, NPRC has concluded that because the draft contains insufficient and inaccurate information, it does not accomplish its stated purpose.

This EIS is most seriously flawed because it fails to incorporate the four major principles of the federal coal management program. Thus, information which is absolutely crucial in determining the impacts and consequences of coal leasing is never addressed.

Goal number 1 of the Federal Coal Management Program (Abstract of the Final Environmental Statement Federal Coal Management Program, p. 3-2) is "Employ land use planning and effective enforcement of environmental laws to ensure that federal coal is committed to production and produced in an environmentally acceptable manner which is responsible to local communities and land owners affected by development."

322 The EIS does not help to ensure that development will occur in an environmentally acceptable manner. The EIS is riddled with unknowns, and cannot be used as a basis for informed decision making. In discussing major environmental issues - air quality, water quality, agriculture, reclamation - the BLM draws vague conclusions based on admittedly incomplete data. Information contained in the social and economic sections is equally vague. Terms such as "presently not available", "still unclear", "not well documented", "impossible to accurately predict", are meaningless when trying to determine and understand specific impacts. NPRC would appreciate the use of objective, factual information as opposed to the documentation of unknowns.

The Coal Program is supposed to insure that development will occur in a manner which is "responsible to local communities and land owners affected by development." The BLM absolutely failed in addressing this principle. While the EIS includes a discussion of impacts to communities, it neglects to discuss impacts to "all affected landowners", by failing to assess impacts to farm/ranch operations outside the mining tracts (where landowners receive no compensation). Throughout the planning process, NPRC

322 members have continually requested an analysis of off-site impacts, and BLM has repeatedly promised to analyze those impacts. NPRC members have raised this issue in BLM planning efforts in eastern Montana over the last 10 years. In response to public comments on the Redwater MFP, State Director Michael Penfold pledged to "insure that these issues are adequately addressed in the Fort Union Regional Coal EIS". (Analysis of Oral and Written Comments, Redwater Management Framework Plan, March, 1980, p. 7.) At the same time, BLM pledged to address issues such as the "social-economic impacts of degraded air and water quality" in the regional EIS (See p. 4 and responses to comments, Redwater MFP Public Comment Analysis.) NPRC members worked with BLM in an attempt to find a way to address the economic implications of off-site impacts. (For documentation of just a few of these efforts, see the testimony of Helen Waller at the Glendive Hearing on the DEIS on September 29, 1982, and the correspondence attached.) Despite these efforts many of the most important questions about the impacts to agriculture are not addressed in the EIS.

323 The second goal of the Coal Program is to "Assure that sufficient quantities are leased to meet energy needs." (Abstract, p. 3-2.) Secretary Watt's goal, to lease 800 mm - 1.2 billion tons, goes way beyond meeting energy needs. This leasing level appears to be an over-zealous attempt to reduce the federal deficit. There is absolutely no need to lease this coal. Currently, over 16 billion tons of federally leased coal reserves are not being developed, mostly due to lack of demand. Major energy development projects - WPPSS, Exxon's Colony Oil Shale Project, WyCoal Gas in Wyoming - are floundering or cancelled. Competition has been absent from recent coal lease and oil lease sales. In the Fort Union lease sale, industries have withdrawn their expressions of interest. Generally, demand for electricity has decreased and is expected to fall more as prices increase. More natural gas reserves exist than previously thought and these reserves contain more gas than ever anticipated. Alternative energy sources are being developed.

324 The third goal of the Coal Program is to "Assure that federal coal is produced in an economically efficient manner with a fair economical return to the U.S. for all coal produced." (Abstract, p. 3-2.) As we have already stated, no need for the leasing exists. Overleasing will draw only minimum bids for the coal. The public will not receive a fair return. The proposed sale will not benefit consumers, but will rather feather the purses of speculators. In the recent Powder River and Utah lease sales, most tracts were leased in the absence of competition, with some tracts receiving no bids at all. In light of these recent public give aways and the fact that several industries have withdrawn interest in the Fort Union tracts, how can BLM possibly expect a fair return on this proposed sale?

325 The fourth goal of the Coal Program is to "Emphasize consultation and cooperation with state governments in the planning, leasing, and development of federal coal." This goal was clearly undermined during the process of setting the leasing target for the Ft. Union sale. The Secretary of the Interior blantantly ignored the Regional Coal Team's (RCT's) unanimous recommendation to lease 400-800 million tons of coal by nearly doubling the target. The Secretary has also adopted new rules against the wishes of the western states. Secretary Watt has made it abundantly clear that the federal coal leasing decisions will be made on the banks of the Potomac; that the public's solicited opinions and the RCT's consultations are insignificant and irrelevant.

326 BLM has not provided the public with an opportunity to comment on the final application of the unsuitability criteria on tracts that will be offered for lease. Such an opportunity is required by 3461.3-1(b)(1) of the Federal Coal Management Regulations.

NPRC reserves its right under NEPA to submit further comments up until November 8, and to have those comments considered and responded to in the Final EIS, as requested in our letter of October 1, 1982.

Specific comments on the Environmental Impact Statement are as follows:

AIR QUALITY

327 This assessment is grossly incomplete because it fails to analyze collected data of the adverse impacts of air pollution. BLM documentation shows that synfuel development will result in acid rain emissions of carcinogenic organic compounds, toxic metals, radioactive elements; all of which will contaminate both our precious air and water resources. In spite of this documentation, BLM concludes "current information does not enable prediction of emission rates, ambient concentrations, or health effects of these pollutants." (Air Quality Information Supplmental to the Fort Union Coal Region DEIS, p. S-44.) Such conclusions are inexcusable, irresponsible and in violation of both NEPA regulations and the Federal Coal Management Program.

Acid Precipitation

328 While the EIS affirms that "acidic precipitation can acidify soils and natural waters causing mineral leaching and damage to many aspects of the biosphere" (DEIS Supplemental, p. S-35.), it fails to tell us how acid rain will specifically affect the Fort Union Region and/or other impacted regions.

328 EIS states that sandy soils would be particularly sensitive to increased acidity". (DEIS Supplemental, p. S-36.) What does this mean? Will the soils become acidic? Will soil fail to be agriculturally productive after x amount of years? The EIS downplays the effect of acid rain in the immediate vicinity of the Fort Union Region claiming that because "the soils tend to be alkaline" they will possess a "greater capacity to neutralize acidity". (DEIS Supplemental, p. S-36.) The soils will only be able to tolerate so much. When is "greater capacity" exceeded? What is the saturation point? When will acid rain cause irreparable damage to the soils?

According to the EIS, acid rain will affect vegetation but these effects are not "easily quantifiable." (DEIS Supplemental, p. S-7.) Hence, "there is no clear consensus as to the potential impact of acid precipitation to crops." (DEIS Supplemental, p. S-8.) "No clear consensus" is not acceptable. What data is available? In the appendix, BLM states sulfur dioxide is "known to cause a loss of crop yield." (DEIS Supplemental, p. S-45.) What percentage of loss? Will effects of sulfuric acid cause a greater loss than effects of sulfur dioxide?

328 The EIS states "Acidic aerosol concentrations produced through conversion of sulfur and nitrogen oxides emissions build up over a period of time." (DEIS Supplemental, p. S-36.) It continues stating "In the modeling study, the conversion was linear over time for a period lasting up to 48 hours of pollutant release and dispersion. Pollutant residence times in the Fort Union Coal region probably range up to four days. Consequently, the design of the modeling program could not determine maximum possible sulfate concentration levels from which acid deposition rates can be inferred." (DEIS Supplemental, p. S-36.) Why didn't BLM base the modeling study on four days instead of 48 hours? If the modeling study had been adequate, could concentration levels have been determined?

The EIS assumes that "there is little cause for concern over direct health effects from acid deposition." (DEIS Supplemental, p. S-7.) Isn't it possible that with more and more gasification and liquefaction plants producing SO_x and NO_x that increased quantities and increased concentrations of sulfuric and nitric acid could directly affect human health?

The EIS mentions the possibly of indirect health effects - contamination of edible fish with mercury and contamination of drinking water by heavy metals" (DEIS Supplemental, p. S-7.), but adds that 'evidence to substantiate these concerns apparently is inconclusive." (DEIS Supplemental, p. S-7.) NPRC is concerned with water quality. Is there any ongoing research on water contamination?

328 The EIS states "the modeling study does not point to significant production of acidic rain in the Fort Union Coal Region." (DEIS Supplemental, p. S-36.) Are you inferring no "significant" production, no "significant" impact? Would you define "significant"? More importantly, would you indicate if acid rain produced in this region will adversely impact this or any other region and document what the impact would be? Facts are useful; vague generalizations are not.

Trace Pollutants
Organic Compounds

329 Because not all organic compounds have been identified, several known compounds are carcinogenic or have been linked to other health problems, and because ambient levels have not been identified, the BLM suggests these compounds should be "more critically evaluated." (DEIS Supplemental, p. S-37.) NPRC agrees with and appreciates BLM's suggestion. Will BLM and other government or private agencies be conducting further studies? What is the status of the EPA study on organic compounds? When will this information be completed and ready for circulation? Will there be another DEIS on air quality before coal is leased, so the public can evaluate the impacts as stipulated by NEPA? Isn't putting off the evaluation of organic compounds until specific coal conversion projects are proposed, passing the buck and violating the Council on Environmental Quality's regulations for implementing NEPA.

Metals and Other Particulates

330 Similar to the organic compound discussion, BLM informs us that many particulates are toxic and that more studies are necessary to determine how trace metals will affect the environment. The EIS is supposed to analyze data, not suggest that data be analyzed.

Radioactive Elements

331 Radioactive elements present a "severe health hazard" but since they are present in "extremely minute amounts", BLM assures us that "radioactive impacts of energy development in that area would be very low." (DEIS Supplemental, pp. S-38, S-39.) In drawing this conclusion, BLM relied upon the West-Central North Dakota Regional Environmental Impact Study on Energy Development (1978). The study only encompassed a one-year period. Radioactive elements would be emitted during the entire life of a plant. Since this data does not account for increased concentrations of radioactive emissions during the life of the facility, how can BLM draw its conclusion of "very low impact" without further data? (DEIS Supplemental, p. S-38.)

332

Effects on Water Quality

BLM states that "air pollutants can indirectly affect water quality", but that information concerning these affects is "presently not available." (DEIS Supplemental, p. S-4.) In spite of the lack of information, BLM concludes that "indirect effects of the project on water quality resulting from air pollution will likely be insignificant." (DEIS Supplemental, p. S-41.) This statement contrasts with data collected by the North Dakota Department of Health which found "the buffering capacity [of water] will eventually be consumed and pH levels may decrease to the point that would indicate serious effects." (DEIS Supplemental, p. S-36.) Why does the BLM ignore this data? This is unacceptable.

333

Modeling Results and Potential Adverse Impacts

In the assessment of ambient pollutant concentrations, the standards for ambient 24-hour average TSP concentrations in both Montana and North Dakota, as well as the federal secondary standards, are exceeded in all the alternatives. In addition, the North Dakota and federal secondary standard increment is almost consumed.

In the assessment of incremental pollutant concentrations, some of the PSD Class I standards for both sulfur dioxide and particulate increments are exceeded in some or all of the alternatives. What constraints might this put on future industries desiring to locate near where the North Dakota increment is nearly consumed? How can BLM recommend an alternative that will result in violations of federal and state clean air laws? This question must be answered in the EIS.

During the initial reading of the air quality supplemental, NPRC was impressed with BLM's stated attempt to evaluate only the worst case situations. Examining worst case scenarios would limit the possibility of "surprises" later. While these questions should be addressed, NPRC is most concerned with the fact that worst case scenarios were not actually addressed. The modeling studies represent the worst case impacts for the Theodore Roosevelt National Park (TRNP) and only TRNP. Because each alternative consists of different facilities in different locations, the emissions and emission dispersion will differ. Thus, there could be worse air quality impacts than BLM calculates. Upon studying the limitations of the Modeling Studies, we wondered if the many constraints of this study precluded the BLM from arriving at any substantive or justifiable conclusions.

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For example, the DEIS states that:

"Both the MESOPUFF and CDMQU models have been used in various air quality modeling studies involving coal resources development. However, they have not been thoroughly validated for such assessments." (DEIS Supplemental, p. S-15.)

"The quality and quality of data suitable for use to establish background concentrations are sparse, spotty, and incomplete." (DEIS Supplemental, p. S-15.)

"Air pollution characteristics are largely determined by meteorological conditions . . . but the meterological scenario that is worst for one geographical area may or may not be worst for another area." (DEIS Supplemental, pp. S-15, S-16.)

"The 1964 meteorological data, while the best available, are none too good for air quality modeling purposes." (DEIS Supplemental, p. S-16.)

"This sparcity of meteorological data limits the accuracy and reliability of results obtainable by modeling." (DEIS Supplemental, p. S-16.)

"The modeling runs were also subject to limitations as to the number and length of scenarios . . . as well as the time and cost constraints of the study." (DEIS Supplemental, p. S-16.)

"The mathematical models employed in the study have their own limitations." (DEIS Supplemental, p. S-16.)

How do each of these constraints affect the study? What percentage of error can we expect due to each of these constraints? How would this study have been more accurate had time and money not been factors?

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WATER

The Fort Union DEIS fails to adequately assess impacts to water quality and water availability.

The EIS acknowledges that near open mine pits, groundwater from surrounding areas will be disrupted, but states that disruption will be limited to "about a mile." (DEIS, p. 103.) "About a mile" is vague and makes it difficult to assess off-site impacts. Furthermore, the EIS states that "water levels in the spoil and the undisturbed surrounding area will return to approximate premining conditions." (DEIS, p. 103.) Water veins often lie within

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the coal seams. When aquifers are destroyed, water veins which have been established for thousands of years, are destroyed. How can BLM be certain that the water levels will return to "premining" conditions? What is the basis for this statement? What studies or real-life examples support it?

The EIS states "mining may cause changes in the chemical quality of the local groundwater" (DEIS, p. 103.) and says "it is impossible to predict accurately how far away from a mined area degraded water will move." (DEIS, p. 104.) Degraded water poses an adverse, and potentially devastating effect on livestock, crops, farms and ranches. BLM should more closely assess the effects of water degradation on productivity and the local economy.

What is the "sufficient impermeable material" which will prevent degradation of the lower aquifers? (DEIS, p. 104.) Is it possible that lower aquifers will not be protected?

Gasification plants will produce hazardous materials. The EIS mentions these wastes will either be burned or buried. What will be the effect on surface and groundwater quality in the event the burial sites are not foolproof? Synfuels' developers have publicly advocated disposal of wastes in mine pits, which could result in serious water contamination. What consequences do leaching problems pose to human health? What means are available to prevent leaching? What volume of hazardous wastes will be produced? Where will the organic wastes be marketed?

335

AGRICULTURE

The EIS assumes that "Post mining use would be the same as premining use." (DEIS, P. 41.) Where is the data which leads to this conclusion? No instance exists in the Great Plains where mined land has been reclaimed to its former productivity. No reclamation bonds have been released in Montana. Even if bonds are released in the near future, the "reclaimed" land has not yet stood the test of time. Efforts that appear successful after 5-10 years, may well fail 20-40 years later, after a representative exposure to the harsh seasonal fluctuations and unpredictable weather cycles well documented in this region. In addition, soils in the Montana tracts with poor reclamation potential range from 17% of the acreage in the Bloomfield tract to 62% of the acreage in the Burns Creek tract. Since soils with good reclamation potential have not been returned to prior usage, how can BLM expect that soils with poor reclamation potential will even approach original usage? BLM not only asserts that original usage will be restored, but that "productivity should even improve."

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(DEIS, p. 108.) In the face of existing knowledge and the relative lack of long term information on reclamation, this statement is unfounded.

336

NPRC is also concerned with the reclamation of wetlands and woody draws. In the wildlife section, BLM states "there is debate on whether reclamation of wetlands is possible." (DEIS, p. 123.) BLM also states that "reclamation of woody draws has not been achieved." (DEIS, p. 124.) How can BLM possibly conclude that reclamation efforts will return the land to its original usage?

337

In the "Land Disburbance and Production Losses" section, BLM equates the land taken out for mining with the land removed from production during summer fallow. How is this relevant? Mining operations rob the land of its characteristics and can destroy its water supply. Summer fallow replenishes the land and renews its productivity.

338

In the "Economic Influences on Agricultural Operations", BLM figures that the gross farm income would be reduced by approximately 1% of the combined value of the "affected counties'" annual income. BLM underestimates the economic loss in three respects. First, BLM assumes reclamation techniques will restore premining usage at original (or improved) productivity levels within 10 to 15 years." (DEIS, p. 89.) What happens if reclamation is not completely successful? Can BLM estimate the economic loss of land permanently removed from production? Second, BLM also assumes that farm/ranch operators can be compensated financially - that money will mitigate damage. In many cases, it is not feasible to compensate landowners (e.g. for unforeseen losses in groundwater). It is also important to point out that in many cases, no amount of money can mitigate the damage. Lifestyle rewards cannot be measured in monetary terms. Third, BLM entirely ignores an assessment of the off-site economic impacts to agriculture. Without this assessment, BLM cannot even guess the reduction of gross farm income. Since the initial planning stages of this proposed lease sale, NPRC has continually been assured that an off-site analysis would be included. This information is crucial in determining the economic impact not only to the agricultural sector, but to the Fort Union economy as a whole. Why has this analysis been omitted?

BLM not only underestimates, but miscalculates the economic loss. The analysis compares agricultural income foregone (on the tract) with royalties or other measurements of the value of mined coal. In this analysis (and other BLM analyses), the present value of potentially affected future agricultural income is used for comparative purposes.

The analysis is faulty for several reasons. First, the best economic measure of the worth of land to an agricultural operation is the value of the land itself and assets, not discounted yearly income. Agricultural operations are not transplantable; a farmer's capital is tied up in a specific parsel of land and equipment suited to operation of that parcel. It is not liquid capital, which could be compared on a discounted cash-flow income basis. The analysis in the EIS should, therefore, focus on the effect of leasing and development on the value of land and equipment, and not just on foregone income discounted in the future.

Second, the analysis ignores potentially increased production costs on unmined portions of a farm or ranch due to disruption of logical ownership patterns and division of logical farming and ranching units.

338 Third, the purely economic analysis is not consistent with the principles of multiple-use and sustained yield as defined in the Federal Land Policy and Management Act, which is supposed to govern BLM decision-making. Since the Redwater MFP did not include a multiple-use analysis of the impacts of leasing on agriculture, it would be appropriate for BLM to include such an analysis in the EIS. The economic analysis presented here does not accomplish this purpose.

The proof that this analytical method is faulty lies in the result of the analysis. The analysis results in the prediction that ranchers and farmers will continue to farm or ranch with half or more of their operations out of production, and that they will plan for resumption of production at the conclusion of mining.

What farmers or ranchers known to BLM have resumed production on mined land in the Northern Great Plains? The prediction of the economic model does not square with reality. Farmers and ranchers typically sell to mining companies and leave, if a substantial portion of their operation is affected.

OTHER LAND USES AND VALUES

339 BLM's traffic analysis does not reflect the true impact. BLM fails to assess impacts to county and township roads, by assuming all employees will travel on main highways. BLM underestimates the traffic flow by only calculating employee commuting. They neglect to include traffic associated with the mining operation or the increased traffic from indirect population influx. The traffic analysis tables have limited use. (DEIS, p. 131-133.) They do not answer

339 important questions such as what damage will increased traffic /tonnage cause to roads. What tax increases can local people expect in order to maintain and improve the road systems? How will local communities levy increased taxes? What will be the percent increase of traffic accidents?

ECONOMIC CONDITIONS

While we see a more thorough review of economic impacts than in many impact statements, the DEIS incorrectly calculates some major considerations and, thus, underestimates the economic impact to local governments.

The economic analysis is based on the assumption that synfuel construction will occur in stages. This is a ridiculous assumption when one considers interest rates and due diligence stipulations. This "phased development" assumption results in an underestimation of the workforce population.

340 Using a gravity model to distribute population may have underestimated the population in some towns and overestimated it in others. A more accurate estimation of population distribution could have been obtained by using a model which considers the attractiveness (i.e. social services, recreation, retail outlets, medical facilities, schools) of cities within or near the impacted region.

Communities will face "severe public service funding problems"(DEIS, p. 139.) according to BLM's net fiscal balance forecasts. Unfortunately, it appears these already drastic deficits are underestimated. According to the EIS, the net fiscal balance compares forecasted revenues (e.g. property taxes, federal revenue sharing grants, highway funds, etc.) with forecasted expenditures (e.g. police and fire, public service maintenance and expenditure, debt service, etc.) to arrive at a yearly balance. It appears that two of the most expensive county expenditures - schools and roads - are not included in this fiscal analysis. Is that the case? If so, what additional fiscal deficits can local taxpayers expect to face? In light of the fact that many federal programs have been slashed, when will communities obtain the monies to expand their services? How will they deal with funding lags? Will companies be required to provide front-end money as a condition of their leases? NPRC urges that BLM include lease stipulations requiring agreement in mitigation between lessees and local governments.

SOCIAL CONDITIONS

341 Generally, the discussion on social conditions is good. However, we would like to point out two areas

341 of concern. The DEIS states "while the incidences of crime and other problem behavior will increase with the growth in population in these communities, the overall rate of crime in any area may remain stable." (DEIS, p. 147.) Where is the data to support this conclusion? What energy growth community has maintained a stable rate of crime?

342 The DEIS fails to address the "bust" possiblity. What will happen if a planned for facility does not go forward? What happens if industry pulls out while in the midst of a project?

NORTHERN PLAINS RESOURCE COUNCIL

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July 7, 1981

Mr. Michael Penfold
State Director
Bureau of Land Management
P.O. Box 30157
Billings, Montana 59101

Dear Mr. Penfold:

The purpose of this letter is to follow up our discussion at the Fort Union Regional Coal Team public meeting in Miles City in May, concerning the assessment of off-site impacts during activity planning. Dave Darby of your staff and John Smillie of NPRC's staff met briefly on this question last month, per your request, and agreed that the best course of action was for NPRC to detail our suggestions in writing.

I also want to briefly discuss the subject of diligent development regulations.

Let me begin by saying that it is somewhat frustrating to me that our specific concerns about what off-site impacts should be considered, and how they should be analyzed, were not yet clear to you prior to the May meeting in Miles City. Measurement of off-site impacts in economic terms will be difficult if not impossible, given the time remaining before the Fort Union lease sale. Had the necessary data and inventory collection, literature searches, scientific research, and economic analysis been initiated at the outset of the activity planning process, or (better) during land use planning--as MAPO and NPRC have been advocating for at least the past five years--this problem would not have occurred.

I would, therefore, like to document some of our previous attempts to raise the issue of economic impacts of leasing decisions on agricultural operators both off-site and on-site.

Since 1975, we have attempted to participate in and influence BLM land use planning decisions in the Fort Union area. One of our most important recommendations has been that agricultural resources be inventoried throughout the planning area, early in the process. This would have provided the basis for on-site and off-site impact analysis.

Our recommendation was rejected, repeatedly. Instead, the RCT now finds itself in the position of having to scramble to complete an agricultural resources inventory for just the tract delineation areas; and it is not clear to us whether the level of detail of this inventory is adequate. We made our recommendation on dozens of occasions, up to and including our comments on the Redwater MFP, and in our protest of your decision

to concur in the MFP decisions. I have enclosed one letter detailing the necessary inventories, as an example of those efforts. You may refer to my letter to Frank Gregg, dated March 28, 1979, which was appended to our protest of the MFP, for another example.

BLM has assured us repeatedly, in response, that the economic impacts of federal leasing on agricultural surface--whether federal or non-federal, on-site or off-site--would be addressed in activity planning. During our meeting with you shortly after you became State Director, you assured us that all of our concerns would be addressed in this stage of planning, and that we would have an influence on the types of studies that would be done.

In testimony on the Redwater MFP, MAPO and other NPRC members made extensive, specific comments on the necessary studies. For example, I said in my testimony:

> My deepest concern...is not that my land will be stripmined. I have here a refusal to consent to stripmining, which the Surface Mining and Reclamation Act allows. This will be delivered to the BLM in due time. What I am most concerned about is the fact that if federal coal is recommended for a lease sale, permitting the coal to be stripmined, land will be turned upside down, synfuels plants and gasification plants and power plants will be built, railroads and transmission lines will cross our property, water supplies will be diminished or destroyed and the remainder of our crop and grassland will be polluted to the point of questionable economic viability.

BLM's official response indicates that an economic assessment of the types of impacts I mentioned would be conducted: "It is beyond the scope of the MFP to assess all of the problems adequately at this time...[they] are items to be addressed site specifically as well as on a regional basis in the environmental assessment phase of the planning process."

I have enclosed (again) a copy of the "later list" compiled by NPRC detailing the studies promised for the activity planning phase. I suggest that you refer to the testimony given on the Redwater MFP, and BLM's responses to and analysis of that testimony, to get an idea of just exactly how much work BLM pledged to conduct.

At page four of that analysis of the testimony on the Redwater MFP, BLM stated:

> Social and economic factor analysis was recommended [in testimony] as a land use plan element. It is closely related to the agriculture issue and, in a similar manner, cannot adequately be assessed until

> there is some idea of how much coal is to be mined, in what areas, at what rate, for what end use, etc. The social-economic impacts of degraded air and water quality will also be assessed in the coal activity planning environmental assessment stage. (Emphasis added.)

Additionally, you wrote in concurring with the decision to approve the MFP, "I am aware of the many legitimate concerns about agricultural impacts, social-economic considerations, reclaimability and data adequacy and will attempt to insure that these issues are adequately addressed in the Fort Union Regional Coal EIS."

Because of BLM's repeated assurances, we began attending RCT meetings and work group meetings, to work towards the types of analyses which we had been requesting. At the first RCT meeting, we were asked to help the staff set up the economic analysis of impacts to agriculture. We directed the staff to the testimony on the Redwater MFP, and the studies we had then requested. We also sent detailed comments on the draft of the Economic contract. (Please read the attached copy of those comments. You will see that the suggestions are quite specific with regard to the economic measurement of off-site impacts to agriculture.)

Since I sent that letter, one full year ago, the project staff has determined that agricultural impact studies would not be contracted out, but would be done by the staff themselves. We have received no reply to the letter, so we have had no indication whether or not our suggestions would be followed. However, the analysis of economic impacts to agriculture was discussed at the RCT meeting in February. By then, the analysis had been pared down to include only on-site impacts, and even that only in terms of the effect of acreage removed from production.

At the February meeting, you requested that project staff discuss their proposed ranch budget model analysis of agricultural impacts with the agricultural work group. The staff however, convened the Social and Economic Work Group to discuss the proposal. In any case, I attended that meeting of the work group, and I reiterated our position that off-site impacts must be considered in the economic analysis. I was told that there was not enough data, time, or money to conduct the analysis we had suggested.

That meeting convinced me that it was a virtual certainty that many of our most important concerns could not be adequately addressed in the EIS given the time and money available. I wrote a letter (dated April 13) to the RCT, which was discussed at the April meeting. The staff assured the RCT that most

of the studies on the "later list" would be conducted, with the exception of some hydrological information and alluvial valley floor information.

The hydrological information, however, is probably the most critical data to the measurement of off-site impacts. It is vital to determining the impacts of stripmining, and of the storage of toxic solid wastes. A major component of off-site impact analysis will, therefore, be missing.

Even more importantly, the staff did not indicate to the RCT that off-site impact analysis would figure in the economic analysis of impacts to agriculture. This is the critical issue. As I said in my April 13 letter, the model may be satisfactory, as far as it goes, but the validity of the model is not the central issue. I wrote:

> The greatest problem with the proposed analysis of the impact of leasing on agricultural operations is that it completely leaves out off-site impacts. The economic analysis will therefore be misleading, and it will understate the impacts to agriculture.

The chronology of our efforts to secure a thorough analysis of the economic impacts of Federal leasing decisions on agricultural operators (both on-site and off-site), which I have briefly outlined above, has been filled with frustration. I am therefore skeptical as to whether or not the RCT will be able to conduct the analyses that we think are necessary, and that have been promised to us over the past two years.

Despite my skepticism, I will list the most important off-site impacts to agriculture, as you requested. The important thing is that the economic costs of these impacts be measured and included in the economic impacts analysis in the SSA's, PFER's and in the regional EIS. I will be glad to go into more detail (if it is requested) as to how the economic impacts may be measured for any of the off-site impacts which the project staff plans to evaluate on an economic basis.

WATER QUALITY AND QUANTITY: It is an established fact that stripmining results in degradation of the quality of groundwater and surface water, fluctuations in groundwater quantity, and often the destruction of aquifers, outside as well as inside the mining site itself. These impacts are often permanent, not temporary. Storage of the extremely hazardous and toxic waste byproducts of coal conversion processes poses an additional threat to hydrological resources vital to farm and ranch profitability. Hydrologic data and analysis must be sufficient to determine the productivity lost or diminished on and around each tract, for each affected farm or ranch, due to groundwater disruption, degradation, or destruction.

AIR QUALITY: The analysis should project likely crop yield losses, grass production losses, and livestock weight gain losses attributable to the various air pollutants (regulated and unregulated) emitted by synthetic fuels plants and power plants.

RIGHTS OF WAY: Landowners off-site may be condemned for powerlines, rail spurs, pipelines, and the like. The effect of these rights of way taken out of production from logical farm and ranch operations, the increased operating costs, the diminished land values, as well as simple acreage losses, should be included in the economic analysis.

FACTOR COMPETITION: The effect of energy industrialization on the labor market, the cost of living, the price of land, and other factors which contribute to generally increased costs to farmers and ranchers should be analyzed and quantified in the economic analysis.

I would like to reiterate what I said a year ago in my letter to Loren Cabe. I recognize that prediction of (for example) the impact of disrupted aquifers on farm or ranch profitability is more complicated than predicting the increased county-wide income from a given population increase and increased payroll due to construction and operation of a major facility. However, an economic analysis which ignores serious costs to agriculture simply because those costs are difficult to measure with precision will be little more than a whitewash.

It is regrettable that it has taken so long to clearly identify the scope of analysis of agricultural impacts which we believe are necessary. Quite frankly, I do not think that NPRC or its members bear the responsibility for the amount of time that has elapsed with this issue unresolved, given our efforts to resolve this issue as I have outlined them here.

I would like to turn briefly to the issue of due diligence regulations. The retention of existing diligence requirements is absolutely critical to the integrity of the coal leasing process. Even with the existing requirements, we are concerned that the coal lease target recommended at the last RCT meeting may invite private speculation with publically owned resources. Without diligence requirements at least as stringent as present regulations, such speculation would be a certainty. Diligent development requirements, then, are a necessity if the Federal Coal Management Program is not to be completely undermined.

I was therefore greatly encouraged to learn that the Fort Union Regional Coal Team had decided to condition its coal lease target recommendation to the Secretary of the Interior on the retention of existing due diligence requirements.

If the Regional Coal Team's letter transmitting its recommendation to the Secretary has been sent, we would appreciate receiving a copy. If it is being drafted, we would very much like to assist in developing the language concerning the recommendation against weakening of diligence requirements.

In closing, I would like to thank you for the opportunities you have provided for NPRC, its affiliates, and other individuals and groups in the Fort Union area to participate in the planning process. I hope that the concerns we have expressed here can be addressed in that process. If we can be of any further assistance in clarifying or resolving these concerns, please let us know.

Sincerely,

Helen Waller

Helen Waller
Chairman, Northern
Plains Resource Council

Attachments

cc: Clair Whitlock
Tim Gallagher
Dave Darby

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VA. 22092

ROUTING	INITIAL	DATE IN	DATE OUT
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In Reply Refer To:
EGS-Mail Stop 423

OCT 12 1982

Memorandum

To: Lloyd Emmons, Bureau of Land Management
Project Manager

From: Chief, Office of Environmental Affairs
Water Resources Division

Subject: Fort Union Coal Region draft environmental impact statement review

We have reviewed the subject draft EIS as requested and offer the following comments for your consideration in preparing the final statement:

343 Page 20. There is a slight discrepancy in tract boundaries as shown on the maps of surface ownership and subsurface ownership; this is in the south-central part of the tract, at the southernmost edge of Surface Owner Nonconsents area.

344 Page 53, table heading. The amount of Federal coal to be leased under Alternative 3 is given as 827.2 million tons. However, later it is stated that Alternative 3 "would result in leasing an estimated 832.8 million tons of Federal coal for new production" (p. 72, para. 12).

345 Page 53, table 1-6. The lower right figure in the upper one-half of the table appears to indicate that the total area disturbed under Alternative 3 would be 204,813 acres. However, elsewhere in the draft statement the disturbance of vegetation under Alternative 3 appears to be given as 238,225 acres (for example, page 67, page 113, tables 3-9 and 3-10).

346 Page 135-143 Economic impacts. Secondary employment effects are not addressed in the draft statement--some justification for excluding them might be helpful to the reader.

James R. Burns

James R. Burns

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
BUREAU OF INDIAN AFFAIRS
WASHINGTON, D.C. 20245

1982 NOV -1 PM 1:31

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MONTANA STATE OFFICE
BILLINGS, MONTANA

IN REPLY REFER TO:
Environmental
Staff (204)

Memorandum

To: Bureau of Land Management
Project Leader
Billings, Montana

From: Chief, Environmental Services Staff

Subject: Comments concerning Air Quality Information Supplemental to the Fort Union Coal Region Draft Environmental Impact Statement (DES 82/47)

Enclosed are comments on the subject document for your action. These comments were prepared by the Billings Area Director.

George R. Farris

Attachment

UNITED STATES GOVERNMENT

memorandum

DATE: OCT 22 1982

REPLY TO ATTN OF: Division of Trust, Land Operations

SUBJECT: Comments concerning Air Quality Information Supplemental to the Fort Union Coal Region Draft Environmental Impact Statement (DES 82/47)

TO: Deputy Assistant Secretary - Indian Affairs (Operations)
Attention: Chief, Environmental Services Staff

From: Billings Area Director

347 After reviewing the air quality supplement to the Fort Union draft EIS (DES 82/47), this office interprets the base line data to be governed toward a Class II air quality situation. However, as referenced in the supplement, several Montana Indian Reservations have established Class I Air Quality criteria. In addition, the Fort Peck Reservation has submitted an application for Class I standards. If the application is approved, the provisions inherent to a Class I situation would require more stringent stack emission controls.

If the Federal coal exchange with Meridian Land and Mineral Company is approved under provisions of alternative 3, and a methanol facility is developed, adequate measures to provide Class I air quality standards would have to be incorporated into the design of the plant.

348 In a related issue, this office feels the need for additional data to be established on wind direction and wind speed concerning the Fort Peck Indian Reservation.

We feel the wind rose diagram (figure 2-3, page S-3) for Dickinson, North Dakota may not adequately address the wind conditions on the Fort Peck Reservation.

For additional information regarding these comments, please contact David Pennington, 657-6325 or Patrick Hemmy, 657-6145.

Acting Area Director

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OPTIONAL FORM NO. 10
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BILLINGS, MONTANA

The State of North Dakota
FEDERAL AID COORDINATOR OFFICE
State Capitol
Bismarck, North Dakota 58505
224-2094

Allen I. Olson
GOVERNOR

September 2, 1982

"LETTER OF CLEARANCE" IN CONFORMANCE WITH EXECUTIVE ORDER 12372

To: US Department of Interior, Bureau of Land Management

STATE APPLICATION IDENTIFICATION: ND8208040352

Mr. Michael J. Penfold, State Director
Bureau of Land Management
P. O. Box 30157
Billings, Montana 59107

Dear Mr. Penfold,

Thank you for the copy of the Draft Environmental Impact Statement for the Fort Union Coal Region.

This draft EIS was received in this office on August 4, 1982.

Thank you for submitting your draft environmental impact statement for review and comment through the North Dakota State Intergovernmental Clearinghouse.

Your draft was referred to the appropriate agencies, and no comments were received to this date.

Please send copies of the final environmental impact statement and any supplemental impact statements to the North Dakota agencies that have commented on the draft and to this office. The opportunity to review your draft is appreciated, and if this office as Clearinghouse can be of further assistance with this project, please let me know.

Sincerely yours,

Mrs. Leonard E. Banks
Coordinator
State Intergovernmental Clearinghouse

State Planning Division 224-2418 | Low Income Assistance Office 224-2969 | North Dakota Energy Office 224-2250

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224-2094

Allen I. Olson
GOVERNOR

"LETTER OF CLEARANCE" IN CONFORMANCE WITH EXECUTIVE ORDER 12372

To: US Department of Interior, Bureau of Land Management

STATE APPLICATION IDENTIFIER: ND8209270428

Mr. Michael J. Penfold, State Director
Bureau of Land Management
P. O. Box 30157
Billings, MT 59107

Dear Mr. Penfold

Thank you for the copy of the Air Quality Information Supplement to the Draft Environmental Impact Statement for the Fort Union Coal Region.

This supplement to the draft EIS was received in this office on September 27, 1982.

Thank you for submitting your supplement to the draft environmental impact statement for review and comment through the North Dakota State Intergovernmental Clearinghouse.

Your draft was referred to the appropriate agencies, and no comments were received to this date.

Please send copies of the final environmental impact statement and any supplemental impact statements to the North Dakota agencies that have commented on the draft and to this office. The opportunity to review your draft is appreciated, and if this office as Clearinghouse can be of further assistance with this project, please let me know.

Sincerely yours,

Mrs. Leonard E. Banks
Coordinator
State Intergovernmental Clearinghouse

State Planning Division 224-2418 | Low Income Assistance Office 224-2969 | North Dakota Energy Office 224-2250

ENVIRONMENTAL IMPACT ASSESSMENT FORM
Request for Environmental Impact Evaluation

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1982 OCT 25 AM 8:
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MONTANA STATE OFFICE
BILLINGS, MONTANA

FROM: Montana State Clearinghouse
Office of Budget and Program Planning
Capitol Building - Room 237
Helena, Montana 59620

Environmental Impact Assessment Title: Air Quality Information Supplemental to the Fort Union Draft Environmental Impact Statement (MT820804-050-1

Clearinghouse File Number: MT820920-109-E

EIS Agency Sponsor: U. S. Dept. of the Interior, Bureau of Land Management

SPONSOR ADDRESS: Fort Union Project, Bureau of Land Management
222 N. 32nd Street, P. O. Box 30157
Billings, MT 59107

CONTACT PERSON: Lloyd Emmons, Acting Project Manager

COMMENTS DUE BY. Written comments on this additional air quality information from interested citizens industry & public agencies will be accepted after the October 8, 1982 cut-off date, extending to and The Above Named Statement including the Regional Coal Team meeting on October 19, 1982

__X__ is enclosed for your review and comment
_____ should have been received by your agency from the sponsor
_____ is available at the Clearinghouse Office for review

Please evaluate the assessment for its consistency and fullfillment of statewide and local objectives related to:

1. The Environmental impact of the proposed action.
2. Any adverse environmental effects which cannot be avoided should the proposal be implemented.
3. Alternatives to the proposed action.
4. The relationship between local short-term uses of man's environment and maintenance and enhancement of long-term productivity.
5. Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

IF YOUR AGENCY HAS COMMENTS ON THE ENVIRONMENTAL IMPACT ANALYSIS, PLEASE SEND THE COMMENTS DIRECTLY TO THE AGENCY SPONSOR AND FORWARD A COPY OF THE COMMENTS TO THE STATE CLEARINGHOUSE.

IF YOUR AGENCY DOES NOT INTEND TO COMMENT, PLEASE CHECK THE BOX BELOW AND RETURN THIS FORM TO THE STATE CLEARINGNOUSE.

_____NO COMMENT

Reviewer's Signature_____

Title_____Date_____

United States Department of the Interior
OFFICE OF SURFACE MINING
Reclamation and Enforcement
WASHINGTON, D.C. 20240

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BUR. OF LAND MANAGEMENT
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MONTANA STATE OFFICE
BILLINGS, MONTANA

Memorandum

To: Project Manager, Fort Union Project
Montana State Office, Bureau of Land Management

From: Chief, Division of Environmental and Economic Analysis

Subject: Review Comments on the Draft Environmental Impact Statement for the Fort Union Coal Region

We have reviewed the draft environmental impact statement (EIS) for the Fort Union Coal Region and find that overall it is an excellent document. However, we do have some specific commenta which should be considered before the final EIS is issued. Our comments are as follows:

349 General

The Surface mining Control and Reclamation Act of 1977 should be listed in "Federal Laws Affecting Coal Development and Energy Conversion", Appendix A (page A-1 through A-3).

Hydrology

Affected Environment

350 o The relationship between the four hydrogeologic aquifer zones above the Fierre shale and the Fort Union Formation is not clear (see page 85, and Figure 2-6 on page 88). Further clarification would be useful (i.e., are the four aquifer zones in the Fort Union Formation?)

351 o "In most tracts the mineable coal bed is below the water table (page 85). A statement as to the type of groundwater system (watertable vs. confined) is needed.

352 o A discussion of the relationship between alluvial/till aquifers and bedrock aquifer systems is recommended (page 85). The description should include a short discussion of the recharge and discharge areas for both the alluvial/till and bedrock systems. This information is especially valuable because of the potential alluvial valley floors in the lease areas.

Environmental Consequences

353 o The following statement (page 103) may be misleading: "In many parts of this area, the mineable lignite lies below the water table and is often tapped by wells for domestic and stock water supplies". If the assumption by the reader is correct that the mineable lignite is generally confined by the adjacent strata, a statement to the effect that the "lignite is below the water table and confined" may be more informative.

354 o "While the mine pit is open, groundwater from the surrounding area will seep into the pit causing a drawdown of water levels. This impact will be limited to the mining tracts and an area within one mile of the tracts" (page 103). If this analysis is based on published information, a reference is required. Otherwise, a justification of the one mile limit should be provided.

355 o "There is no practical way to restore alluvial valley floors ..." (page 105). Several mine plans in the Powder River basin propose to mine alluvial valley floors (AVF) and to restore the essential hydrologic functions as part of the reclamation plans. Although no AVF's have been mined and restored to date, a statement that restoration is not practical is an overstatement.

Fish and Wildlife

Proposed Coal Lease Alternatives - Special Tract Stipulations

356 o The protective measures (avoidance, buffer zones or mandatory restoration) in the stipulations should be described for the Sharp-tailed grouse and critical antelope range (page 48).

357 o Since approximately 120,000 acres of wildlife habitat could be impacted by leasing, the BLM should consider requiring additional mitigation measures. Possible mitigation measures to aid in the restoration of wildlife habitat could include:

1. Placing rock piles/clusters on reclaimed land for diversity and den sites;

2. Creating shallow depressions on reclaimed land for topographic diversity and to aid in shrub establishment;

3. Requiring an approved fence design to permit antelope passage (except near hazardous areas);

4. Establishing buffer zones around raptor nests until the lessee has consulted with the USFWS on protection plans;

5. Requiring a pre-disturbance survey (within one year) of all prairie dog towns, using USFWS methods, to avoid impacts on black-footed ferrets;

6. Requiring the lessee to advise employees against shooting or harassing wildlife;

7. Restricting speeds on haul and access roads to reduce road kills.

Affect Environment

358 o We suggest that in addition to the description of threatened and endangered species, descriptions of the following groups should be included (pages 90-92).

1) Raptors (many of high federal interest)

2) Medium-sized mammals (including furbearers and predators)

3) Small mammals (important as prey base)

4) Passerines (diversity indicators)

5) Herpitiles (bird and mammal prey, biological indicators)

Environmental Consequences

359 o In many cases the post-mining land form and vegetation diversity will be changed from the pre-mining condition, often from a rough, shrubby rangeland to a different form such as grass dominated pasture. This change will impact wildlife through a species composition change and reduced species diversity. Such impacts should be presented as permanent losses of wildlife habitat. This subject is only briefly explored (page 124) and should be discussed in greater detail.

360 o The impacts to antelope movements created by new fences pits, stockpiles, and facilities should be discussed since free access to shelter during winter storms is a key factor in pronghorn survival.

361 o Possible impacts on raptors resulting from new electric transmission facilities, with references to approved designs, to minimize electrocutions, should be included.

362 o We recommend a discussion of impacts to wildlife by off-road vehicles (snowmobiles during stressful wintering periods, four wheel drive disturbances during sensitive reproductive periods).

Agriculture

363 o The intermixing of calcareous horizons with other overburden material (p. 88) is precluded under reclamation laws of both Montana and North Dakota. If it will be mitigated, there is no need to describe it as an impact. In addition, impacts and mitigation should not be included in the Affected Environment Chapter.

Cultural Resources

364 o A site-specific table or chart summarizing the cultural resources work which has been performed is suggested.

Socioeconomic

365 o Under three of the alternatives, development of the coal tracts would generate a need for detailed traffic studies prerequisite to highway improvement planning; there also would be an increase in highway maintenance costs. A discussion of these impacts is recommended.

366 o During the period of rapid economic development which most of these alternatives assure, public revenues generally lag behind public costs by two or three years. The major issue is whether local government can handle the projected population growth and resulting demand for more public facilities and services. The draft EIS states that "front-end" financing would resolve most of the lag problems and implies when the full flow of additional revenue does come on line, it will be adequate ("Public Revenues and Costs", page 8).

This is not necessarily so, particularly in cases where the area experiencing most of the direct socioeconomic impacts receives little or none of the

366 increase in public revenues. Such contradictions arise in the case of geographic or jurisdictional aberrations. These situations usually require special attention.

367 The charts on page A-19 and 20 of appendix H persistently indicate negative fiscal balances lasting into the year 2000 for most of the Montana towns impacted by preferred Alternative 3. In other words, these fiscal deficits are projected to endure long after any reasonable lag period and regardless of general benefits of the developments. It appears these potential fiscal consequences and need for mitigation should be emphasized more in the summaries.

Thank you for the opportunity to comment on this draft EIS.

DEPARTMENT OF THE AIR FORCE
AIR FORCE REGIONAL CIVIL ENGINEER CENTRAL REGION (AFESC)
1114 COMMERCE STREET
DALLAS, TEXAS 75242

RECEIVED
DEC 7 1982
OBPP A-95

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3 December 1982

Fort Union Draft Environmental Impact Statement (DEIS) MT82U804-050-E

Montana State Clearinghouse
Office of Budget and Program Planning
Capitol Building, Room 237
Helena, MT 59620

1. Per previous agreement with Ms. Agnes Zipperian, A-95 Coordinator, our comments on subject draft EIS are being submitted at this later date.

368

2. Air Force representatives attended the public meeting held at Beulah, North Dakota on 28 September 1982 and have also reviewed the referenced document. There is no concern with the coal leasing developments involving the Montana tracts. We do have concern, however, with coal exploration activities which may develop in McLean County, specifically in the Garrison and Lake Sakakawea area. This particular area contains Air Force missile sites and interconnecting buried control cables.

3. Mr. Jack E. Moore, Chief of Missile Cable Affairs at Minot Air Force Base, North Dakota, has previously provided copies of missile flight area maps to both the Billings and the Dickinson offices of the Bureau of Land Management, Department of the Interior, in expressing this concern. Before any coal leasing/exploration activities are considered for the specified area, we recommend that Mr. Moore is contacted for further input on this matter. He can be reached at the following address:

Department of the Air Force
Missile Cable Affairs
2150th Communications Squadron (AFCC)
Minot Air Force Base, ND 58705
Telephone (701) 727-3646

4. Thank you for the opportunity to review the DEIS. We hope these comments will be helpful to you in evaluating the environmental impacts of the various alternatives discussed in the DEIS. If we can be of further assistance, please do not hesitate to call us.

Sincerely

JOE C. LA FOY, JR., Lt Col, USAF
Chief, Environmental Planning Division

Cy to: Dir/Asst Fed Aid Coordinator
(Ms. Bonnie Banks, A-95 Coord)
State Capitol, Bismarck, ND

91CSG/DEEVE, Minot AFB
2150 Com Sq, Minot AFB (Missile Cable Affairs)
SAC/DEV

PART III

Responses to Public Comments

INTRODUCTION

This section contains the responses to the public comment. The responses are numbered 1 through 368 to correspond with the bracketed and numbered comments and questions found in Part II. In order to save time and space, where the same comment or question surfaces several times, the reader will be referenced back to an earlier response. In some cases, the reader will be referred to the Modifications and Corrections section which is Part I of this document.

RESPONSE TO PUBLIC COMMENTS

RESPONSE 1. The change has been made. See the Modifications and Corrections section, Introduction.

RESPONSE 2. The correction has been made. See the Modifications and Corrections section, Chapter 3, Other Land Uses.

RESPONSE 3. The change has been made. See the Modifications and Corrections section, Appendix I.

RESPONSE 4. Flow and quality data for the Redwater River are presented in Tables 2-6 and 2-7 (pp. 86 and 87) of the Draft EIS. The Draft EIS does not state that this water will pollute the Missouri River. The reason for concern about the Redwater River is due to the state standards for water quality, alluvial valley floor status, and the effects that mining may have on them.

RESPONSE 5. Lignite has almost always been used on site. The Regional Coal Team decided evaluation of leasing and development should include an analysis of impacts associated with typical end-use facilities which might be developed with new mines, since the mining of coal provides a lesser portion of the total impacts associated with development. Although the Regional Coal Team included these facilities in the Draft EIS, approval of these facilities is not a part of the action required in the document. Such facilities would be subjected to separate analyses, and approval must be received by the appropriate permitting agencies.

RESPONSE 6. The changes have been made. See the Modifications and Corrections section, Appendix A.

RESPONSE 7. Some of the activities associated with the development of mines and facilities could require approval by the Corps of Engineers on the nationwide permit or would require an individual permit for the specific activity.

RESPONSE 8. See response 6 concerning changes to Appendix A, and the Modifications and Corrections section, Chapter 3, Water.

RESPONSE 9. The Regional Coal Team assumed that a coal conversion facility would be located in the vicinity of each new mine since lignite is almost always used on site. Based on the assumption that there would be a mine-mouth facility with each new mine, there is no need to discuss coal slurry facilities to transport lignite out of the region. See Draft EIS page 4, second paragraph, under Use of Lignite Coal.

RESPONSE 10. We agree the vast shorelines of Lake Sakakawea and Fort Peck Reservoir offer tremendous potential for new recreational sites. The major stumbling block for new recreational facilities is the tight budget now in force in all federal agencies. The Corps of Engineers and the Fish and Wildlife Service have an agreement concerning Fort Peck Reservoir and the Charles M. Russell National Wildlife Refuge. These two organizations would work together on any new recreational developments. Off-road vehicle travel may become a problem around Lake Sakakawea, but the National Wildlife Refuge has regulations prohibiting driving off authorized roads.

RESPONSE 11. The figures generated for this regional study are only an indication of potential problem areas. The indicator is relative and not absolute. A detailed origin/designation analysis would be meaningless at this time because the actual origins, destinations, shift composition and make up of the traffic are unknown. It is acknowledged that impacts will occur and will result in problems of congestion, increased maintenance and possibly the need for safety improvement. More study is clearly indicated and should be conducted after mining plans are drafted.

RESPONSE 12. Copies of the Draft EIS were mailed to the Montana and North Dakota highway departments.

RESPONSE 13. It is assumed that the out-of-pit haul roads referred to are those shown on the tract maps on pages 11 through 35. These haul roads and pit advance lines are general in nature and may not reflect what would occur when a mining company actually develops the tract. Before these areas are mined, a specific mining plan must be prepared and approved by the permitting agency. This specific mining plan would include out-of-pit haul roads which should consider property and section lines.

RESPONSE 14. The major statutes relating to coal leasing and mining are discussed on page 4 of the Draft

EIS. Appendices A and B were used to list other federal and state statutes that may influence coal leasing and development.

RESPONSE 15. It is agreed that the BLM and National Park Service analyses were not designed for the same purposes.

RESPONSE 16. The substance of the comment is correct. The term "adverse", as used in the document in reference to air quality (including visibility) impacts, referred to the meaning customary in EIS analyses under the National Environmental Policy Act. See the Modifications and Corrections section, Air Quality, Chapter 3.

RESPONSE 17. The Zenith tract was ranked last and the company that initially expressed interest in the area is no longer interested. The Regional Coal Team took this into consideration when selecting Alternative 3 as its preferred alternative. This alternative meets the leasing target and provides balance between environmental impacts and making available additional coal reserves in the Ft. Union coal region.

RESPONSE 18. Page 106 of the Draft EIS discussed the expected impacts to the Heart River and Patterson Lake. It does not mention the public well systems of Belfield or South Heart. The impacts of mining on the water available to these systems were considered during the analysis and determined to be insignificant.

Replacing disturbed wells with wells that tap the Fox Hills aquifer at depths that will cost $20,000 to drill is a worst-case situation. Depth to this aquifer will vary according to the tract location (see Figure 2-6, p. 88 of the Draft EIS). The Dunn Center and Zenith tracts are located where the Fox Hills aquifer is found at depths deeper than the regional average. There also exists the possibility of getting water from a shallower aquifer.

When a mining company initiates mining in an area it must, by state and federal law, install a groundwater monitoring network. As mining progresses, it also must submit periodic reports including the data collected from the monitoring network. In the Ft. Union region, if the monitoring network is properly planned and installed, there should not be a problem identifying impacts associated with mining activities (N.D. Public Service Commission, personal communication).

The typical procedure followed in the event of a disturbed water source is as follows. A change in the water source would be noticed by either the mining company or the water user. If the water user notices a change, he/she would usually go to the mining company. If the mining company agrees, the source would be replaced. If not, the user would go to the state regulatory authority. At this time the state geologists/hydrologists make an assessment of the situation. If mining is found to be the cause, the agency has the authority to force the company to replace the source. If the state agency finds that the company action is not the cause or finds no evidence to suggest that the company action is the cause, no action is taken. If a user wants to pursue the situation further, he/she can hire a consulting professional.

The most critical part of the process is the monitoring network established at the onset of mining. There may be a few cases where no determination can be made, however, experience in the Ft. Union region has been that these are atypical cases. Most of the time the complaint never reaches the regulatory agency (N.D. Public Service Commission, personal communication).

The increased cost of pumping would depend upon many conditions, but the information below gives approximate costs for various well depths and operation sizes. The estimates are per well for a pumping rate of ten gallons per minute and a cost for electricity of four cents per kilowatt hour.

Well Depth	Pump Size	Well Installation & Development Cost	Yearly Cost to Provide 600 gpd	Yearly Cost to Provide 2400 gpd	Yearly Cost to Provide 4200 gpd
100 ft	½ HP	$2,000.00	$7.30	$29.20	$51.10
500 ft	1½ HP	10,000.00	21.90	87.60	153.30
1,000 ft	3 HP	20,000.00	43.80	175.20	306.60

A farm operation with no animals or a residence would use about 600 gpd, a farm with some livestock or a small ranch operation may use about 2400 gpd, and a larger livestock operation may require closer to 4200 gpd from wells. Maintenance costs are much harder to estimate but larger pumps would have larger repair bills.

RESPONSE 19. The Air Quality Supplement indicates the amount of sulfur dioxide pollution will increase in the vicinity of the Zenith tract under Alternatives 4-6 but not to the extent of exceeding any applicable federal or state standards indicative of levels harmful to health or agriculture. No significant increase in ozone pollution is predicted in the Supplement. The Supplement does predict that the federal (secondary ambient) standard, as well as the North Dakota standard, for 24-hour average TSP (total suspended particulates) will be exceeded in the vicinity of the Zenith tract but only under Alternatives 4-6. Such 24-hour exceedance episodes would not be expected to affect human health or agriculture.

The effect of air pollution on crop yield is expected to be insignificant or nil. This is based on the modeling predictions that worst-case concentrations of pollutants would be well below ambient air quality standards in all cases. An exception would be the 24-hour average suspended particulate concentrations may exceed the standards under occasional worst-case conditions in small areas immediately adjacent to coal tracts. The ambient standards are set at levels to protect public health and welfare, including agriculture, based on the best available current knowledge.

Vegetation is not significantly affected by suspended particulate matter, even at concentrations in excess of ambient air quality standards. Nitrogen oxides at concentrations below ambient standards are not known to be harmful to vegetation and are to some extent beneficial by providing assimilable nitrogen. Sulfur dioxide, on the other hand, has been reported to be harmful to some species under certain conditions, with species sensitivity being widely variable. Potential effects on crops of sulfur dioxide pollution from coal development in western North Dakota were evaluated in considerable detail in the Final West Central North Dakota Regional Study on Energy Development (BLM and State of North Dakota, 1978). It was noted in that study that sulfur dioxide concentrations somewhat below ambient air quality standards have been reported to be harmful to such crops as wheat, oats, and alfalfa. The most serious report was a German publication which indicated sulfur dioxide at an average concentration of 39 ug/m^3 for the entire growing season could cause a 15 percent wheat crop loss; at 25 ug/m^3 throughout the growing season, it could cause slight leaf discoloration and necrosis in oats and barley, but no yield loss was reported. It was concluded in the West Central EIS that no significant crop losses would be expected from the coal development projects under consideration in that study, because predicted long-term sulfur dioxide concentrations would be far below any reported harmful levels. The concentrations predicted were in the range of 7.5 ug/m^3 annual average, with 5 ug/m^3 representing the existing background (in the seven county study area) and 2.5 ug/m^3 representing the predicted maximum increase due to the projects under consideration.

The long-term average sulfur dioxide concentrations predicted by modeling in the present study are very similar to those predicted in the West Central North Dakota study, although they would extend over a larger area. The annual average incremental sulfur dioxide concentration predicted for most of the Ft. Union region under Alternative 3 is 1.4 ug/m^3. With a background concentration of 3 ug/m^3 and an additional increment of approximately 3 ug/m^3 due to other expected developments (non-BLM projects), a total annual average sulfur dioxide concentration of 7-8 ug/m^3 may be expected for most of the Ft. Union region. Some areas may fall below that level, and a few small localities may be slightly higher. Figure 19-1 shows the isopleth map of the predicted annual average sulfur dioxide concentrations.

Although the Air Quality Supplement study indicates that substantially higher sulfur dioxide concentrations can occur for short periods as a result of the coal leasing project alternatives, it must be borne in mind that such episodes represent worst-case, short-term happenings which would be infrequent (a few times per year), and such episodes, because of their short duration (a few days) and low frequency, would have no effect on crops.

Under the maximum coal leasing alternative (Alternative 6), the area of sulfur dioxide concentrations exceeding 4.5 ug/m^3 would be extended, as shown in Figure 19-2, and the average concentration would be approximately 1 ug/m^3 higher than for Alternative 3. In one small locality (near Mandan, ND) the concentration would exceed 10.5 ug/m^3, as with Alternative 3. It is concluded from this information that no perceptible loss in crop yields is expected to result from the coal leasing project.

RESPONSE 20. Past experience indicates that communities near energy developments experience severe financial strains when population influxes are significant. Local property owners may bear a large part of the financial risk/burden in cases where the required increase in infrastructure (sewage, water, schools, etc.) is great. Similarily, the burden of long-term payment would be on the residents of the area once the construction work force leaves.

RESPONSE 21. See the Modifications and Corrections section, Air Quality, Chapter 3.

RESPONSE 22. The intent of the quoted sentence was to note that the North Dakota State Department of

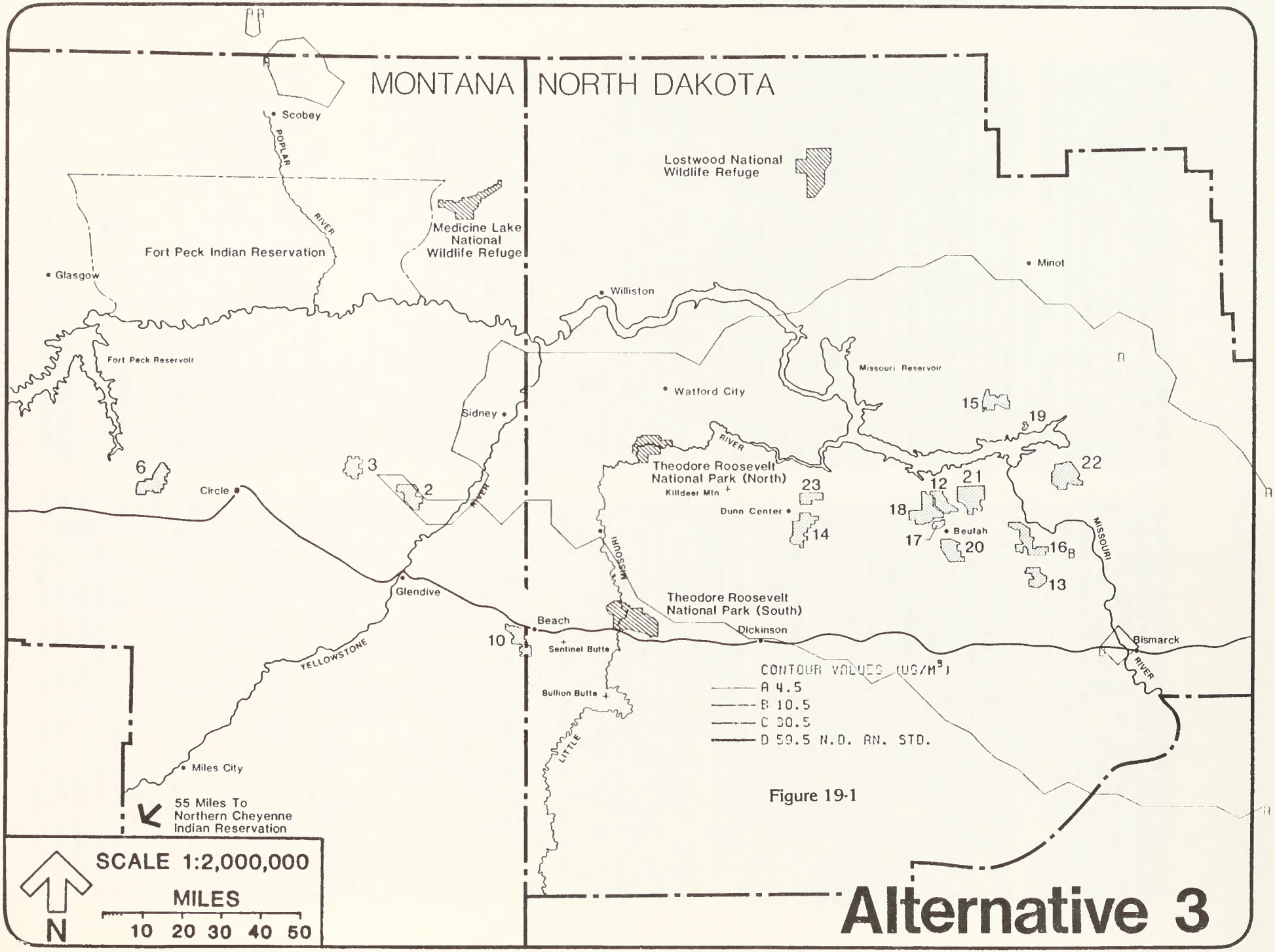
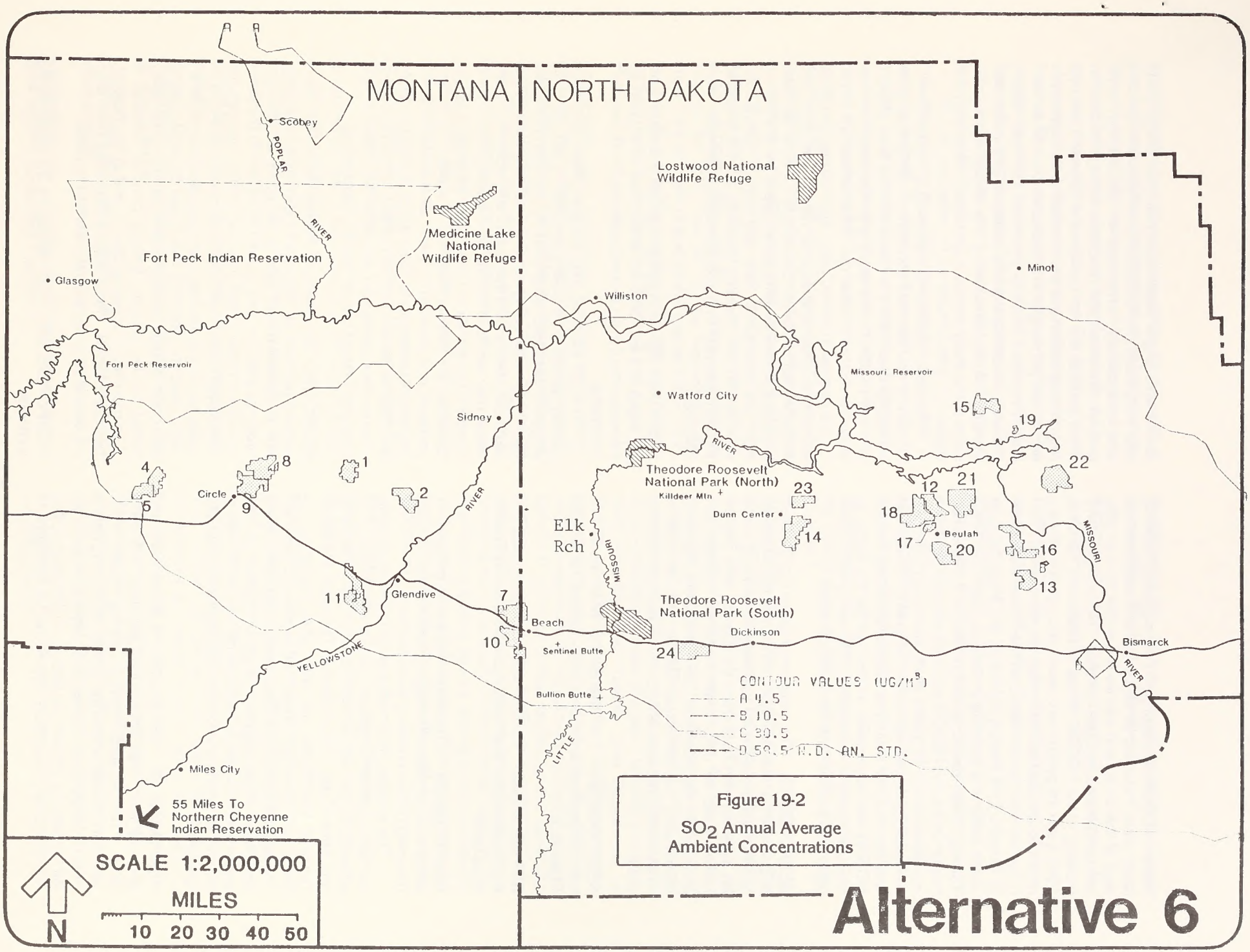

MONTANA
NORTH DAKOTA
Scobey
POPLAR RIVER
Fort Peck Indian Reservation
Medicine Lake National Wildlife Refuge
Lostwood National Wildlife Refuge
Glasgow
Williston
Minot
Fort Peck Reservoir
Missouri Reservoir
Watford City
Sidney
Theodore Roosevelt National Park (North)
Killdeer Mtn
Dunn Center
Beulah
Circle
Glendive
Theodore Roosevelt National Park (South)
Beach
Dickinson
Bismarck
Sentinel Butte
Bullion Butte
YELLOWSTONE
LITTLE MISSOURI
MISSOURI RIVER
Miles City
55 Miles To Northern Cheyenne Indian Reservation
CONTOUR VALUES (US/M³)
A 4.5
B 10.5
C 30.5
D 59.5 N.D. AN. STD.
SCALE 1:2,000,000
MILES
10 20 30 40 50
N
Alternative 3

Figure 19-1


MONTANA
NORTH DAKOTA
Scobey
POPLAR RIVER
Fort Peck Indian Reservation
Medicine Lake National Wildlife Refuge
Lostwood National Wildlife Refuge
Glasgow
Fort Peck Reservoir
Williston
Minot
Missouri Reservoir
Watford City
Sidney
RIVER
Theodore Roosevelt National Park (North)
Killdeer Mtn
Dunn Center
Elk Rch
Circle
Glendive
MISSOURI
Theodore Roosevelt National Park (South)
Beach
Sentinel Butte
Dickinson
Bismarck
Beulah
YELLOWSTONE
Bullion Butte
LITTLE
Miles City
55 Miles To Northern Cheyenne Indian Reservation
CONTOUR VALUES (UG/M3)
A 4.5
B 10.5
C 30.5
D 59.5 N.D. AN. STD.
SCALE 1:2,000,000
MILES
10 20 30 40 50
N
Figure 19-2
SO2 Annual Average Ambient Concentrations
Alternative 6

Health (NDSDH) was apprised of the regional modeling study plan, including its objectives and scope, at the start of the study, and was invited at that time to offer advice, opinions, and relevant data. This took place in a meeting at the NDSDH offices in Bismarck, March 9, 1982. Later the preliminary results and report draft were reviewed and discussed with representatives of NDSDH (together with representatives of the Montana Air Quality Bureau, EPA Region IX-Helena, and Regional Coal Team staff) in a meeting in Billings, June 22, 1982. Through these meetings and additional informal correspondence, the NDSDH provided valuable input and assistance to the air quality study, however, neither the sentence quoted above nor any other in the document was intended, nor should be construed to imply that the NDSDH was responsible in any way for the study, its interpretations, or conclusions. This same caveat also applies to the Montana Air Quality Bureau.

RESPONSE 23. The sentence on page 6 of the Draft EIS referred to the assumption that only two of the six facilities that have permit applications pending would be supplied with coal from the bypass and maintenance tracts of Alternative 1. All six facilities are included in the assumed 1997 emissions inventory (Appendix F , as corrected). The two facilities referred to above are included in Appendix F but only counted once.

RESPONSE 24. The change has been made. See the Modifications and Corrections section, Air Quality, Chapter 3.

RESPONSE 25. The correction has been made. See the Modifications and Corrections section, Air Quality, Chapter 3.

RESPONSE 26. The comments are correct and are taken to be substantially in agreement with the intended meaning of the modeling studies report.

The analysis demonstrates that PSD increments can be exceeded by project emissions but does not predict whether higher exceedances would occur at any other Class I area besides Theodore Roosevelt National Park-North, nor with what frequency. To determine more definitively the worst-case pollutant concentrations for each Class I area under each project alternative would require a large expenditure of time and effort not available to this study. See the change in the Modifications and Corrections section, Air Quality, Chapter 3.

RESPONSE 27. The problem of determining and accounting for true background pollutant concentrations is difficult and imprecise, owing mainly to the paucity of reliable ambient air quality monitoring data at pristine locations and times. This was discussed in the Air Quality Supplement on page S-15. Because of this, it is true and unavoidable that some small degree of double counting of baseline emissions occurred in the modeling study (BLM, 1982). It is believed that the data and methodology employed in establishing background concentrations (described on page S-15 and in more detail in the Air Quality and Climate Technical Report) and the fact that the monitoring data employed were taken primarily from rural locations remote from known emission sources, produced the most reliable background concentrations available. This minimized the effect of double counting. The results and conclusions of the study are not substantially affected by this factor.

A recent, related air quality study by the Air Quality Division of the National Park Service (1982) relied upon modeling data from the North Dakota State Department of Health. In this study a similar limitation was encountered, as pointed out in the following excerpt: "...the observed data include contributions from those increment consuming sources now in operation, and therefore, some double counting is involved. Because individual source contributions cannot be determined from the monitoring data and source contribution estimates for all modeling scenarios are not available, the significance of the double counting cannot be easily assessed."

RESPONSE 28. It is agreed the data and statements on pages S-5 and S-36 are insufficient to support an inference that the pH of precipitation in North Dakota is increasing.

The pH value of 5.65 for pure water and pure carbon dioxide at standard pressure is still generally accepted as a theoretical value for the pure materials, but it is currently recognized by researchers investigating these phenomena that actual atmospheric precipitation may not have the same pH because it is a more complex composition. Hence, the significance of precipitation pH measurements is a subject of current research and controversy, and all statements in the document pertaining to this subject should be viewed with this caveat in mind, as pointed out on pages S-7, column two, paragraph two and S-8, column one, paragraph two of the Air Quality Supplement.

RESPONSE 29. Wetland habitat which has been created provides an important experience for application to surface mined land reclamation. Contour and drainage patterns have proven important to the development of these water bodies, and water retention has been aided by the application of local clays or bentonite to the soil. Seedings, transplantings, and fertilization are other common practices that would be used. Cattails and other aquatic vegetative species have been established on the Western Energy pond at Colstrip, at Westmoreland's ponding area A, and at the Peabody box cut reservoir. These water bodies have been used for several years by several waterfowl species.

RESPONSE 30. See response 29 concerning wetlands.

RESPONSE 31. The purpose of the Ft. Union Coal Region Environmental Impact Statement is to examine the environmental consequences of leasing and developing federal coal reserves in compliance with the federal coal management regulations. The determination of the need for further coal leasing was covered in the Federal Coal Management Program environmental statement under which the Draft EIS was prepared. Where the programmatic EIS has analyzed information and program alternatives, the issues were not covered again in this EIS.

The determination of fair market value for coal is not a purpose of this EIS. After the sale but before a lease is issued, a determination will be made on whether or not the high bid for each tract reflects fair market value. If it is determined fair market value was not received, a lease will not be issued.

RESPONSE 32. Whether the proposed coal leasing would bring new requests for waivers of air quality laws is conjectural. Whether any such requests would be granted would be determined by the people of the states involved through their agencies (see Appendix B, page A-4, Draft EIS) as well as the federal government through the EPA. The Air Quality Supplement discusses the problem of acid rainfall (pages S-5, S-7, S-8, S-35, S-36, and S-37). See the Modifications and Corrections section, Air Quality, Chapter 3 and response 28.

RESPONSE 33. The Final Environmental Statement for the Federal Coal Management Program discusses the various alternatives to coal in providing for energy independence in the United States. Since they are discussed in that document, this EIS only addressed alternatives to leasing targets.

RESPONSE 34. See response 18 concerning water well systems.

RESPONSE 35. See response 15 concerning the BLM and NPS analyses.

RESPONSE 36. See response 16 concerning adverse air quality impacts.

RESPONSE 37. See response 17 concerning the ranking of the Zenith tract.

RESPONSE 38. See response 18 concerning well systems.

RESPONSE 39. See response 19 concerning sulfur dioxide pollution.

RESPONSE 40. See response 20 concerning population impacts.

RESPONSE 41. See the Modifications and Corrections section, Air Quality, Chapter 3.

RESPONSE 42. See the Modifications and Corrections section, Air Quality, Chapter 3.

RESPONSE 43. See response 22 concerning the development of the air quality study.

RESPONSE 44. See the Modifications and Corrections section, Air Quality, Chapter 2.

RESPONSE 45. Appendix F has been corrected as noted. See the Modifications and Correction section, Appendix F.

RESPONSE 46. See response 23 concerning facilities with pending permits.

RESPONSE 47. The change has been made. See the Modifications and Corrections section, Air Quality, Chapter 3.

RESPONSE 48. The modifications made in the MESOPUFF model for the Ft. Union Air Quality study did not alter or affect the basic physical theory or mathematical methodology of the model. It merely expanded its capacity to handle larger numbers of emission sources and types of pollutants and to accept area sources in addition to point sources. The nature of these modifications was discussed verbally and informally with the North Dakota State Department of Health modeling expert, Martin Schock, during the course of the study, and a check run of a particular scenario was made by both groups and found on comparison to produce similar results for that particular scenario. However, the NDSDH has not formally reviewed the modification and has not approved its use for this or any other study. Such a formal review by the cognizant regulatory agency, as well as approval by the EPA, would be requisite for use of the modification for air quality modeling in connection with a PSD permit application.

RESPONSE 49. The correction has been made in the Modifications and Correction section, Air Quality, Chapter 3.

RESPONSE 50. The term "study region" in the quoted sentence referred to the defined boundaries of the Ft. Union Coal Region, as shown in the Air Quality Supplement, Figure 3-1 (page S-13), "Ft. Union Coal Region Study Area and Project Tract Locations," and in Map 1 of the Draft EIS (pocket). Within this meaning, the sentence is correct. However, the entire meteorological data base provided by the North Dakota State Department of Health, which included the Rapid City data, was utilized in the modeling studies. The data stations and related information are listed in the separate Air Quality and Climate Technical Report.

RESPONSE 51. See response 26 concerning the modeling study.

RESPONSE 52. See response 27 concerning background pollutant concentrations.

RESPONSE 53. The correction has been made. See the Modifications and Corrections section, Air Quality, Chapter 2.

RESPONSE 54. The report in point provides additional data on the effects of trace element emissions from a coal-fired power plant. Findings reported in the publication (North Dakota State Department of Health, 1979) support and expand on the conclusions of earlier research cited. The findings do not otherwise affect the analysis presented on pages S-37 and S-38 of the Air Quality Supplement. The reference has been added. See the Modifications and Corrections section, References.

RESPONSE 55. See response 28 concerning pH values.

RESPONSE 56. See response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 57. See response 32 concerning air quality laws.

RESPONSE 58. See response 18 concerning disturbed water wells.

RESPONSE 59. The statements referred to indicate the desire by the Regional Coal Team and the BLM to consider public opinion in formulating the preferred alternative and preparing the Draft EIS. It is through public input that information which was not available or not known was gathered and used in the conclusions and decisions. Many times specific information presented through the public forum enhances the value of environmental statements. It is also through such a process that the RCT is made aware of special concerns, however, the decisions that are made are not solely based upon public participation. These decisions must also weigh information related to the interest of the entire country. Based on all of the information available, a decision is made which provides balance between the national interest, environmental concerns, and special local concerns.

RESPONSE 60. See response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 61. As intimated on page 50 of the Draft EIS, substantial tonnages of coal must be supplied annually through the operational life of the existing end-use facilities. If the federal coal reserves under consideration are not developed, additional private coal resources must be leased if the facilities are to remain in operation. The figures in the Draft EIS on page 50 represent continued operation of mines and facilities associated with the production maintenance/by-pass tracts. Acreage figures would be similar whether or not federal coal is leased. Only reserve ownership would change appreciably.

RESPONSE 62. The 1% disruption to Ft. Union regional agriculture is attributed to direct mining acreage disruption and applies to all alternatives including Alternative 6. The figure is cumulative for mining disturbance, and it also takes into account acreage estimates for end-use and ancillary facilities. No estimation was made for any crop acreage lost due to regional community expansion; however, even if community expansion acreage were to equal mined land disturbance, regional agricultural disruption still would not approach significant levels. Agricultural support economy impacts were considered to be directly proportional to mined land disturbance. The point made in the Draft EIS was that the 1% disruption, or even a 2% disruption, would not approach the regional effects of existing fluctuations in the agricultural economy due to weather, interest rates, and supply and demand.

RESPONSE 63. Off-site impacts have been addressed in the Draft EIS as shown by these examples:

Impacts were addressed for air quality in Chapter 3 (pages S-34 to S-42) of the Air Quality Information Supplement. Off-site issues to agriculture include discussions of emissions, acid rain, surface and subsurface water pollution, and aquifer damage. Significant off-site impacts to wildlife were discussed in the Draft EIS. These discussions focused on the impacts of increased numbers of people, construction of roads, subdivisions, pipelines, and other items. Discussions on transportation and rights-of-way were centered on off-site impacts. Most of the discussions within the economic conditions section of the Draft EIS deal with off-site change to surrounding communities. Changes in social conditions were also discussed and are off-site impacts. The Draft EIS has addressed the off-site impacts to the fullest extent possible within the constraints of time, budget, and research capabilities. Models were used and contracts were issued to address impacts to farm and ranch operations, economic impacts to communities, and air quality impacts within the region. Since this analysis is a regional statement, the scope of the document focuses on regional implications rather than site-specific impacts.

RESPONSE 64. The statement quoted on page 41 of the Draft EIS is an assumption necessary for analytical purposes. Successful reclamation of wetlands, woody draws and native prairie vegetation types has not yet been proven because of the time frames required to reconstruct these ecosystems to their pre-mined productivity. The time required to reclaim these ecosystems is from 15 to 20 years and up to 50 years for woody draws.

An example of the state-of-the-art for wetland reclamation is given in response 29. No research for woody draw restoration is presently funded in Montana, but Western Energy and the Westmoreland Company have rehabilitaion efforts underway. These efforts include transplanting shrubs, seedlings, and tublings. Preliminary results are encouraging but not conclusive.

In 1978, Consolidation Coal Company established a demonstration site on the Glenharold mine in North Dakota to test mined-land reclamation procedures needed to replace woodland ecosystems. Factors being evaluated are: potted stock versus bare-root stock, Vermeer tree spade transplantings, effects of soil depth, slope and aspect, and position importance. Information to date shows survival rates for juniper, green ash and plum of 96.8 percent, 79.6 percent and 77.5 percent, respectively (Williamson and Wangerud, 1980).

In a related experiment on physical and environmental factors of woodland ecosystems, Williamson, et al (1981) reported that regional aquifers are a relatively important source of water to the woody vegetation in draws. Data indicates that the flow generated locally within woody draws is approximately 30 times greater than the flow to the draws via coal seams. Recharge from local infiltration within the draws is likely to be a more important source of water. Three factors are important for the presence of woody vegetation: (1) landform, (2) slope-aspect, and (3) shallow water table outcrops. Of these three factors, landform and aspect are the most important.

In North Dakota, Power, et al (1981), reported on a study in which soil was reconstructed by building a wedge 40 to 210 cm thick with productive subsoil (B and upper C horizon) on top of leveled sodic mine spoils derived from shale. Topsoil (A horizon) was then spread over the wedge at 0, 20, and 60 cm depths. Four crops — alfalfa, crested wheatgrass, native warm season grasses and spring wheat — were grown each year on these plots from 1975 through 1979. Yield of all crops increased as total soil thickness (topsoil plus subsoil) increased to the 90-150 cm range. Highest yields equaled or exceeded yields on similar undisturbed soil types under good management. In most instances, over 90 percent of the maximum yields were obtained when 70 cm of subsoil plus 20 cm of topsoil covered the sodic spoil. Yield from 60 cm of topsoil were similar to those from 20 cm of topsoil.

In a study of livestock and vegetative performance on reclaimed and non-mined rangeland in North Dakota, Hoffman, et al. (1980), made a comparison of post-mining productivity and use from a reclaimed site near Center, North Dakota. Productivity on the reclaimed site was comparable to that on non-mined land.

No applications for bond release have been submitted for major surface mining operations within the Ft. Union region since the enactment of the Surface Mining Control and Reclamation Act (SMCRA) in 1977. No full release applications are expected before 1987, since SMCRA requires a 10-year mandatory operator responsibility and a liability period following revegetaton.

RESPONSE 65. Disturbance of the sod would cause dust pollution. The degree of pollution would be determined by the mitigation or control measures employed. Best available control technology would be required by established regulations and would minimize impacts.

RESPONSE 66. Natural springs would not be replaced and disturbed water veins would not be reactivated. Natural springs and wells tapping disturbed aquifers would be replaced by water wells tapping other undisturbed aquifers. Information related to water pollution and depletion is covered on pages 105 through 107 of the Draft EIS.

RESPONSE 67. Sulfur dioxide emissions from coal-fired power plants have been a topic of concern for some time. Air quality standards have been promulgated and research on sulfur dioxide emissions and bioenvironmental effects on the grassland system have been studied.

Metabolic selenium deficiency which causes white muscle disease and stillborn calves in cattle may be related to air pollution from coal-fired power plants. In 1966, this problem developed on a ranch with 400 cattle about one mile from the Heskett Station (Mandan) power plant in North Dakota. Although the selenium level of the soil did not indicate that selenium deficiency should occur, it has been suggested by Hastings (personal communication) and others that the sulfates emitted from the point sources near the ranch were being taken up by forage plants in great enough quantity to inhibit the metabolizing of selenium by cattle. Other stack emissions, including arsenic, mercury, cadmium, thallium, copper, zinc, and silver, can also affect selenium intake by animals (Van Fleet 1976). There are no studies or indications that we are aware of that cattle near power plants would not feed on the grass that is available.

The Mandan power plant in question was constructed prior to existing federal regulations governing the emissions of coal-fired electrical generating facilities. Emissions from plants constructed following the Ft. Union coal lease would be considerably less. Under current emissions limitations, sulfur dioxide and sulfate produced by additional coal-fired facilities would be much lower in magnitude and may not inhibit the metabolism of selenium and other trace elements, if emissions standards are not exceeded.

At the Colstrip generating facility in southeastern Montana, a long-term air quality study, "The Bioenvironmental Impact Of A Coal-fired Power Plant," was initiated in 1975 by the National Environmental Research Laboratory of the Environmental Protection

Agency. In a report on findings of this research (Ludwick et al. 1981), it was concluded "Although the Colstrip power plant plumes have been clearly identified, the quantitative levels of sulfur dioxide are very low . . . we are dealing in the parts per billion range . . . Subtle effects on the biota, with time, have been noted."

In a related southeastern Montana study (Heitschmidt et al. 1978), where sulphur dioxide was applied to western wheatgrass at levels exceeding ten times the allowable emission standards, it was observed that "sulfur dioxide did not significantly alter the net production of above-ground parts, the growth rates of above-ground parts, net assimilation rates, nor did they effect the leaf area ratios of either western wheatgrass or the entire community. The effects of SO_2 on leaf growth, and the N:S ratios in plant material, indicated that there may be sulfur deficiency in the grassland studied."

Similar results have been reported in Wyoming (Bridgman and Long 1976) and in Arizona (Davis, et al. 1966). A study (Ferenbaugh 1978) on the more susceptible species Indian rice grass, *Oryzopsis hymenoides*, found no deleterious effects with sulfur dioxide levels within emissions standards. "At concentrations below .13 ppm the sulfur dioxide appeared to have a beneficial effect on productivity."

While at present the results of sulfur dioxide studies would indicate that there should not be a measurable effect on grasslands if power plants are properly constructed with sulfur dioxide emissions rates which do not exceed current air quality standards. Presten (1979) has observed "the native grassland system responds slowly to sulfur dioxide exposure. Early responses are subtle . . . There is a real danger in attempting to extrapolate the results of these studies to a time scale of decades. The grassland system in the study plots may adapt with no long-term damage. This ecosystem is progressing to a new equlibrium . . . Effects could over a period of decades cause substantial changes in the capacity of the system to support grazing pressure at today's levels."

Within the north-central Great Plains, there presently are no studies being funded in the area of bioenvironmental effects of acid rain. Under auspices of the Association of State Agricultural Experiment Stations of the North Central Region, two monitoring stations have been established in Montana under the National Atmospheric Deposition Program. The North Dakota State Department of Health, with funding support by the BLM, is carrying out research on acid rain emissions in North Dakota. An atlas produced by the program, "Distribution of Surface Waters Sensitive to Acidic Precipitation," indicates that waters in the region tend to be highly buffered and therefore highly resistant to changes in pH due to acid rain.

As indicated in the Draft EIS, the calcareous soils of the Ft. Union region also are highly buffered against acid rain effects. Direct effects of acid precipitation on vegetation, and particularly upon the cereal grain crops, in the Ft. Union region has yet to be studied in depth. Indications from studies in other geographic areas where acid rain occurs would lead to the conclusion that data from such studies in the Ft. Union region would be essential to a full understanding of air pollution effects on the environment from coal-fired energy facilities. See response 19 for additional discussions on air quality.

RESPONSE 68. See response 64 concerning reclamation of woody draws and response 29 concerning wetlands.

RESPONSE 69. The guarantee that energy would be produced or that consumers would have to pay for project failures is beyond the scope of this document. Permitting facilities is a state responsibility and rates are set by state public utility or public service commissions and the Federal Energy Regulatory Commission.

RESPONSE 70. See response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 71. The thirty day extension for public comment could not be accommodated in order to meet the schedule established for the Ft. Union coal sale. The comment period was extended ten days to allow for additional comments on the air quality supplement.

RESPONSE 72. See response 63 concerning off site impacts.

RESPONSE 73. See response 31 concerning the purpose of the Draft EIS and the need to lease coal.

RESPONSE 74. The population figures used in the Site Specific Analyses and the Draft EIS for Alternative 3 were developed under different developmental and analytical assumptions, so it is difficult to compare these figures.

The Regional Coal Team determined the Draft EIS would only address regional implications of the proposed Meridian exchange in relation to Alternative 3. The Draft EIS shows population implications resulting from the exchange under Alternative 3 on pages 142 and 143. A specific population forecast for the Meridian exchange was not made.

A mistake was made in copying baseline population figures (Alternative 1) for McCone County in the Air Quality Supplement. The figure on page SA-11 should indicate a population of 2,773 for McCone County in the year 2000. See Modifications and Corrections section, Air Quality Supplement, Appendix H.

RESPONSE 75. The Regional Coal Team did not consider two 85,000 BBL/day synfuel plants to be a viable alternative.

The various end-use facilities are numerous and depend on a variety of uncontrollable factors. The coal is lignite and crumbles during transportation, therefore the best utilization is mine-mouth conversion to electric power or some type of synfuel conversion plant (liquefaction or gasification). The actual end-use cannot be determined at this time.

Approximately two years ago, this nation was experiencing a shortage of gasoline and prices were rising at an alarming rate. Actions were taken to start planning for providing alternative energy. Now, with a world oil glut, these alternative actions have been placed in a "wait and see" position. New electric power generation facilities have been drastically cut back and future planning is more cautious.

Building gasification plants has been extremely expensive and the price of natural gas has not risen to make a plant cost effective. If natural gas continues to rise at its current rate or if technology changes, this type of plant may become feasible in the future.

It is important to remember that market conditions and future changes in technology are the determining factors in deciding what type of plant would be developed and when it would be developed. Industry must submit a mine plan permit EIS and a facility siting EIS before a plant is developed. When these are submitted, the impacts associated with development can accurately and specifically be identified.

RESPONSE 76. The Draft EIS predicts that air quality standards for sulfur dioxide and suspended particulates would be exceeded in certain areas if implemented as described in alternatives and assumptions. Implementation will not be permitted by state agencies unless each specific applicant can provide control measures to stay within the standards or can show that the degree to which the standard is exceeded would have no adverse impacts.

RESPONSE 77. The fiscal projections appearing on page A-18 of the Draft EIS assume that coal in the Wibaux-Beach tracts would be mined in both states at the same time. This assumption was made to conduct the analysis in the absence of a mining plan. Conversations with Dennis Sandburg of Tenneco Coal, Glendive, Montana in August and December of 1982, indicate that this assumption is appropriate from Tenneco's standpoint.

RESPONSE 78. In each tract area, soil potential for suitable plant growth material following surface mining was evaluated using the National Soils Handbook standards listed in the SCS technical guides.

Two separate lifts of soil are necessary in removing soil material from prime farmland that would be mined. In Montana and North Dakota, topsoil must be removed and stored separately from overburden. When the soil is respread during reclamation, the material must be replaced in its original order. In Montana, the approximate original contours of the land must also be restored. It was estimated that sufficient suitable plant growth material of good to fair quality would be available within the upper 60 inches of topsoil to respread tract areas disturbed as a result of mining. All lands must have agricultural productivity restored to within 90 percent of pre-mining productivity levels.

Based on the analysis described above, the provisions of the Surface Mining Control and Reclamation Act and all applicable state stipulations, it was estimated that sufficient suitable plant growth material of good to fair quality would be available within the upper 60 inches of topsoil to respread tract areas disturbed during mining activities to a depth of 20 to 57 inches. An exception is the Zenith tract with only 16 inches of good to fair quality material within the top 60 inches. While it is recognized that soil series with less than these averages occur within the various tracts, the averaging of suitable material in respreading would compensate for these areas. In these instances, it would be possible for an area's post-mining soil profile to contain substantially greater quantities of suitable plant growth material than presently exists there. See also response 64 concerning reclamation of woody draws.

RESPONSE 79. The social changes anticipated in the event of coal development are discussed by each alternative in the Impacts section of the Draft EIS. Under some alternatives these impacts are predicted to be significant. Appendix G illustrates the population influx which would accompany Ft. Union coal development. It is expected that many of the jobs (primary and especially secondary) would go to local people.

RESPONSE 80. See response 31 concerning the purpose of the Draft EIS and the need to develop federal coal.

RESPONSE 81. References are listed in a separate section following the appendices in the Draft EIS. Where a specific information source is used in the text, the reference is noted. Nineteen research and data sources for water were used during the preparation of the document and are listed in the water section of the reference list (page R-2). The primary sources for water information are cited throughout the narrative on pages 103-107.

The methodologies, assumptions, limitations and authorities used in the air quality analysis are presented in the Air Quality Supplement (pages S-12, S-14, S-15, S-16 and R-1 and R-22). Evaluation of these technically complex subjects is difficult, so independent reviews were performed by technical organizations, including state agencies and the U.S. Environmental Protection Agency.

Assumptions for facilities were based upon the experience of industry. The basis for the water needs comes from Basin Electric Cooperative's experience in planning, designing, and constructing of electric gen-

eration facilities. The water needs for gasification and liquefaction facilities were based on the designs of the Great Plains Coal Gasification Project and the Nokota Company's Dunn-Nokota Methanol Project. The same approach was used in developing the air emission rates and employment figures. All information for the facilities was developed in this manner and compared with other similar projects planned throughout the nation. Where a specific project was planned, available information from industry was used. Similar types of sources were used in analysis of other resource impacts.

RESPONSE 82. The information supplied by Meridian Land and Mineral Company is found on page 60 of the Draft EIS in the middle of the second column. Meridian felt this was the only alternative over which it would have direct control should development occur. The expansion to the 85,000 barrel-per-day methanol facility was an assumption by BLM that the initial facility could be expanded because of the available coal reserves. This assumption was made to analyze the worst case situations of development for one tract. The date of construction (Table 1-11) was for initial construction and was furnished by Meridian.

RESPONSE 83. The preferred alternative selected by the RCT was prepared to provide the level of production necessary to meet the leasing target established by the Secretary of the Interior. The project staff had prepared for the RCT a level of production which would be expected for the region. This expected level of production was just below 800 million tons. The other alternatives can be compared to the preferred alternative and the impacts viewed with regard to the RCT's preference. One of the reasons for selecting a preferred alternative is to give the public an idea of what can be expected and provide a basis for the comparison of impacts if another alternative is chosen.

RESPONSE 84. The statements in the Air Quality Supplement on pages S-16 and S-27 about cumulative 24-hour average (ambient) TSP concentrations and allowable Class II increments, pertain to two different types of standards. This is explained on pages S-8 to S-10 of the Air Quality Supplement.

The statements on pages S-36, S-37, and S-41 about the effects of acid precipitation on water quality conclude on page S-41 that "indirect effects . . . on water quality resulting from air pollution will likely be insignificant." This is a best scientific judgement made on current information even though that information is inadequate to enable quantitative evaluation.

Regarding the statements about the effects of radioactive and other trace elements, it is not unreasonable to expect some cumulative long-term effects. These effects would not necessarily be significantly harmful, and they cannot be accurately predicted from available knowledge. The effects of radioactive emissions are expected to be insignificant as explained on page S-39 of the Air Quality Supplement.

Also see response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 85. See response 71 concerning the Ft. Union schedule.

RESPONSE 86. Economic impacts of coal development on farms and ranches in Montana and North Dakota were estimated from a gross income aspect and from the net income disruptions which could occur. The purpose was to estimate the economic impacts on agricultural production and incomes, the effects on the stability of operations, and effects on the welfare of farm and ranch families during potential coal development. The economic analysis was divided into two segments: (1) the impact on management, operation, gross sales, and net incomes by taking cropland and grazing land out of production; and (2) potential impacts on agricultural production, sales, and net income as a result of mining each tract. Also analyzed was how individual farm and ranch operations and the operator's family would be affected as the tract is mined.

In estimating net income effects, information was gathered about each operational unit including the portions of each operation inside and outside the proposed coal mining tracts. Also gathered were data on crop and pasture yields, rental rates, land values, livestock production rates, grazing fees, and other organization and input features.

Economic Research Service, U.S. Department of Agriculture, utilized an ongoing national cost-of-production study in developing the analysis. This study develops representative cost of production budgets for crop enterprises by type of farming areas in the United States. Crop enterprise budgets for areas within Montana and North Dakota were utilized. These representative operation budgets did include estimates for machinery costs.

RESPONSE 87. The state-of-the-art in mined land reclamation is further discussed in responses 29 and 64.

The Surface Mining Control and Reclamation Act (SMCRA) was enacted in 1977. Federal reclamation requirements and state regulations instituted since that time provide for a 10-year period following revegetation prior to application for bonding release. Mining and reclamation activities which fall under the provisions of SMCRA would not be subject to review of reclamation successes before 1987. The legal question of reclamation will not be resolved until that time. Reclamation would be reviewed on a case-by-case basis for each bond release application.

Lands which are summer fallowed, plowed, and tilled but left unseeded during a growing season are a major element in the dryland farming operations of the existing environment. These lands left bare of vegetation for a full year in the dryfarming cycle constitute 40 to 50 percent, on the average, of the dryland acreage in

any given year. Any assessment of air pollution effects and erosional impacts resulting from mining must be discussed within the broader context of existing non-point sources of pollution such as the vast acreages of summer fallow that occur in the area.

Although in the short term soil disturbance during peak mining years would somewhat exceed that acreage presently left bare due to annual summer fallow, reclamation regulations specify that stockpiled materials must be stabilized and protected with a cover of quick growing plants or other means so that the topsoil is preserved.

Also see response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 88. The amount of water committed to coal development as a result of leasing federal coal is shown in Tables 1-5 through 1-11, pp. 52-62 of the Draft EIS. The water needs of the mine could be taken from impoundments and the Fox Hills aquifer without affecting the water supplies of surrounding farms or ranches. The quantity of water required for the facilities would have to be taken from the Yellowstone/Missouri river system. Studies by state and federal agencies show that this amount of water would be available. The states of Montana and North Dakota have the responsibility of permitting specific water uses.

RESPONSE 89. See response 71 concerning the Ft. Union schedule.

RESPONSE 90. See response 31 concerning the purpose of the Draft EIS and the need for leasing federal coal.

RESPONSE 91. The Ft. Union Draft EIS is a regional assessment and as such is not meant to quantify impacts to the degree your comment suggests, however, many of the studies and analyses completed in the course of preparing the Draft EIS are quantitative and identify as far as possible the severity of impacts.

Prior to issuing mining permits and facility construction and operating permits, more detailed analyses will be completed. It is at this stage that the detailed information regarding mining plans and facilities becomes available.

Severity of impacts is discussed in the Draft EIS and its supporting documents including the Site Specific Analysis for each tract, the Air Quality Supplement, and the Agricultural Economic tract reports. Responses to comments generated during the Draft EIS review period contribute to detail and significances of the impacts in a number of areas, especially for air quality, agriculture, and water resources.

RESPONSE 92. The potential impacts of air pollution and acid rain are discussed in the Air Quality Supplement.

All toxic wastes will have to be disposed in sites approved by state and federal agencies. There are hazardous waste disposal sites within the Ft. Union region and they have caused no problems (North Dakota State Health Department). These sites are designed to ensure that the toxic wastes are isolated from the hydrologic systems. Disposal of toxic wastes would cause no significant impact to water resources, agriculture, or the general public. Water quality degradation is discussed in the Draft EIS on pages 105 and 106.

RESPONSE 93. See response 63 concerning off-site impacts.

RESPONSE 94. Chapter 5 of the Draft EIS provides a list of all of the personnel involved in the Ft. Union Regional EIS. Under each name is provided a description of the individual's background and experience plus a description of the responsibilities each had in the preparation of the document. These descriptions point out who was responsible for preparing the various sections as well as identifying the contractor for the Air Quality section and the contractor's personnel.

RESPONSE 95. See response 71 concerning the Ft. Union schedule.

RESPONSE 96. The Draft EIS stated that it would only address the regional implications of the Meridian exchange as it was related to Alternative 3. An environmental assessment of the exchange proposal has been prepared by the Miles City BLM District Office. A separate section addressing impacts of the Meridian exchange on Alternative 3 has been prepared for each environmental component. These individual write-ups can be found on pages 107, 121, 127, 130, 132, 134, 135, 142, and 151 of the Draft EIS.

RESPONSE 97. See response 63 concerning off-site impacts.

RESPONSE 98. Impacts of transmission lines, pipelines, and railroad rights-of-way would have some effect on ranches and other operations, but quantification of these effects cannot be gauged in this document because the actual location of the facilities is unknown. The effect of utilities and transportation facilities on ranch operations bears study at a more site-specific level. It has also been recognized that land use would change both qualitatively and quantitatively and the number of unknowns is related to the scale of the study.

These and other gaps in the analysis of coal mining must be studied when more specific proposals are in hand. Some problems would yield to engineering solutions but others would not. These options cannot be explored until the proposals are known simply because the problems are not limited and are too

numerous to be practically explored at this time. Tables 1-5 through 1-11 on pages 52 through 61 of the Draft EIS indicate the amount of land used for each synfuel plant would be 960 acres.

An exact assessment of the taxpayer burden from a mix of tracts and facilities cannot be made at this time because of a number of unknown factors. These include, but are not limited to: (a) company mining plan, (b) infrastructure system capacity at the time of construction, and (c) conversion tax rate for liquefaction facilities. All of the above items will be further examined and solutions to problems pursued in separate EIS documents at the Mine Plan stage and through the plant siting process of the applicable State.

See also response 19 concerning air pollution, responses 29 and 64 on reclamation; response 96 on the Meridian exchange; and response 140 on water quality.

RESPONSE 99. The Air Quality Supplement points out the nature of possible impacts from acid precipitation, along with several indications that such impacts may not be serious in the Ft. Union Region. There are still many unanswered questions about acid precipitation, making it impossible to currently evaluate impacts more fully at this time. Much research on this subject is currently under way and in time will enable a better understanding.

RESPONSE 100. It is not known what wastes, hazardous and non-hazardous, would be produced by synthetic fuel facilities. It is difficult to identify wastes even when a specific process is proposed. For example, the gasification project underway north of Beulah, North Dakota, has yet to identify wastes to the state of North Dakota. The Nokota Company has stated its coal-to-methanol process will produce no waste materials classified as hazardous by EPA.

Since synthetic fuel facilites have the potential to produce hazardous wastes, it was assumed hazardous waste would result when considering the generic facilities in the Draft EIS. The EPA has research underway to evaluate the effects of toxic pollutants from synfuel plants (see page S-37 of the Air Quality Supplement). Also see response 92 concerning air pollution and response 99 concerning acid rain.

RESPONSE 101. See response 100 concerning wastes.

RESPONSE 102. See response 100 concerning wastes.

RESPONSE 103. See response number 84 concerning air quality and response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 104. See response 140 concerning changes in water quality as a result of mining.

RESPONSE 105. See response 54 concerning trace element emissions.

RESPONSE 106. County budget items were not covered in the analysis of community-specific fiscal impacts. The fiscal impact numbers shown in Appendix H of the Draft EIS portray only the expenditures which could be directly attributable to communities as a result of population growth.

RESPONSE 107. A one percent disruption of agricultural production within the affected counties of the Ft. Union region would not, in the short term, significantly affect the survival of the agricultural industry in the region. Also see response 62 concerning fluctuations in production.

RESPONSE 108. The Draft EIS has been prepared in accordance with regulations implementing the National Environmental Policy Act. These regulations encourage agencies to tier their environmental statements to eliminate repetitive discussion of issues. Whenever a broad EIS has been prepared such as the coal programmatic EIS, subsequent EISs incorporate discussions from this statement by reference. This is done to reduce the size of documents. "When an agency is evaluating significant adverse effects on the human environment in an environmental impact statement, and there are gaps in relevant information or scientific uncertainty, the agency shall always make clear that such information is lacking or that uncertainty exists." (40 CFR Part 1502.22). The Ft. Union Draft EIS has analyzed the best data available and has pointed out where uncertainty exists and information is lacking. If additional actions are taken, additional environmental analyses would have to be prepared.

RESPONSE 109. The RCT ranked the tracts based on three major categories as required by law: coal economics, impacts to natural environment, and social and economic considerations. Within each of these major categories several subfactors were examined at the RCT meeting on November 3 and 4, 1982, see the Modifications and Corrections section, Appendix K. The concerns about ranking presented in this comment were addressed in these subfactors. The Ft. Union project staff provided a briefing for the RCT on each of the subfactors as they related to the tracts. It was on this basis that the RCT made its ranking decision.

RESPONSE 110. The correction has been made. See the Modifications and Corrections Section, Introduction.

RESPONSE 111. The correction has been made. See the Modifications and Corrections section, Chapter 2, Wildlife.

RESPONSE 112. Corrections have been made. See the Modifications and Corrections Section, Appendix B.

RESPONSE 113. The information in the Westech report was used by the Miles City District Office for the application of Unsuitability Criteria during planning. The document was not quoted in the Draft EIS so it was not listed in the references.

RESPONSE 114. The Regional Coal Team considered the exchange proposal in the Draft EIS in order to discuss the regional implications of the exchange in relation to Alternative 3. The discussion of the exchange was based upon information available at the time. New information will not be covered in the Final EIS since a separate, site-specific environmental analysis for the exchange proposal has been prepared by the Miles City District BLM Office. The preferred alternative selected by the RCT for the Draft EIS states that if the exchange takes place, then the coal acquired by the federal government would replace the tonnage in the Circle West III tract. A decision on the exchange is not within the purview of this EIS.

RESPONSE 115. On October 19, 1982, the Regional Coal Team stated the preferred alternative would be the previously selected preferred alternative. The team agreed that if the exchange proposal is accepted, the preferred alternative would drop the Circle West III tract and add the federal tract resulting from the exchange. This decision was made by the RCT after the Draft EIS was published.

RESPONSE 116. Alluvial valley floor (AVF) unsuitability criteria cover both surface irrigated and subsurface irrigated hay and crop land.

All references to AVFs throughout the Draft EIS are preliminary determinations. These were identified according to guidelines developed by the Office of Surface Mining (August 1978). This procedure delineates areas where AVF may occur (preliminary AVF) and areas where AVF criteria does not apply (all other areas). Within the area designated as a preliminary AVF, no land is being withheld from leasing. However, this identification does indicate the area may be declared unsuitable at the mine plan stage. All preliminary alluvial valley floor determinations were made in conjunction with the Office of Surface Mining. See also response 109 on tract ranking and response 4 on water.

RESPONSE 117. See response 5 concerning lignite and end-use facilities.

RESPONSE 118. The mix of alternatives in the Draft EIS, especially Alternatives 5 and 6, do not allow a comparison of the direct effects upon Circle, Montana resulting from the development of the Redwater and Circle West tracts/facilities.

RESPONSE 119. The Draft EIS does not state that the Redwater tracts would be more difficult to reclaim than Circle West. The site-specific tract analysis used the National Soils Handbook standards and evaluated a 60-inch soil profile. This analysis found that mined land could be respread with good to fair potential for plant growth material. Information in the following tables indicates the Redwater tracts may have better reclamation potential than Circle West tracts.

SOILS AND RECLAMATION POTENTIAL, REDWATER AND CIRCLE WEST TRACTS

Tract	Percentage Soil Reclamation Potential			
	Good	Fair	Poor	Unsuitable
Redwater I	15	3	38	14
Redwater II	14	37	35	14
Circle West I	7	25	46	22
Circle West II	8	26	34	32
Circle West III	7	25	40	28

DEPTH OF GOOD TO FAIR PLANT GROWTH MATERIAL

Tract	Depth
Redwater I	29 inches
Redwater II	31 inches
Circle West I	19 inches
Circle West II	20 inches
Circle West III	19 inches

RESPONSE 120. The affect of the proposed Meridian exchange on consenting landowners has been addressed in the Meridian Exchange Environmental Assessment published by the Miles City District BLM Office.

RESPONSE 121. All ownerships must be cleared prior to the exchange being finalized. Also see response 120 concerning the proposed Meridian exchange.

RESPONSE 122. At the time the Draft EIS was prepared BLM had not received information from Mobil Oil on the Burns Creek tract nor did BLM have unsuitability information related to the tract that would have excluded it from consideration. The Burns Creek tract was, therefore, left in as part of the preferred alternative. Burns Creek has since been removed from the alternatives. See response 109 regarding tract ranking.

RESPONSE 123. Although the RCT recommended a preferred alternative for meeting the leasing target, the Secretary of the Interior will make the final decision on which tracts will be made available for leasing. It is possible that all tracts could be made available since some of the tracts may not be leased due to a lack of surface owner consents.

RESPONSE 124. See response 59 concerning public input.

RESPONSE 125. See response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 126. See response 61 concerning coal tonnages.

RESPONSE 127. See response 62 concerning crop and livestock production.

RESPONSE 128. See response 63 concerning off-site impacts.

RESPONSE 129. See responses 29 and 64 concerning reclamation.

RESPONSE 130. See response 65 concerning dust pollution.

RESPONSE 131. See response 66 concerning springs and wells.

RESPONSE 132. See response 67 concerning sulfur dioxide emissions.

RESPONSE 133. See response 64 concerning reclamation.

RESPONSE 134. See response 69 concerning energy production.

RESPONSE 135. See response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 136. See response 76 concerning air quality.

RESPONSE 137. See response 77 concerning fiscal projections.

RESPONSE 138. See response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 139. See response 81 concerning references.

RESPONSE 140. Researchers have identified changes in water quality in the replaced spoils at a number of sites in the Ft. Union region. The result of what happens to this water as it moves through the system has never been observed. This is primarily because of the limited number of years of research, the slow movement of groundwater, and the fact that previous mining has occurred on a small scale.

Once the changes in water chemistry were identified, the process of geochemical reactions that led to the changes were identified. This same process that caused the altered water chemistry in the spoils can also change the water chemistry as it moves from the spoils back into the undisturbed aquifer system. Undisturbed water in the surrounding aquifer will be mixing with the altered water resulting in dilution. Because the quantification of this geochemical process has still not been defined and because of the typically complex makeup of the overburden material, it is impossible to say it would take 100 feet, a quarter mile, a mile, or whatever, before the altered water returns to its approximate pre-mined condition.

The limit placed on the movement of altered water quality in this document was an attempt to find a general maximum impact zone. The limits are the professional opinion of the Draft EIS hydrologist after discussions with scientists of the U.S. Geological Survey and the North Dakota Geological Survey. Some scientists believe that this impact zone would be much smaller. There is no experience to indicate that this impact could not extend beyond the limits suggested, however, it is the opinion of the scientific community that this would be unlikely.

RESPONSE 141. See response 31 on the purpose of the Draft EIS and need to lease federal coal.

RESPONSE 142. See response 82 concerning the proposed Meridian exchange.

RESPONSE 143. See response 83 concerning the preferred alternative.

RESPONSE 144. See response 84 concerning air quality.

RESPONSE 145. See response 71 concerning the Ft. Union schedule.

RESPONSE 146. See response 86 concerning economic impacts.

RESPONSE 147. See responses 29 and 64 concerning reclamation.

RESPONSE 148. See response 88 concerning water.

RESPONSE 149. See response 71 concerning the Ft. Union schedule.

RESPONSE 150. See response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 151. See response 122 concerning the Burns Creek Tract.

RESPONSE 152. See response 92 concerning air quality and acid rain.

RESPONSE 153. See response 63 concerning off-site impacts.

RESPONSE 154. See response 94 concerning the preparation of the Draft EIS.

RESPONSE 155. See response 71 concerning the Ft. Union schedule.

RESPONSE 156. See response 96 concerning the proposed Meridian exchange.

RESPONSE 157. See response 63 concerning the off-site impacts.

RESPONSE 158. See response 98 concerning the impacts of transmissions lines and rights-of-way.

RESPONSE 159. See response 99 concerning acid rain.

RESPONSE 160. See response 100 concerning wastes.

RESPONSE 161. See response 100 concerning wastes.

RESPONSE 162. See response 100 concerning wastes.

RESPONSE 163. See response 84 concerning air quality.

RESPONSE 164. See response 140 concerning water quality.

RESPONSE 165. See response 54 concerning trace element emissions.

RESPONSE 166. See response 106 concerning fiscal impacts.

RESPONSE 167. See response 107 concerning agricultural production.

RESPONSE 168. See response 108 concerning NEPA regulations.

RESPONSE 169. See response 109 concerning tract ranking.

RESPONSE 170. See response 110 concerning corrections and modifications.

RESPONSE 171. See response 111 concerning corrections and modifications.

RESPONSE 172. See response 112 concerning corrections and modifications.

RESPONSE 173. See response 113 concerning the Westech report.

RESPONSE 174. See response 114 concerning the proposed Meridian exchange.

RESPONSE 175. See response 115 concerning the preferred alternative.

RESPONSE 176. See response 116 concerning alluvial valley floors.

RESPONSE 177. See response 5 concerning lignite and end-use facilities.

RESPONSE 178. See response 118 concerning the Redwater and Circle West tracts.

RESPONSE 179. See response 119 concerning the Redwater and Circle West tracts.

RESPONSE 180. See response 120 concerning the proposed Meridian exchange.

RESPONSE 181. See response 121 concerning the proposed Meridian exchange.

RESPONSE 182. See response 122 concerning the Burns Creek tract.

RESPONSE 183. See response 123 concerning leasing.

RESPONSE 184. See response 31 on the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 185. Significant agricultural and community impacts were addressed in the Draft EIS. See responses 19, 63, 64 and 67 regarding agricultural impacts.

The social impacts were prepared using the Guide to Social Impact Assessment developed by Mountain West Research, Inc., under contract with BLM. This methodology was specifically designed to assess the impacts of energy development on rural western communities. It focuses on the impacts of the project, inputs on social well-being, and social organization given the community's resources. Ten rural western communities that experienced energy-related growth during the 1970s were examined during the development of the Guide. The Guide reflects the types of impacts that have actually occurred in areas undergoing energy-related change. The changes in community social organization and social well-being are predicted to be significant under some alternatives in this Draft EIS.

RESPONSE 186. See response 98 concerning the impacts of transmission lines, pipelines, and rights-of-way.

RESPONSE 187. See response 18 concerning well systems.

RESPONSE 188. The route studies in the Draft EIS indicate the potential impact to the highway systems of the area. Once plant and mine sites are established, other routes might be more desireable. The average annual daily traffic volumes used here could be used for those other roads to provide an indication of any potential problem areas, however, more specific projects or mining plans have to be developed.

RESPONSE 189. Population projections showed that Wolf Point would be marginally impacted by development. Subsequent discussions with the Wolf Point city planner indicated that the community infrastructure could easily handle the forecasted population influx. Impacts from crime are discussed in the Draft EIS on pages 143-152 under Social Well Being, and poaching and possible mitigating measures are discussed on page 125. See response 188 regarding traffic routes.

RESPONSE 190. See response 63 on off site impacts and response 86 for economic impacts to agriculture.

RESPONSE 191. See reponse 62 for off-site agricultural impacts, and response 86 for economic impacts to agriculture.

RESPONSE 192. See response 18 for disrupted water sources and response 66 for replacing water wells.

RESPONSE 193. See response 59 on public involvement.

RESPONSE 194. See response 31 on the purpose of the Draft EIS and the need to develop coal.

RESPONSE 195. See response 88 on the amount of water needed to develop coal.

RESPONSE 196. See response 31 on the purpose of the Draft EIS and the need to lease coal.

RESPONSE 197. See response 114 and response 120 on the proposed Meridian exchange.

RESPONSE 198. Any water sources that are disrupted in quantity or quality as a result of mining would have to be replaced by the mining company. Also see response 18.

RESPONSE 199. For analysis purposes, a 10-year period for reclamation to federal and state standards was assumed in North Dakota. Since the Montana climate is drier, a 15-year period was assumed. These assumptions were based on results from ongoing reclamation studies in the region, also see response 64. "Long term" with regard to agricultural production would be 10 years after initial reclamation efforts in North Dakota and 15 years in Montana. "Long term" with regard to the entire tract would be about 50 years in order to consider the life of the mine and the total reclamation effort.

RESPONSE 200. The economic impact analysis allows for an assessment of what would happen to the community's population if abandonment occurred. This is reflected in the baseline population forecast included in each graphic. If abandonment occurred during the construction or operation phase, the impact values shown would revert to the baseline values and the construction or operation work force would leave the area.

Communities could be faced with public service funding problems if service capacity expanded to accommodate the large, development-related workforce. This is part of the uncertainty a community faces when confronted with local energy development. It is extremely difficult to quantify the extent to which any given community would be impacted if abandonment were to occur since a tremendous number of variables come into consideration in an analysis of that sort. Because of this, it is not possible to predict, on a community-by-community basis, the impacts associated with abandonment of a major energy project.

RESPONSE 201. See response 109 concerning tract ranking.

RESPONSE 202. The change has been made. See in the Modifications and Corrections section, Chapter 3, Water.

RESPONSE 203. These changes have been made. See in the Modifications and Corrections section, Chapter 3, Water.

RESPONSE 204. The difference in the number of sections of the Dunn Center tract eligible for National Register of Historic Places has been changed in the Modification and Corrections sections, Introduction.

The Draft EIS contains several statements about the significance of the Knife River Flint Quarries. Specifically, on page 93, the quarries are described as being "of national significance in understanding prehistory." Additionally, page 128 of the Draft EIS describes the conflicts in the Dunn Center tract.

The specific impacts of mining on the cultural sites of the Dunn Center tract would have to be dealt with prior to mining. As the commenter has pointed out, this could not be done through an "all or none programmatic approach." Measures designed on a site-specific basis would be needed to prevent adverse impacts to cultural resources. This kind of assessment would be

done at mine plan stage and coordinated through a review process that would include the developer, the Office of Surface Mining, and the State Historic Preservation Officer.

The final comment by the Bureau of Reclamation noted the national significance of the Knife River Flint Quarries located on the Dunn Center tract. It expressed the hope that this issue would be resolved in the Draft EIS so that the Bureau of Reclamation Environmental Impact Statement on the siting of the coal-to-methanol plant would not have to supplement the cultural resource coverage.

It is impossible to provide the details in a regional document which would avoid the need for more detailed coverage on a site specific action. The Draft EIS stated that impacts on sites outside the eligible National Register District could be mitigated by data recovery or other means (see especially the Modifications and Corrections section). Because the plant site is located outside the National Register District boundary, presumably impacts on cultural sites could be mitigated. However, the proposed utilities corridor for the plant site would pass through a portion of the eligible National Register District. Within that corridor, locations of roads, pipelines, railroads, etc., are not yet specified. Without that information, the impact of facilities in the corridor on the National Register District sites cannot be assessed. Similarly, the efficacy of mitigation measures would not be addressable until the proposed action is more precisely defined.

RESPONSE 205. Unsuitability determination is a part of the land use planning process and is not a part of activity planning which is what the Draft EIS addresses. The application of the unsuitability criteria has been completed for the Redwater, West-Central, and Golden Valley Management Framework Plans. The results of these applications were published and received a public review and comment period. The final determinations of the application of the unsuitability criteria are available from the Miles City and Dickinson District Offices.

RESPONSE 206. The statement quoted is an assumption made for analytical purposes. How land would be used after mining would be determined in consultation with the surface landowner at the mine plan stage in accordance with the Surface Mining and Reclamation Act and applicable state regulations. The probability of achieving the required levels of post-mining agricultural productivity and woodlands reclamation is discussed in response 64. Wetlands reclamation is discussed in response 29. See also page 124 of the Draft EIS.

RESPONSE 207. See responses 29, 64, 87, and 206 concerning reclamation. Also, see the wildlife section of Chapter 3 of the Draft EIS, especially Alternatives 1, 2, and 5, for discussions of possible mitigating measures. See pages 123 and 124 of the Draft EIS for discussions of post mining land use.

RESPONSE 208. Key species and valuable wildlife habitats are discussed in the site-specific analyses and are incorporated in this document by reference and tiering in accordance with regulations implementing the National Environmental Policy Act (40 CFR Parts 1500-1508).

RESPONSE 209. The North Dakota Game and Fish Department was contacted with regard to adverse impacts to fisheries. The impacts that were identified were incorporated in the Draft EIS. The information referred to in the comment was not included in the Draft EIS because no significant impacts to those resources were identified.

An interagency team consisting of biologists from the North Dakota Game and Fish Department, U.S. Fish and Wildlife Service (FWS) — Bismarck Area Office and the Bureau of Land Management, Dickinson District Office provided the best habitat information available. Also, FWS and the North Dakota Game and Fish Department were represented in the wildlife work group and did not identify any significant impacts to these fisheries.

RESPONSE 210. See response 67 concerning air pollution effects on plant and animal life.

RESPONSE 211. The impact analysis for Alternative 1 must be read within the context of this alternative as described on pages 49 and 50 of the Draft EIS. Briefly, the existing and permitted mines and facilities are part of the baseline. It was assumed that employment would not change since it was addressed in the approval and permitting process for the mines and facilities.

RESPONSE 212. The reason much of the area would be destroyed should federal coal not be leased is because approximately 76% of these vegetative types for the three tracts listed is on private surface-private mineral. This information is supported by the habitat maps provided by the Fish and Wildlife Service and on-the-ground observations.

RESPONSE 213. We agree that these problems exist, however, "With proper planning . . ." as stated on page 124 of the Draft EIS, the management problems could be overcome.

RESPONSE 214. It is our opinion that reclamation related to native prairie would be adequate for wildlife as stated on page 124 of the Draft EIS.

RESPONSE 215. See responses 19, 63, 67, 92, and 140 concerning off-site impacts.

RESPONSE 216. See responses 19, 62, 63, 67, and 92 concerning off-site impacts to agriculture.

RESPONSE 217. See response 185 concerning social impacts.

RESPONSE 218. See response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 219. Cultural resources on or eligible for the National Register of Historic Places must be considered under federal coal leasing regulations. BLM operates under those regulations. In the course of compliance work for the Ft. Union Draft EIS, one area was determined eligible for the National Register of Historic Places, but no area has been proposed for formal addition to the National Register by this agency. The word "proposed" has been deleted. See the Modifications and Corrections section, Introduction.

RESPONSE 220. The Dickinson BLM District concluded that more archaeological information and a mitigation plan would be necessary before a decision about mining two sections of federal coal in the Dunn Center logical mining units could be made. The Keeper of the National Register of Historic Places determined that a district including these sections is eligible for the National Register. That determination made the sites, and an appropriate buffer around them, potentially unsuitable for mining; however, such unsuitability could be excepted if it could be demonstrated that adverse impacts to cultural resources could be mitigated. The possibility of that mitigation has not been demonstrated, so a final decision about mining cannot be made.

The Dickinson District decision does not prevent the leasing of the two sections. Mitigation, if possible, is designed by a potential developer after the federal coal has been leased. If leasing does not take place then the developer is denied the option of possible mitigation, thereby losing the possibility to fully recover the coal. Therefore, a decision to lease while holding the decision about mitigation for future review allows for the development of mine plans and the protection of archaeological resources.

The two sections (Sections 32 and 34, T145N, R93W) where unsuitability criteria application is a problem have been taken under review by the Director, Bureau of Land Management. That review must be completed prior to any leasing decision for the Dunn Center tract.

Plans for cultural resources must be approved while the lessee is planning for the development of the Dunn Center LMU. This includes approval by the State Historic Preservation Officer and the Office of Surface Mining. To insure that the cultural resource work is acceptable, early and continuous contact with responsible agencies is advised.

RESPONSE 221. North Dakota no longer permits disposal of waste materials in open mine pits. The correction has been made. See the Modifications and Corrections section, Introduction and Chapter 3, Water.

RESPONSE 222. The correction has been made. See in the Modifications and Corrections Section, Introduction.

RESPONSE 223. See response 116 concerning alluvial valley floors.

RESPONSE 224. A Memorandum of Understanding to outline procedures to be used in the future of the Knife River Flint Quarries would serve a number of interests. It would provide the ground work for the development of information from the sites, and it would provide the developer with a plan to follow during planning and mining.

RESPONSE 225. On pages 85, 105, and 106 of the Draft EIS the reference to irrigated land is to land along Spring Creek and does not refer to any area within the tract. The reference to 311 irrigated acres on page 89 includes four individual water permits. One is for an area along Spring Creek. This conditional permit was perfected in January, 1982. This area, however, has been deleted from the tract. Another permit in T144N, R94W, Sec.2 has been forfeited since the record was last checked. A third permit in T145N, R93W, Sec. 32 is a conditional water permit with no usage reported as yet. The fourth permit in T144N, R93W, Sec. 7 is a perfected permit and has reportedly been used for the last ten years. For the purposes of this Draft EIS, conditional and perfected permits are lumped together because they both mean that the individual has the legal right to divert water. The Modifications and Corrections section, Chapter 2, Agriculture changes the 311 acres to 200 acres of irrigated land in the Dunn Center tract. All water permit data was received from the North Dakota State Water Commission.

RESPONSE 226. The information that Nokota's coal-to-methanol project would produce no wastes classified as hazardous by EPA has been made. See the Modifications and Corrections section, Chapter 3, Water.

RESPONSE 227. The elimination of high walls in accordance with applicable laws has been made. See the Modifications and Corrections section, Chapter 3, Wildlife.

RESPONSE 228. The statement in the summary on page 127 of the Draft EIS refers only to short-term habitat destruction which assumes that reclamation of woody draws would be successful. See the Modifications and Corrections section, Chapter 3, Wildlife.

RESPONSE 229. The PSD Class II particulate increments shown in Table 2-3 are correct as listed according to the North Dakota State Department of Health (M. Schock, telephone, Nov. 16, 1982).

RESPONSE 230. It is true that the air quality impact analysis was based on worst-case scenarios, as pointed out in the Air Quality Supplement (pages S-11, S-12, S-14, S-15, S-16, S-22, and others). Worst-case scenarios were employed to evaluate the worst impacts which could occur.

RESPONSE 231. See response 205 concerning unsuitability.

RESPONSE 232. The purpose of the Draft EIS is to look at the consequences of leasing and development of federal reserves in compliance with the federal coal management regulations and NEPA. The RCT decided that an evaluation of the impacts of a typical conversion facility near the mine was necessary. Although these facilities were included, it was recognized that approval of these facilities was not a part of the action required to be covered and that the facilities would be subject to separate analyses and approval by the permitting agencies. The selection of the type of facility for each tract was based on expressions of interest from industry. Using the expressions and other information, it was assumed specific types of facilities would be associated with each tract. Although industry has indicated its interest in Ft. Union coal, many companies have not developed plans for facilities.

RESPONSE 233. The Redwater alternative of the Meridian Exchange was developed as a result of public meetings. This alternative was not available for analysis in the Draft EIS and has been analyzed in the Meridian Environmental Assessment available from the Miles City BLM District Office.

RESPONSE 234. The "usable storage" in Fort Peck Reservoir is the total amount in the reservoir that could be usable for all sources. Pages 104-105 of the Draft EIS addresses the specifics of what is available for other uses, including those of the State of Montana and the Fort Peck Indian tribe.

RESPONSE 235. See response 200 concerning abandonment. As mentioned in the Draft EIS on page 136, Montana communities show deficits because there is no way to predict how much state coal severance tax revenues would be apportioned to the communities since this process is based solely on applications for grants. Consequently, the net fiscal balances do not reflect severance tax flows to communities.

Further analysis of the USGS engineering reports prepared for each of the Montana tracts shows that $160,400,000 would be generated annually from severance taxes (as shown below) if all Montana tracts were leased as assumed. Applying the 8.75 percent rate to determine the amount available for local impact assistance through Coal Board grants, it is estimated that approximately $12,000,000 would be available annually from these Montana tracts for that purpose.

Total Montana Severance Tax

Bloomfield — $16.8 million/yr.
Circle I — $9.7 million/yr.
Circle II — $11.0 million/yr.
Circle III — $23.4 million/yr.
North Wibaux-Beach — $16.6 million/yr.
Redwater I — $16.8 million/yr.
Redwater II — $8.6 million/yr.
South Wibaux-Beach — $16.8 million/yr.
Glendive — $16.8 million/yr.

NOTE: Circle tracts taxed at 30 percent severance rate; all others at 20 percent.

RESPONSE 236. See response 18 concerning well systems.

RESPONSE 237. See response 62 concerning agricultural impacts.

RESPONSE 238. The correction for the referencing of the Montana Major Facility Act has been made. See the Modifications and Corrections section, Chapter 3, Other Land Uses and Values.

RESPONSE 239. A discussion of the Montana Major Facility Siting Act was inadvertantly left out. The correction has been made. See the Modifications and Corrections section, Appendix I.

RESPONSE 240. The changes have been made. See the Modifications and Correction Section, Appendix I, Page A-31, column 2, after the last paragraph.

RESPONSE 241. The Ft. Union Draft EIS could have included an expanded list of laws, however, the intent was to include those that are central to this project. If a specific law or regulation was not listed, that does not mean it is was not consulted. See response 108 concerning EIS preparation.

The level of detail in the Regional Draft EIS is not sufficient for coal development on any specific site. It is not the intent of this document to supply that level of detail. The BLM analysis, done in consultation with the State Historic Preservation Officer, primarily identified the level of impacts and made preliminary recommendations on whether the impacts to known cultural resources could be mitigated. As mine plans are developed for specific areas, more information would be required. Questions about the importance of specific sites, details of mitigation, and overall planning for the protection of cultural resources would be addressed in the mine plans.

RESPONSE 242. The Montana Department of Fish, Wildlife and Parks and the North Dakota Game and Fish Department were contacted in preparation of the Draft EIS. The agencies concluded, as discussed on pages 125 and 126 of the Draft EIS and in the site-specific analyses, there could be significant impacts to fisheries by taking water from the shallow bays of Fort Peck Reservoir and Lake Sakakawea. Measures to mitigate these impacts are also discussed. Other impacts were identified but were not considered to be significant. This included in-stream flow reductions.

RESPONSE 243. The correction has been made. See the Modifications and Corrections Section, Introduction.

RESPONSE 244. The corrections have been made. See the Modifications and Corrections section, Appendix B.

RESPONSE 245. It is understood that a commitment to a joint state-federal lease sale in June 1983 has not been made. However, in the early stages of the Ft. Union Project there were discussions that it would be desirable to hold joint lease sales if the mechanics of the two leasing processes could mesh. It was decided that, prior to the sale, a final determination would be made by the states regarding the feasibility of a joint sale.

RESPONSE 246. It could be possible that drawdowns could extend beyond "about a mile." This impact would be variable because it would depend upon the local aquifer's porosity, permeability, and thickness. In his investigations at three mine sites in the Ft. Union region, Groenewold (1979) reached the conclusion that this impact would extend a mile or a mile-and-a-half from an open pit. The terminology "about a mile" should be interpreted as an approximation of the distance of the impact.

Geologic and hydrologic data has been collected in the area of four North Dakota tracts and for most of the production maintenance tracts. This data shows there are numerous thick beds of fine-grained materials underlying the shallow mineable lignites. These geologic units do not prevent leakage but limit it to such a small amount that it would be insignificant. These general conclusions were applied to the other tracts that are in the same geologic setting but have no site-specific data.

RESPONSE 247. See response 100 concerning hazardous wastes.

RESPONSE 248. When considering the practicality of restoring alluvial valley floors (AVF) one must consider both technical feasibility and economic feasibility. The hydrogeology and mining economic conditions in the Ft. Union region are considerably different than in the Powder River region. Generally, the overburden of the Ft. Union region is of finer texture and more complexly interbedded than in the Powder River region. This would make AVF restoration plans and operations more complicated in the Ft. Union region. Also Ft. Union coal is lignite five to twenty feet thick compared to Powder River subbituminous coal which is eighty feet thick (at the South Fork of Spring Creek). These factors create an unfavorable economic outlook for trying to recover lignite beneath alluvial valley floors in the Ft. Union region. Industry operating in the Ft. Union region generally considers AVFs as avoidance areas which are not feasible to mine. No companies in the region have indicated an interest in mining in AVFs under current law.

RESPONSE 249. All direct impacts of mining and coal conversion facilities on the quality and quantity of the hydrologic system are addressed in the water section of Chapters 2 and 3. Water resources also play a vital role in the discussions of most of the other issues in this statement. There are a number of ways to format a document such as the Ft. Union Draft EIS. Each method has advantages and disadvantages for the reader. Numerous discussions occurred within the agency about this question prior to writing the document. Regulations implementing the National Environment Policy Act recommend a standard format for environmental impact statements unless the agency determines there is a compelling reason to do otherwise. Since the project manager and the authors could not develop a format that was clearly better for the reader, the recommended format was used.

RESPONSE 250. See response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

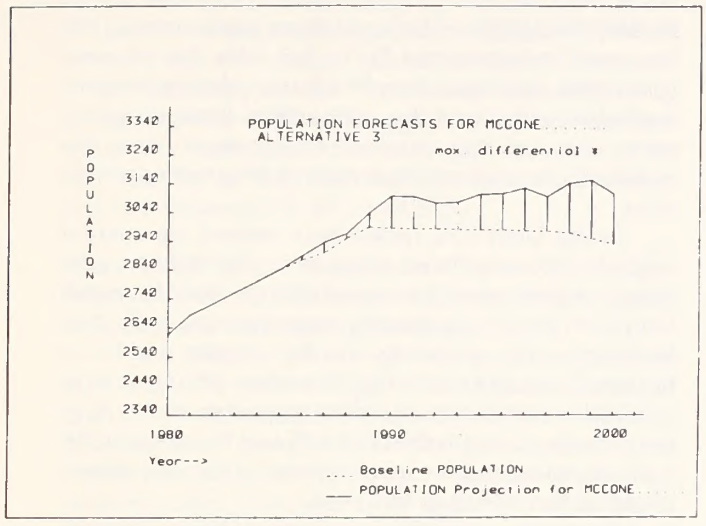
RESPONSE 251. The following graphics show forecasted population and fiscal impacts for McCone County through the year 2000 for Alternatives 3, 5, and 6. These 3 alternatives contain the projects which would most significantly affect McCone County. Response 235 shows the annual amount of severance tax monies that would be available for local impact mitigation.

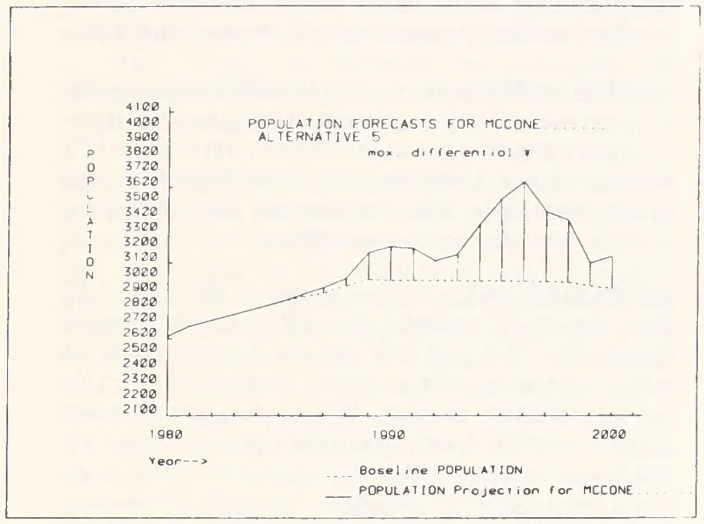
RESPONSE 252. The comment raises a valid concern of the Fort Berthold Reservation Tribes. One of the purposes of the Draft EIS was to bring out potential impacts of the project so that such concerns could be identified.

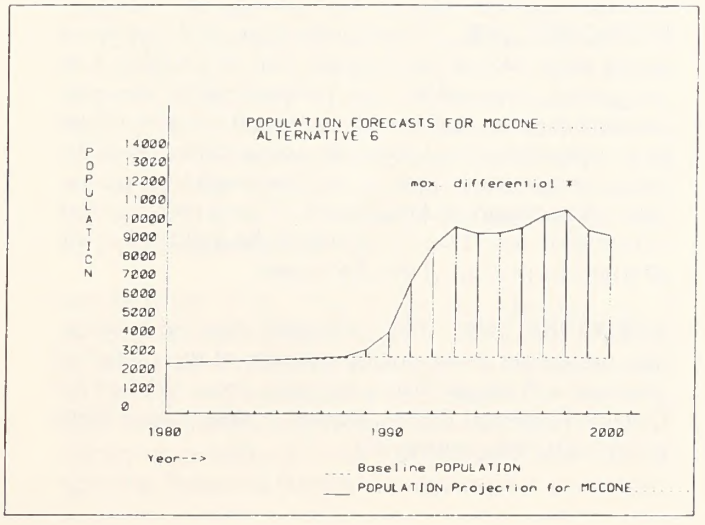
RESPONSE 253. The Ft. Union EIS is a regional document and does not analyze site specific projects. The information provided in the document for mines and facilities is generic and based upon typical facilities. The information presented in this analysis therefore cannot provide the specific information suggested by

GRAPHICS FOR RESPONSE 251

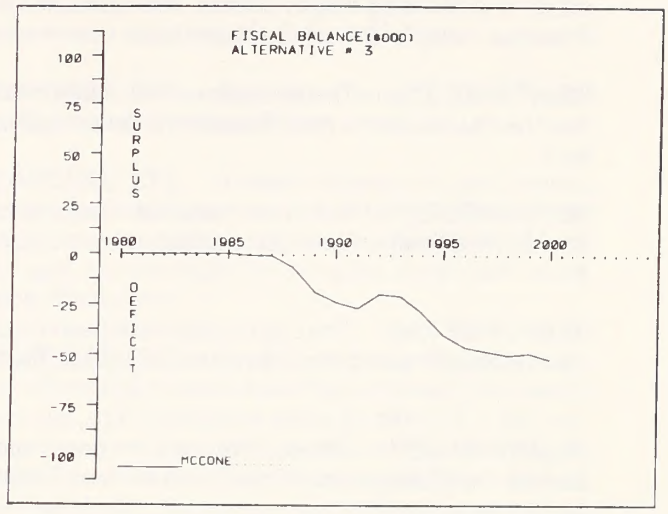
POPULATION FORECASTS FOR MCCONE COUNTY

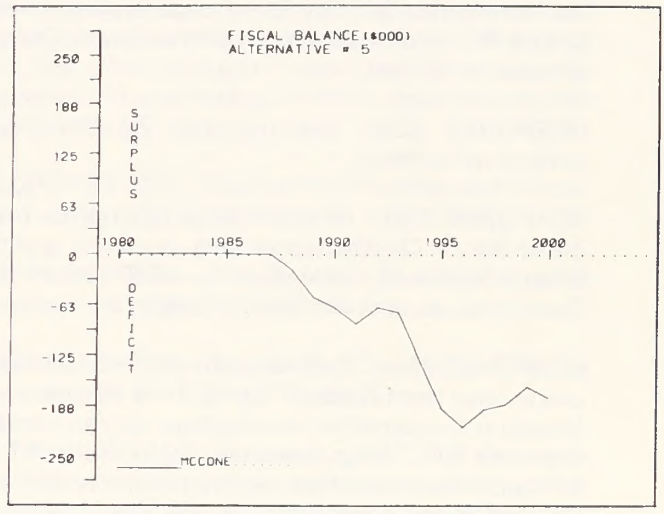


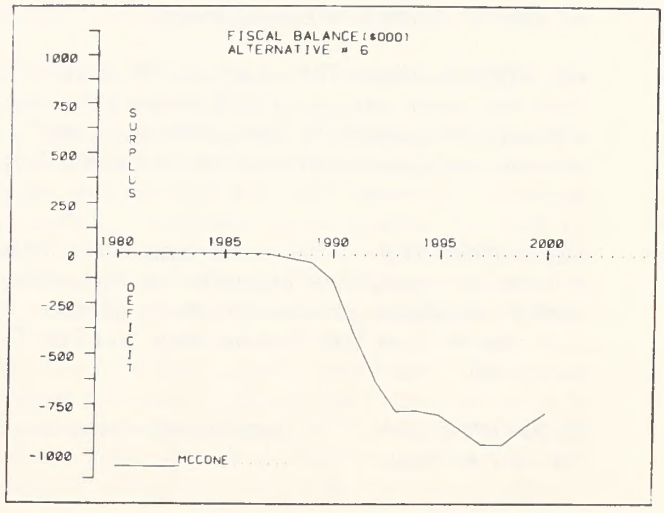




FISCAL BALANCE FOR MCCONE COUNTY







the comment. Site-specific information can only be developed when definite information on projects is provided at permitting stages as was the case with the Antelope Valley and Coal Creek stations.

RESPONSE 254. The corrections have been made. See the Modifications and Corrections Section, Chapter 1.

RESPONSE 255. The corrections have been made. See the Modifications and Corrections section, Chapter 1.

RESPONSE 256. The corrections have been made. See the Modifications and Corrections section, Chapter 1.

RESPONSE 257. The corrections have been made. See the Modifications and Corrections section, Chapter 1.

RESPONSE 258. The cultural resource in question is a stone circle (tipi ring). The change has been made. See the Modifications and Corrections section, Chapter 2, Cultural Features.

RESPONSE 259. See response 29 concerning wetland reclamation.

RESPONSE 260. The comment, referring to Table 2-2 of the Air Quality Supplement, is correct and the change has been made. See the Modifications and Corrections section, Air Quality, Chapter 2.

RESPONSE 261. Estimates of potential Indian water usage have been made by the State of Montana and Bureau of Reclamation investigations and are used in this Draft EIS. Tribes from the Fort Peck and Fort Berthold reservations have received copies of the Draft EIS and have commented on the document (see comments 252 and 253). The concerns expressed in these comments were directed toward air quality with no specific concerns related to water.

RESPONSE 262. The comment is correct. Fort Peck has been considered as a class I PSD area as indicated on page S-23, Table S-5, and page S-27, column one, paragraph five of the Air Quality Supplement.

RESPONSE 263. Analysis of population forecasts indicate only a marginal impact to the community of Wolf Point and insignificant impacts to all other communities north of the Missouri River and Fort Peck Reservoir.

RESPONSE 264. See response 82 concerning the Meridian facilities.

RESPONSE 265. See response 83 concerning the leasing target and the preferred alternative.

RESPONSE 266. The regulations implementing the National Environmental Policy Act state that an environmental statement should discuss adverse environmental impacts, and the relationship between short-term uses of the human environment and the maintenance and enhancement of long-term productivity.

In the Draft EIS, reclamation-related agricultural impacts are considered short term. Agricultural economic impacts were discussed from the short-term and long-term aspects, especially regarding how individual farm and ranch operations and the operator and his or her family would be affected. Operators who lease land within the coal tracts would be impacted in the long term, as discussed in the Draft EIS and the site-specific agricultural economic tract reports. Some operations could be forced out of business.

The statement in the summary has been changed. See the Modifications and Corrections Section, summary. Short and long term impacts have been added. See the Modifications and Corrections section, Chapter 3.

The wildlife section of the Draft EIS identifies the impacts that would occur during mining and discusses possible mitigating measures. Please refer to page 123, second column, last three paragraphs; page 124, paragraphs two, three, four and six; and page 125, paragraphs three, six, seven and eight.

RESPONSE 267. As discussed in the Draft EIS, there are many variables that influence net impacts. Pages 123, 124, and 125 provide discussions of the magnitude of impacts and items that would affect the severity of these impacts. Mining plans and detailed plans for facility development are not available so it is not known whether mitigating measures can be developed for a particular situation. However, these questions would be answered prior to issuance of mining, construction, and operating permits.

RESPONSE 268. The Comparison of Alternatives could have been located at the end of Chapter 3 as suggested. Regulations call for presenting the environmental impacts of the proposal and the alternatives in comparative form to provide a clear definition of the issues and provide the basis for choice among options. The Comparison of Alternatives section provides this information and thus is required to be included in the alternatives portion of the document.

RESPONSE 269. The additional, detailed information pertaining to air quality impacts of the preferred Alternative 3 are given in a separate, more detailed Air Quality Technical Report, copies of which have been provided to the commentor.

RESPONSE 270. In order to comply with regulations concerning "worst-case" analyses, compensation values were used for analysis purposes because definitive data was not available. Compensations were not factored into the budget models for typical farm and ranch operations since compensation is provided only for landowners and not for operators who lease land within the coal tracts. Since net gains could not be analyzed for all farm and ranch operations, the issue was not addressed in the Draft EIS.

RESPONSE 271. Thank you. The mitigation described in the EIS was limited to that which is legally enforceable under existing laws/regulations.

The concept of company towns is certainly a viable means of accommodating a large population increase in an area which could otherwise experience problems. It is clear that a company town designed to accommodate the entire construction/operations workforce for a project would minimize, if not eliminate, the adverse economic/social impacts to other local, established communities, however, it would be inappropriate in a federal EIS to consider this as a viable, predictable, or enforceable means of impact mitigation.

The amount of Montana coal severance tax revenues available annually from each of the Montana tracts is discussed in response 235.

RESPONSE 272. The draft document is complex and the figures, tables, and maps were developed to present this information in graphic form where possible. These graphics do not tell the story in and of themselves. It is true that this information does not show the Meridian exchange by itself nor does it show what part of Alternative 3 is composed of the Meridian exchange, however, neither were the discussions of each alternative designed to show what part of the alternative is composed by each tract. This information shows one full-sized synfuel plant or two full-sized power plants. The graphics do not show the information just for the initial plant as provided by Meridian which is discussed in the text. The impact statement was not designed to address the impacts of the Meridian exchange. A site-specific environmental analysis for the exchange has been published by the Miles City BLM District Office. The Ft. Union EIS addresses only the regional implication of the exchange as related to Alternative 3. The information contained in the draft does not reflect the most recent information provided by Meridian which is covered in the site-specific environmental assessment.

RESPONSE 273. The Draft EIS identifies on a regional level the impacts to groundwater that are likely to occur as a result of development. A site-specific analysis is also available for each tract. The Draft EIS does not state you may never be assured of the original quality or quantity of water that you had before development. State and federal law requires that water sources that are degraded in quality or quantity as a result of mining must be replaced with a source of equal or better quality and quantity. The Draft EIS finds such replacement water supplies are available.

RESPONSE 274. See responses 19 and 67 concerning sulfur dioxide pollution.

RESPONSE 275. Probable changes in community social organization and social well being are discussed in the impact section for each alternative. These changes are predicted to be quite significant under some alternatives.

RESPONSE 276. The fiscal balance figures shown in the Draft EIS are calculated by comparing forecasted revenues with forecasted costs to arrive at a net estimate. Revenue items at the local level include property taxes, education transfers, excise tax transfers, federal revenue sharing transfers, and user fees. Costs include capital investments on streets, maintenance on streets, water distribution and treatment, waste water systems and treatment, solid waste disposal, operational and capital expenditures for law enforcement, fire protection, and other local government functions. See also response 251 concerning county budgets and population increases.

RESPONSE 277. See the Modifications and Corrections section, Air Quality, Chapter 3.

RESPONSE 278. See response 22 concerning the development of the air quality study.

RESPONSE 279. See the Modifications and Corrections section, Air Quality, Chapter 2.

RESPONSE 280. Compositing of STAR data is an approximation commonly used in modeling and is considered valid for points within a single air basin.

The CDMQC model is the best available model for regional modeling of annual average pollutant concentrations. It will generally yield conservative results.

RESPONSE 281. See the Modifications and Corrections section, Appendix F.

The comment regarding Colstrip Units 3 and 4 is correct; the information was erroneously and unintentionally omitted from the 1997 emissions inventory. Although it should have been included, it is believed that the omission did not result in significantly erroneous results or conclusions. This is due to the fact that the modeling results indicated no significant cumulative interaction of emissions from Colstrip Units 1 and 2 with emissions from project sources under the meteorological scenarios modeled. See Figure 3-8, page S-26, of the Air Quality Supplement which shows a small, localized sulfur dioxide contour in the Colstrip area widely separated from project source concentrations.

RESPONSE 282. See response 27 concerning background pollution concentrations.

RESPONSE 283. Assumptions and methodology employed in estimating project emissions are described briefly in the Draft EIS on page 41 and in more detail in the Site Specific Analyses and associated Air Quality Technical Report (BLM, 1981).

RESPONSE 284. The Draft EIS discusses the increase in visitor use at Fort Peck Reservoir as a result of Alternatives 2 through 6. Many individuals, including members of the Assiniboine and Sioux Tribes, may find their overall recreational experience diminished by more people, campers and boats. This problem could be mitigated by building one or more new recreational facilities to provide alternative areas.

The comment regarding air quality is in agreement with the Air Quality Supplement, pages S-23 and S-27.

Please refer to the discussion of wetlands and wildlife habitat on page 123 of the Draft EIS.

See response 263 regarding population forecasts for Wolf Point.

RESPONSE 285. The comment is generally correct and in agreement with the limitations of the air quality study (BLM, 1982 b) described on pages S-15 and S-16 of the Air Quality Supplement. The reasons for focusing on the Theodore Roosevelt National Park for worst-case air quality impact analysis are valid and provide a reasonable scenario for the analysis. This also brought out impacts throughout the Ft. Union Region. Meteorological data for the year 1964 are considered to be typical and are widely used in air quality analyses by many organizations.

RESPONSE 286. The document does not state that the air quality modeling results contain an error of a factor of two, but the results are considered accurate within a factor of two. To attempt to show the margins of error on the isopleth maps would provide some additional information at the expense of clarity and understandability of the already complex plots. See also the Modifications and Corrections section, Air Quality, Chapter 3.

RESPONSE 287. See response 286 concerning air quality modeling results.

RESPONSE 288. See response 285 concerning air quality.

RESPONSE 289. The air quality analysis focused on evaluation of alternatives relative to established air quality standards because the standards have been established to set limits within which effects have been found to be insignificant. An exhaustive analysis of all potential effects of the predicted levels of air pollution was beyond the scope and capability of the Air Quality Supplement. Research on the effects of organic compound emissions is being conducted by EPA, and results are not yet available. See also Response 108.

RESPONSE 290. The statement in the Air Quality Supplement about the possibility of acid rain eventually consuming the buffering capacity of local soil is preceded by the phrase "if the mean pH values as measured by the Department of Health are indicative of a trend toward increasing acidity". Such a trend is not established at this time. See comments by the North Dakota State Department of Health pages 2-6 through 2-9 and response 28. Response 289 also applies to this subject.

RESPONSE 291. See responses 84 and 289 concerning air quality.

RESPONSE 292. See responses 269 and 289 concerning air quality. In addition, a copy of the detailed Air Quality Technical Report showing modeled isopleth maps for all alternatives and all major pollutants was furnished to the Fort Peck Tribes.

RESPONSE 293. The rationale and constraints for focusing the air quality analysis on worst-case impacts are acknowledged and discussed in the Air Quality Supplement on pages S-11, S-15, and S-16. The average or "normal" pollution levels which would result from the project alternatives are substantially below the worst-case levels and are best represented by the annual average pollutant concentrations described on page S-22. See also responses 67 and 289 concerning air quality.

RESPONSE 294. The only significant air pollutants which would be emitted during the peak construction period would be vehicle-related exhaust emissions and dust from unpaved roads. While these emissions would be somewhat greater during peak construction than during later operation, the level of pollution will be small relative to the total level during operation.

RESPONSE 295. The Air Quality Supplement shows the type and extent of violations of air quality standards which could occur if the coal leasing project were to be implemented. The results give the region a basis for planning implementation and mitigation measures to meet regulatory requirements. Minimal leasing is one way to minimize air pollution, but other means are also possible and can be evaluated in detail in connection with each specific project and site which may be proposed. See the Modifications and Corrections section, Air Quality, Chapter 3.

RESPONSE 296. See the Modifications and Corrections section, Air Quality, Chapter 3.

RESPONSE 297. See the Modifications and Corrections section, Air Quality, Chapter 3.

RESPONSE 298. The visibility modeling study, like the pollutant dispersion modeling study, was performed with the objective of investigating only worst-case impacts. This was mainly because neither time nor funding was available to do more detailed studies and also because worst-case impacts are the critical parameters which determine legal or practical limitations of a project. For the latter reason, worst-case impacts are the most important to bring out in an EIS. Detailed impact evaluation is done at a later stage of project evaluation such as a PSD new source review.

The terms "adverse" and "baseline" in the study were used with the meanings customary in EIS analyses. Because of their more closely defined meanings in the current Clean Air Act, and to avoid possible misunderstanding, the term "adverse" is hereby deleted wherever used in Chapter 3 of the document; the term "baseline" is retained wherever it is used in connection with 1975 baseline emissions; but wherever it is used in connection with projected future emissions in 1997 (e.g., "1997 baseline emissions"), it is hereby replaced with the term "inventory" (e.g., "1997 emissions inventory").

RESPONSE 299. See the Modifications and Corrections section, Air Quality, Chapter 3 and responses 28 and 48 concerning pH and the MESOPUFF model, respectively.

RESPONSE 300. The definition of the term "integral vista" and explanatory statements given in the comment are correct. See the Modifications and Corrections section, Glossary.

RESPONSE 301. See pages 89-92 of the Draft EIS. Also see the Modifications and Corrections section, Air Quality, Chapter 3, and response 358 concerning a species list.

RESPONSE 302. No development proposed in this Draft EIS would cause any change to the free-flowing, undeveloped, natural, or cultural characteristics of either river segment with the possible exception of air quality impacts.

RESPONSE 303. Mitigation for the projected demand illustrated by Appendix J is tied to the economic section of the Draft EIS. In North Dakota, a certain percentage of the coal severance tax flows directly to the impacted cities and counties to use to construct or enlarge those facilities which are impacted. Although recreational facilities may not be considered an essential service such as water and sewage disposal, it is feasible to assume that when the essential services are updated, monies would be assigned to upgrade the community recreational facilities.

In Montana, the state delivers the money on an application and grant basis and it is impossible to predict when and if the community recreational facilities would be expanded. If, as an example, one community applied for money to enlarge its sewage disposal system and another community applied to upgrade its community recreational services, it is assumed, all things being equal, that the sewage disposal application would receive the grant. It may be that individual community recreational facilities in Montana may have to wait until all communities and counties affected have upgraded their essential services. Again, this is impossible to predict because of Montana's application and grant system.

While it is true there may be ample precedent for the project sponsors to provide recreational facilities as a mitigating measure, they have no legal responsibility to do so. Since different companies have varying policies on this type of expenditure, it was impossible to predict how much money, if any, would be available for expanding recreational facilities.

RESPONSE 304. The Draft EIS recognizes the importance of the Knife River Flint Quarries on p. 63, paragraph one, column two. The quarries offer a number of important research topics, including the relationship between the major sites now part of the Knife River Indian Village National Historic Site and the quarries.

A major portion of the Knife River Flint Quarry area has been found eligible as a National Register of Historic Places district through consultation with the North Dakota State Historic Preservation Office. This eligibility status insures that the quarries must be considered in future mining and development decisions. BLM has proposed that a Memorandum of Agreement be developed (which would include the Advisory Council on Historic Preservation and any other parties whose actions would affect the quarries) to assure consideration of the overall interrelationships of the quarries with other archaeological problems in determining proper treatment of these sites.

RESPONSE 305. See response 87 concerning summer fallowed land.

RESPONSE 306. See the Modifications and Corrections section, Air Quality, Chapter 2.

RESPONSE 307. See the Modifications and Corrections section, Air Quality, Chapter 2.

RESPONSE 308. The meaning of the schematic diagram would be clearer (although not changed) by reversing the arrows. The expression "sufficiently major" refers to whether the types and quantities of pollutants which would be emitted by a new source fall within the specified requirements of the state or the federal Clean Air Act requiring a PSD permit.

RESPONSE 309. See response 283 concerning emissions.

RESPONSE 310. Emissions of permitted and pending facilities were obtained from the state air quality regulatory agencies. This information was employed in all modeling exercises. Emissions from hypothetical project facilities were obtained as described in response 283 and were employed in the same form (assumed to be typical design rates) in all modeling exercises.

RESPONSE 311. The sentence and paragraph referred to are not necessarily inconsistent. Any apparent inconsistency is a reflection of the lack of present understanding of acid rain.

RESPONSE 312. Emissions and air quality impacts from secondary stationary sources are mainly accounted for in the electric power and synfuel plants of the project. Any other secondary stationary source emissions would be insignificant. Dust emissions from increased traffic on unpaved roads may be significant and aggravate TSP pollution in some localities.

RESPONSE 313. See response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 314. See response 295 concerning air quality standards.

RESPONSE 315. See response 100 concerning hazardous wastes, response 99 concerning acid rain, response 92 concerning toxic wastes, and response 84 concerning trace elements.

RESPONSE 316. Impact assessments were made on the information that was available as explained in responses 64 and 67.

RESPONSE 317. See response 140 concerning water quality.

RESPONSE 318. See response 63 on off-site impacts, response 64 on reclamation, and response 67 on air quality. For disturbance to roads, railroads, pipelines, and transmission lines, see page 130 of the Draft EIS and response 98.

RESPONSE 319. Page A-18 in the Draft EIS shows that Beach, North Dakota would not show a surplus until 1992, or approximately six years after the start of construction. See also response 77 concerning fiscal projections.

RESPONSE 320. See responses 29, 33, 63, 64, and 67 concerning off-site impacts.

RESPONSE 321. See response 108 concerning the IES Regulations.

RESPONSE 322. Refer to responses 63, 67, 108 and see the Modifications and Corrections section, Chapter 3, Air Quality. The draft document has provided a "worst case" situation in terms of the analysis of the development of the tracts. As a part of the total program, special studies were made for social and economic conditions for both site-specific and regional assessments. Also, a special study was made on impacts on various sizes of farm/ranch operations. All studies were completed within time and budgetary constraints.

RESPONSE 323. See response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 324. See response 31 concerning the purpose of the Draft EIS and the need to lease federal coal.

RESPONSE 325. Consultation and cooperation with state governments is an important part of the coal leasing program. The RCT established closer consultation and cooperation efforts; however, the decisions by the Secretary of the Interior are based upon more than just consultation with state governments. The decisions are based upon the potential economic, social, and environmental effects of coal leasing; expressions of interest by industry for development and demand for coal reserves; expected production from existing federal coal leases and non-federal coal holdings; the level of competition within the region; the U.S. coal production goals; projections of future demand for federal coal; consideration of national energy needs; and any other pertinent factors.

RESPONSE 326. See response 205 concerning unsuitability.

RESPONSE 327. See responses 92 and 289 concerning toxic wastes and air pollution, respectively.

RESPONSE 328. See response 98 on transmission lines and rights-of-way, response 92 on toxic wastes and acid rain and response 67 on metabolic selenium deficiency.

The air quality modeling study was extensive but was limited by various constraints referred to on pages S-15 and S-16 of the Air Quality Supplement. These constraints limited the modeling scenarios to 48 hours. While it is possible that pollutant concentrations could reach slightly higher levels during a longer episode, it is not expected that such higher concentrations would be markedly higher, and such episodes would be infrequent.

It is extremely unlikely that concentrations of sulfuric and nitric acid aerosols would ever reach such a high level as to directly affect human health. See comment and response 54 regarding additional recent research by the North Dakota State Department of Health on the long-term effects of trace elements on soil and water quality. The modeling study, as stated on page S-36, does not point to significant production of acidic rain in the Ft. Union coal region. Significant refers to a degree which would result in harmful effects.

RESPONSE 329. It is not known when the EPA research on organic emissions of synfuel plants will be completed. No further EIS studies are planned before coal is leased, but each proposed conversion facility utilizing leased coal will require complete environmental impact analysis and mitigation. See also response 100 concerning wastes.

RESPONSE 330. See response 54 concerning toxic emissions.

RESPONSE 331. The analysis of impacts of radioactive elements in the West Central North Dakota Regional study cited in the Ft. Union Draft EIS was not limited to a one-year period. That limitation (subsequently extended) applied to effects of other trace elements.

RESPONSE 332. The quotation cited in the comment implying that the North Dakota State Department of Health found "the buffering capacity [of water] will eventually be consumed..." was quoted out of context, and no such finding has been reported by the NDSDH. See also response 28 concerning pH values.

RESPONSE 333. Future industries would be constrained, case by case, to limit emissions to levels that won't violate air quality standards. See also response 294. The limitations of the modeling studies described on pages S-15 and S-16 of the Air Quality Supplement were identified in order to define clearly the scope of the studies. However, it should not be so interpreted that substantive or justifiable conclusions were precluded. Some of the limitations were related to unavoidable limitations of data, some were related to limitations of modeling science, some were related to appropriateness for purposes of the Draft EIS, and some were related to time and cost constraints.

RESPONSE 334. Groenewold (1980) has monitored post-mining spoils at three sites in North Dakota and has observed the water levels returning to premining condition. See also responses 18, 92, 140 and 246 concerning water quality.

RESPONSE 335. See response 64 concerning reclamation, response 87 regarding provisions of the Surface Mining Control and Reclamation Act, and response 206 concerning post-mining land use.

RESPONSE 336. See response 29 on wetlands and response 64 on reclamation.

RESPONSE 337. See response 29 on wetlands and response 64 on reclamation.

RESPONSE 338. See responses 62, 86, 91, and 322 with respect to regional and individual operator agricultural economic impacts, and responses 67 and 63 for off-site impacts.

RESPONSE 339. See responses 11, 188, and 253. The utility of the tables was accurately portrayed in the document, but traffic flows were intentionally overestimated and only peak hours were considered. The questions concerning tax increases, raising tax monies, and accident rates cannot be projected specifically in a regional EIS. Given the generic nature and the assumptions made for the EIS, these specific questions cannot be accurately analyzed. Many options to address these concerns are open to planners and politicians at the state and local level.

RESPONSE 340. The phased-development assumption was based on information supplied to us by industry. The gravity model sub-module used in the population forecasts uses a "community attractiveness index" which reflects exactly the items mentioned in the comment.

Expenditures (e.g., county schools and roads) and revenues which are county-related were not shown in the community fiscal impact graphics. The table in response 235 shows the total amount of severance tax monies available annually (8.75%) for local impact mitigation purposes from each tract in Montana during full production.

RESPONSE 341. The incidence of crime would increase with a population influx. However, it is not clear that the rate of crime invariably increases. In cases where rapid growth has occurred, a change may take place in crime reporting. Problems that were previously treated informally may now come to the attention of law enforcement officials. This makes "before and after" statistical comparisons unreliable. A report from the Montana Department of Justice to be published in early 1983 will address the issue of crime increases in rapidly growing communities.

RESPONSE 342. See response 200 concerning economic impacts of abandonment.

RESPONSE 343. Correction has been made in the Modifications and Corrections Section, Introduction.

RESPONSE 344. The amount of federal coal in Alternative 3 is covered in Table 1-6 as 827.2 million tons.

On page 72 of the Draft EIS is a modification of Alternative 3 which became the Regional Coal Team preferred alternative. This modification resulted in 832.8 million tons proposed for leasing. See the Modifications and Corrections section, Chapter 1 for corrections to tonnages of all alternatives.

RESPONSE 345. The total area to be disturbed for Alternative 3 is 204,813 acres as shown in Table 1-6. The figure of 238,225 acres shown on page 113 of the Draft EIS shows the total acreage of the tracts within the alternative and Tables 3-9 and 3-10 break this total acreage down into classifications of suitable plant growth material and the types of vegetation found within the tracts. Figure 1-12 on page 67 shows the acreage of different vegetation types within the tracts that could likely be impacted. The title of Figure 1-12 should be "Vegetation Types (Acres)." This change has been made. See the Modifications and Corrections section, Chapter 1. This section also changes the acreage figures for the alternatives.

RESPONSE 346. The employment figures discussed in the narrative of the Draft EIS are for primary employment only. The effects of secondary employment are reflected in the population graphics shown in Appendix G.

RESPONSE 347. The air quality analysis evaluated impacts in terms of both Class I and Class II PSD standards, and included consideration of the Fort Peck Reservation's application for Class I status. See pages S-23 and S-27 of the Air Quality Supplement.

The comment is correct. Adequate measures to meet Class I air quality standards would have to be incorporated into the design of the plant.

RESPONSE 348. Meteorological data from Glasgow, Montana, near the Fort Peck Reservation were also utilized in the modeling studies. This was weighted most heavily in evaluating dispersion in the Fort Peck Reservation area.

RESPONSE 349. The Surface Mining Control and Reclamation Act of 1977 was discussed on page 4 of the introduction of the Draft EIS as one of the major authorities for the leasing of federal coal. Appendix A is a list of all the acts and laws which may have a bearing on the leasing, development and reclamation of coal but, were not specifically discussed in the text.

RESPONSE 350. There are four aquifer zones in the Ft. Union region that would yield fresh water to wells. The lower two are regionally extensive. The upper of these two as shown on page 88 of the Draft EIS are in the Ft. Union formation. They consist of silt and clay interbedded with sandstone and lignite. The sand and lignite beds would yield small quantities of water to wells. These aquifers are locally extensive but there are usually several levels of occurance throughout the depth of these aquifer zones. More details are available in references listed in the reference section of the Draft EIS.

RESPONSE 351. These shallow aquifer systems (see response 350) are sometimes confined and sometimes unconfined. Both of these conditions may exist within the same tract.

RESPONSE 352. See the Modifications and Corrections section, Chapter 2, Water.

RESPONSE 353. See responses 350 and 351 concerning shallow aquifers.

RESPONSE 354. See response 246 concerning drawdowns. See also page R-2 of the Draft EIS for references by Groenewold.

RESPONSE 355. See response 248 concerning alluvial valley floors.

RESPONSE 356. Efforts are under way with the State of Montana to prepare the required stipulations for the lease sale.

RESPONSE 357. A number of these items were discussed in the Draft EIS as mitigating measures. All of the items listed would be considered at either lease or mine-plan stage.

RESPONSE 358. A complete species list would have limited value in a regional EIS, however, species expected to be significantly impacted were discussed in the draft EIS.

RESPONSE 359. Land form and vegetative diversity were the most important factors considered in the impact analysis of habitat. Permanent losses to wildlife habitat in relationship to reclamation and mitigation potentials and probabilities are discussed in numerous paragraphs on pages 123, 124, and 126 of the Draft EIS.

RESPONSE 360. Impacts to antelope were discussed in the Site Specific Analyses and were incorporated into the Draft EIS on pages 126 and 127.

RESPONSE 361. No significant impacts to raptors from the large transmissions lines were identified.

RESPONSE 362. See pages 124 and 125 of the Draft EIS. Although not specifically mentioned, disturbance from snowmobiling and four-wheel drive vehicles were included in these discussions.

RESPONSE 363. It is true that where soil lifts are removed and stored separately, in accordance with federal and state requirements, no impacts related to mixing of materials would be anticipated. The concern is raised, however, as a cautionary statement regarding those soils with thin topsoil which are more difficult to reclaim.

The discussion is in the Affected Environment chapter because ongoing mining operations are a part of the existing situation.

RESPONSE 364. The following summarizes cultural resource inventory and evaluation efforts by tracts in the Ft. Union coal region. They are listed in the References section of the Draft EIS.

Montana

Tract	Report of Archaeological Work
Bloomfield	Deaver, Sherry, N.d.
Circle West I	Deaver, Sherry, N.d.
Circle West II	Same
Circle West III	Same
Redwater I	Munday, Frederick C. N.d.
Redwater II	Munday, Frederick C.

North Dakota

North Wibaux-Beach	Fox, Steven, 1982
South Wibaux-Beach	Same
Zenith	Same
Schoolhouse	Fox R. et al., 1976
	Roberson, W., 1980
Underwood	Good, Kent, et al., 1978
	Good, Kent, 1981
	Dill, C.L. 1975
North Beulah	Dill, 1978
Renner	Dill, 1978
Antelope	Dill, 1978
Werner	Greiser, T.W., 1981
Dunn Center	Greiser, T.W., 1981
	Loendorf, L.L. et al., 1976
Truax	Dill, 1978
Sakakawea	Freese, Robin et al., 1981
Glenharold	Ahler, S.A. et al., 1979
	Farmer, T.R. et al., 1979
	Dill, C.L., 1976
Garrison	Freese, Robin et al., 1981
Center	Dill, C.L. 1976

RESPONSE 365. See response 11 on potential problem areas, response 188 on highways and 253 on generic mines and facilities.

RESPONSE 366. The statement on page 8 regarding front end financing should have stated that this source "could solve some of the lag problem . . ." It is true this does not necessarily result in the solution of all of the problems nor does it always result in geographically correct impact mitigation disbursements.

RESPONSE 367. The net fiscal forecasts shown for Alternative 3 in Appendix H reflect a fundamental difference between the Montana and North Dakota severance and conversion tax disbursements to impacted communities. The situation in Montana is on an application/grant basis solely, while that for North Dakota is predictable, based on a number of factors regarding population growth. Because of the relative unpredictability of Montana severance and conversion tax disbursements, this revenue source could not be forecasted as part of the net fiscal balance for Montana communities.

Also see response 235 for the total annual amount of severance tax which would be available from Ft. Union tracts in Montana.

RESPONSE 368. Mr. Moore has been contacted and BLM is currently working with the U.S. Air Force to resolve their concerns.

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