

**APPENDIX F**

COMMENTS AND RESPONSES



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, OMAHA DISTRICT  
215 NORTH 17TH STREET  
OMAHA, NEBRASKA 68102-4978

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MK

Nancy

December 13, 1999

BUREAU OF LAND MANAGEMENT  
CASPER FIELD OFFICE  
99 DEC 17 PM 3:15

Planning Branch

Ms. Nancy Doelger  
Bureau of Land Management, Casper Field Office  
1701 East E Street  
Casper, Wyoming 82601

Dear Ms. Doelger:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (EIS) for Horse Creek Coal Lease Application (WYW141435). We noted in your section 5.0, Consultation and Coordination, that you have also coordinated with our Wyoming Regulatory Office. We have reviewed your Draft EIS and have no environmental concerns with your project.

If you have any questions, please contact Ms. Kelly Crane of our office at (402) 221-4594.

Sincerely,

*Candace Gorton*

Candace M. Gorton  
Chief, Environmental and Economics Section  
Planning Branch  
Planning, Programs and Project  
Management Division



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
4000 Airport Parkway  
Cheyenne, Wyoming 82001

99 DEC 23 PM 1:52



ES-61411  
pd/W.02/wy2998.pd

December 21, 1999

### Memorandum

**To:** Nancy Doelger, Bureau of Land Management, Casper Field Office, Casper, Wyoming

**From:** Michael Long, Field Supervisor, Wyoming Field Office, U.S. Fish and Wildlife Service, Cheyenne, Wyoming *Michael R. Long*

**Subject:** Horse Creek Coal Lease Application (WYW141435), Draft Environmental Impact Statement

Thank you for providing the Draft Environmental Impact Statement (DEIS) for the Horse Creek coal lease application in southeastern Campbell and northeastern Converse counties, Wyoming. My staff has reviewed this document and we have the following comments.

#### Threatened and Endangered Species

- A** Since submission of our scoping comments in August, 1998, the peregrine falcon has been removed from the endangered species list. However, we will be monitoring populations of peregrine falcons for at least 5 years to ensure their recovery is secure. We appreciate your consideration of this species, and encourage you to implement protective measures. The falcon is still protected by the Migratory Bird Treaty Act.
- B** Section 3.10.8.1 (page 3-37) states surveys for threatened and endangered species have not been conducted specifically for the Horse Creek tract (LBA). However, Section 4.1.10 (page 4-22) states surveys for threatened and endangered species have been conducted on the LBA. This discrepancy should be clarified.
- C** The list of monitoring and mitigation measures for listed and proposed species in Chapter 4, and more specifically in Table 4-4, outlines surveys to be conducted, but does not indicate what will happen if a plant or animal species listed, or proposed for listing under the Endangered Species Act of 1973, as amended, is found during the course of these surveys. Additionally, survey methodology has not been presented. Therefore, there is inadequate information presented to support a determination of whether or not the proposed action will adversely affect any listed or proposed species. Without additional information, we cannot concur with a determination that
- D** this action is not likely to adversely affect a listed species. Section 7(c) of Act requires that a biological assessment be prepared for any Federal action that is a major construction activity

(e.g., an activity requiring preparation of an environmental impact statement) to determine the effects of the proposed action on listed and proposed species. Therefore, we recommend the Bureau of Land Management (BLM) to prepare a biological assessment for this project.

**E** The U.S. Fish and Wildlife Service has developed survey guidelines for the mountain plover. Although most mines include plovers in their annual migratory bird surveys, the survey methodology is usually not specific for mountain plovers. Mountain plovers are extremely difficult to detect, particularly during the breeding season. To increase the chances of detecting this species during annual monitoring surveys, if present, we are requesting our guidelines be used. A copy is attached for your convenience.

#### **Cumulative Effects**

**F** The biological opinion referenced in Section 4.5.10 (page 4-73) was drafted in the early 1980's, when reclamation was anticipated to reach 70.45% by 1990 (Table 4-7, page 4-42). Actual reclamation estimated in 1998 was only 27.63%. Additionally, the biological opinion only discussed bald eagles, peregrine falcons and black-footed ferrets. Given the changes in actual reclamation realized, and species proposed for listing, as well as the new developments of coal-bed methane, railroad construction, power plants and other mining activities, we do not believe this opinion can be used as a blanket threatened and endangered species clearance for the cumulative effects which may result from this project. Accordingly, we cannot concur with the determination on page 4-73 that there will be no significant cumulative impacts to a listed species.

#### **Wetlands**

**G** As we stated in our scoping comments, wetlands provide extremely important habitat for all wildlife species, particularly given the arid nature of Wyoming. We are concerned with the statement on pages 4-17 and 4-68 that wetlands developed for mitigation may not replace the function of the original wetlands. We recognize the difficulty in re-establishing functional wetlands. However, if the original wetland function cannot be replaced, wetlands should be avoided or the mitigation ratio for wetland replacement should be substantially increased.

#### **General Comments**

**H** The proposed action is to lease 2,837.91 acres of surface area (page 2-3). However, Table 2-1 (page 2-11), and several discussions in Chapter 4 regarding amount of native vegetation likely to be disturbed state up to 3,190 acres of surface area will be likely be affected. This discrepancy should be explained.

#### **Summary Comments**

We do not believe the DEIS presents sufficient information to determine what immediate and cumulative impacts to listed and proposed species may result from the proposed activities. We strongly encourage the BLM to prepare a biological assessment for this project. Additionally, if

Nancy Doelger  
Bureau of Land Management

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wetland function cannot be replaced via mitigation, wetlands should be avoided, or a higher wetland replacement ration should be considered.

If you have any questions, please contact Pat Deibert of my staff at the letterhead address or phone (307)-772-2374, extension 26.

Attachment



# Wildlife Management Institute

Len H. Carpenter, Field Representative  
 4015 Cheney Drive • Fort Collins, Colorado 80526  
 Phone (970) 223-1099 • Fax (970) 204-9198

E-mail: lenc@verinet.com

ROLLIN D. SPARROWE  
 President

RICHARD E. McCABE  
 Vice-President

December 27, 1999

Bureau of Land Management, Casper F.O.  
 Attn: Nancy Doelger  
 1701 East E. Street  
 Casper, WY 82601

Dear Ms Doelger:

I am the Southwest Field Representative for the Wildlife Management Institute. The Institute is a private, nonprofit, scientific and educational organization founded in 1911 and dedicated to the restoration, conservation, and sound management of natural resources, especially wildlife, in North America. I have the following comment on the draft EIS for the Horse Creek Coal Lease Application.

**A** This DEIS is a good example of providing few alternatives for decision making. The first alternative is the proposed action and would increase coal production on the site. The second alternative is the no action alternative and the third alternative is an alternative developed by the BLM that is designed to avoid a potential future bypass situation and/or to enhance the value of the federal coal that is not under lease in the area. To facilitate this third alternative, the BLM reconfigured the coal lease tract increasing it in size. It is obvious that the No Action Alternative is not viable given the existing leases, mines, etc., so that only leaves two alternatives for choice. Both of which will increase coal leasing and production! Why is there not an alternative considered that would minimize environmental impacts?

**A** It appears that the main purpose of this DEIS is to facilitate the continued expansion and development of energy resources on public lands in Wyoming. In reality, the real purpose of a DEIS is to reveal all the environmental impacts of the proposal and provide the decision makers with sufficient viable alternatives so there is real room for choice.

In addition to providing for energy development on public lands, the BLM also has the long term responsibility of stewardship of all the public land resources. To provide this long term

**A** stewardship and to disclose the environmental impacts of energy development, the DEIS should offer decision makers a wider range of choice in the alternatives analyzed. The Institute strongly encourages the BLM to develop a wider range of alternatives for the FEIS.

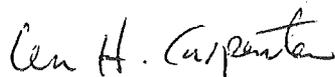
**B** The biggest concern with the proposed action is the continued and growing cumulative impact of all types of energy development on all other natural resources in Wyoming. These cumulative impacts include further withdrawal of groundwater, contamination of groundwater from pollutants in the runoff, degraded air quality in the immediate project area and on vistas, and degraded wildlife habitat for a wide variety of species. Each and every one of the individual DEIS conclude that there will be negative impacts, but overall impacts are not so great so as to alter the planned development.

**B** In each DEIS there is always discussion (pages 4-34-76 in this document) about cumulative effects, but seldom is there a serious attempt to quantify or qualify the growing impact of all these actions together. The only exception is with cumulative emissions inventories. It is assumed this results primarily because of federal air quality standards and the threat of legal action. A good cumulative analysis would strive to quantify impacts on other natural resources as well. The Institute strongly urges the BLM to recognize importance of cumulative analyses and begin to move away from the proliferation of individual DEIS that do not address the big issues.

In summary, please reconsider the alternatives presented in this DEIS. Please remember that the purpose of an EIS is to provide the readers and decision makers with expected impacts to the environment from an array of alternatives that span the possible actions from no action to the greatest development.

Thanks for the opportunity for comment. Please send me a copy of the FEIS when available.

Sincerely,



Len H. Carpenter

cc:

R. Sparrowe, WMI

A. Pierson, BLM

# Office of Federal Land Policy MANAGEMENT

4

122 West 25th Street ● Herschler Bldg., 1 West ● Cheyenne, WY 82002-0600 ● 307-777-5200 ● 307-777-3524 fax  
08 JAN 11 PM 2: 52

January 10, 2000

Nancy Doelger  
BLM, Casper Field Office  
1701 East E Street  
Casper, Wy 82601

**RE: Environmental Analysis, Horse Creek Coal Lease By Application (WYW141435)**

Dear Ms. Doelger:

The Office of Federal Land Policy has reviewed the referenced document on behalf of the State of Wyoming. We also distributed the EA to affected State agencies for their review, in accordance with State Clearinghouse procedures. Attached are letters from the Wyoming Game & Fish Department, Wyoming State Geological Survey, and the State Engineer's Office, resulting from their reviews. State agency comments are specific to their respective agency missions. While the State defers to their technical expertise in developing the State's position, the responsibility to articulate the official State policies and positions lies with the Governor or the Office of Federal Land Policy.

The State of Wyoming no concerns with this impact analysis. However, there are some notations or corrections which should be noted in a supplement or the decision notice. Please see the attached comment letters for details.

The State encourages the Bureau to lease the expanded area proposed in Alternative 2. We concur with your conclusion that not including those additional acres in this lease could preclude recovery of those resources, and, thus, cause a loss of that potential revenue. Also, please note in the State Geologist's letter that the Wyoming Oil and Gas Conservation Commission would support accelerated recovery of coal bed methane gas in these areas, to avoid waste of that resource.

**This Office will need six copies** of future information and documents regarding this project for distribution to affected State agencies. *Please note our change of address from 3<sup>rd</sup> floor west to 1<sup>st</sup> floor west, and our new fax number.* Existing Memoranda of Understanding and other working agreements with individual agencies remain in place and unaffected.

Thank you for this opportunity to comment.

Sincerely,



Carol Kruse  
Planning Consultant

Encls (3)



# State Engineer's Office

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Herschler Building, 4-E Cheyenne, Wyoming 82002  
(307) 777-7354 FAX (307) 777-5451  
seoleg@misc.state.wy.us

JIM GERINGER  
GOVERNOR

GORDON W. FASSETT  
STATE ENGINEER

## Memorandum

*Tullie  
Carroll*

**Date:** November 22, 1999

**To:** Art Reese, Director  
Office of Federal Land Policy

**From:** Richard G. Stockdale, Administrator  
Ground Water Division

*[Signature]*

**Re:** Horse Creek Coal Lease by Application (State Identifier No. 99-148)

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Thank you for the opportunity to review the referenced document. The only comment we have at this time is a reminder that compliance with applicable state laws dealing with the appropriation and beneficial use of water is required.

If you have any questions, feel free to contact me.

cc: Dave Benner

November 22, 1999

WER 183.01  
Bureau of Land Management  
Casper Field Office  
Draft Environmental Impact Statement  
Horse Creek Coal Lease Application  
(Federal Coal Lease Application WYW141435)  
State Identifier Number: 99-148  
Campbell and Converse Counties

Wyoming State Clearinghouse  
Office of Federal Land Policy  
ATTN: Julie Hamilton  
Herschler Building, 1W  
Cheyenne, WY 82002-0600

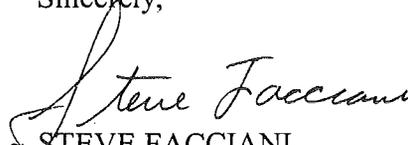
Dear Ms. Hamilton:

The staff of the Wyoming Game and Fish Department has reviewed the Draft Environmental Impact Statement for the Horse Creek coal lease application within the Casper Field Office area. We offer the following comments.

We have no significant issues with this proposal and any concerns will be adequately addressed through appropriate permitting processes. We do have a correction regarding the document. On page 3-34, in the discussion of mule deer populations for Area 10 and 167, the population estimates are for the herd unit, not the hunt area as stated in the paragraph.

Thank you for the opportunity to comment.

Sincerely,

  
STEVE FACCIANI  
DEPUTY DIRECTOR

SF:TC:as



**WYOMING STATE GEOLOGICAL SURVEY**

P.O. BOX 3008 • LARAMIE, WYOMING 82071-3008

307/766-2286 • FAX 307/766-2605

E-MAIL: [wsgs@wsgs.uwyo.edu](mailto:wsgs@wsgs.uwyo.edu) • WEB: [www.wsgsweb.uwyo.edu](http://www.wsgsweb.uwyo.edu)

**STATE GEOLOGIST - Lance Cook**

**GEOLOGICAL SURVEY BOARD**

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Don J. Likwartz Philip I. Dubeis  
Lance Cook

*Appointed*

Ronald A. Daugh Nancy M. Doelger  
Charles M. Love Stephen L. Payne  
John E. Trummel

|                         |                         |                         |  |                                   |                    |                     |
|-------------------------|-------------------------|-------------------------|--|-----------------------------------|--------------------|---------------------|
| <b>SECTION HEADS:</b>   | <b>GEOLOGIC HAZARDS</b> | <b>GEOLOGIC MAPPING</b> | <b>INDUSTRIAL MINERALS AND URANIUM</b> | <b>METALS AND PRECIOUS STONES</b> | <b>OIL AND GAS</b> | <b>PUBLICATIONS</b> |
| COAL<br>Robert M. Lyman | James C. Cave           | Alan J. Ver Ploeg       | Ray E. Harris                          | W. Dan Hausel                     | Rodney H. De Bruin | Richard W. Jones    |

December 10, 1999

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**MEMORANDUM**

**TO:** Julie Hamilton, Wyoming State Clearinghouse

**FROM:** Lance Cook, P.G., State Geologist

**SUBJECT:** Horse Creek LBA Draft EIS (State Identifier #99-148)

Upon review of this DEIS, we have no comments of substance concerning the technical aspects of the document.

To maximize the benefit to the State, we recommend adoption of Alternate 2. This action includes areas that may be bypassed during mining under the Proposed Action. Alternate 2 would increase the recoverable coal potential from the LBA by approximately 12.5%, and help prevent waste of the coal resource.

This is some of the highest quality coal mined from the PRB and should attract a substantial lease bonus bid, half of which will be paid to the State over a 5-year period. Coalbed methane would be lost from the Anderson and Canyon seams, as mentioned in the document. However, lower seams will retain their CBM potential for the future, and the value of the coal resource is so overwhelming that we would not support a delay in leasing simply because of this potential conflict. Should coalbed methane development prove successful from the Anderson and Canyon seams in the LBA area, time still remains to capture much of the coalbed gas through intensive, tightly spaced drilling. The Wyoming Oil and Gas Commission would support necessary steps to accelerate recovery of gas in conflict areas and prevent waste.

If there are questions on our comments, please direct them to the appropriate geologist on my staff or to me. Bob Lyman is our coal geologist, and I sit as a Commissioner on the Wyoming Oil and Gas Conservation Commission.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 500  
DENVER, CO 80202-2466  
<http://www.epa.gov/region08>

00 JAN 13 PM 2:21

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January 11, 2000

Ref: 8EPR-EP

**VIA FACSIMILE AND MAIL**

Nancy Doelger, Team Coordinator  
Casper Field Office  
Bureau of Land Management  
1701 East E Street  
Casper, WY 82601

RE: Horse Creek Coal DEIS  
CEQ #990421

Dear Ms Doelger:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA), Region 8 of the U. S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the Horse Creek Coal Lease By Application (LBA) Tract in southeast Campbell and northeast Converse Counties, Wyoming. EPA has prepared comments that should be addressed in the Final Environmental Impact Statement (FEIS).

This DEIS analyzes the potential environmental impact of issuing a federal coal lease and mining the federal coal in the Horse Creek LBA Tract. This Tract is adjacent to the existing Antelope Mine owned and operated by the Antelope Coal Company (ACC), a subsidiary of the Kennecott Energy Company. The federal coal reserves have been applied for as a maintenance tract for the Antelope Mine. The Horse Creek LBA includes approximately 2,838 acres and contains an estimated 357 million tons of coal reserves. Approximately 265 million tons of these reserves are mineable. These mineable reserves would allow the Antelope Mine to extend its operating life for approximately eight years at a mining rate of 30 million tons per year. There is ongoing coal mining and exploration in the area as mapped in *Figure 1-1, General Location Map with Federal Coal Leases, LBA's, and Wyodak Coal Bed Methane EIS Study Area.*



EPA finds this document to be well written and very thorough particularly with respect to cumulative environmental impacts. Page ES-13 discusses reasonably foreseeable future actions including coal bed methane development that is likely to move southward into the vicinity of the Horse Creek Coal LBA and the proposed construction of the DM&E rail line that would transport coal resulting from the historical 10 percent growth rate of coal production in the Powder River Basin. In addition, EPA appreciates the summary of "Issues and Concerns" shown on page 1-13. EPA does have a few concerns that should be addressed in the Final Horse Creek Coal Lease Application EIS.

**A**

The disclosure of environmental impacts and identification of steps to mitigate these impacts is the basis for an environmental impact statement. This DEIS relies on existing plans to monitor and mitigate for environmental impacts that are included in the existing approved Antelope Mine mining and reclamation plan (see page 4-22 for discussion on impacts to MBHFI). The DEIS is not clear whether this level of monitoring and mitigation is adequate for the additional impacts resulting from the expanded production at the coal mine. This DEIS should show a summary of the monitored impacts for a given level of mitigation and indicate the reasonableness of continuing this mitigation or possibly the need to increase mitigation based on historical monitoring results.

**A**

EPA is concerned that, waiting until the final permitting process to fully define and commit to mitigation and monitoring measures to address potential adverse impacts from leasing and coal extraction rather than addressing them in the DEIS, ties the hands of the decision-maker and the public in defining an environmentally preferable alternative. Alternatives to the proposed action need to be based on levels of mitigation needed due to environmental impacts rather than simply the amount of land disturbed. Please refer to NEPA regulations 40 CFR 1502.14 (c) and (f) which state that "agencies shall ... include reasonable alternatives not within the jurisdiction of the lead agency" and "agencies shall ... include appropriate mitigation measures not already included in the proposed action or alternatives."

**B**

There are two key environmental concerns in this DEIS that need to be addressed. The first concern is the lack of mitigation and/or steps for measuring and/or reducing nitrogen oxides emissions resulting from blasting of coal and overburden. Newspaper articles, citizens, and environmental groups have come forward with concerns that these emissions may be at levels that are hazardous to human health. As a potentially significant environmental impact, this NEPA document should disclose to the public what

steps can be taken to mitigate these potentially harmful effects. An example of a mitigation action that BLM could recommend is to only allow blasting to occur during daylight hours when the atmosphere can adequately disperse the air pollutants (ie. not blasting when radiational inversions exist). Certainly this mitigation is not required in any existing air permit for the Antelope Mine, however, as part of an environmental impact statement, BLM can recommend this mitigation in it's environmentally preferable alternative and ask for feedback from the public. This information will assist the Bureau of Land Management in making the most appropriate decision for the new coal-lease.

C The second concern is impacts to visibility in Class I areas due to increases in cumulative air emissions from coal-bed methane production, coal mining in the Powder River Basin and coal trains. The cumulative air emission from activities in the Powder River Basin are predicted to cause numerous days of visibility impairment greater than 1 deciview in several Class I areas including the Badlands National Park (70 days/yr) , the Wind Cave National Park (45 days/yr), and the Northern Cheyenne Reservation (8 days/yr). This NEPA document should be addressing what types of mitigation could be incorporated to protect visibility in these Class I areas. Analysis of steps to protect visibility would assist the decision-maker in choosing which recommendations and/or stipulations to make in the Record of Decision, and this information would be of particular interest to the states of Wyoming and South Dakota which, in the next few years, will be required to develop plans to protect visibility in their Class I areas as a result of the recent promulgation of the Regional Haze Rule.

C EPA suggests, that the starting point for addressing significant cumulative impacts, is the development of a comprehensive impact assessment and planning document for the Basin in order to address the multiple incremental developments and their associated impacts that would occur in the Powder River Basin if coal production continues at a 10 percent annual growth rate. Appropriate mitigation measures could be defined in this document to address emissions from coal bed methane, incremental increases in coal mining production, power plant construction and operation, and railroad expansion.

A few specific responses on the DEIS air quality analysis are as follows:

1. Page 3-19, first paragraph. "As the figure illustrates (Figure 3-5), substantial increases of coal production and overburden handled by the mine have not been accompanied by any increase in ambient concentrations of TSP." The interpretation of Figure 3-5 can be misleading since the objective of the figure is to show the

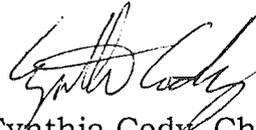
relationship between coal/overburden production and the resulting contributions to TSP concentrations from this production. For this reason, the figure should be modified to show the relationship between coal/overburden production and the incremental difference between TSP levels measured at TSP Station 3 (background TSP levels) and Station 4. In addition, the units for Figure 3-5 should likely be changed from "mg/l" to " $\mu\text{g}/\text{m}^3$ ".

2. Page 3-19, Table 3-5. Recommend adding "Annual" to the title "Ambient NO<sub>2</sub> Concentration Data".
3. Page 4-9, right column. "The required mitigation measures, which are discussed in Section 4.3.4, would minimize this impact." Section 4.3.4 does not exist. Recommend that specific mitigation measures to reduce air contaminants be listed in Section 4.3.

Based on procedures EPA uses to evaluate the DEIS and the potential environmental impact of this coal lease project, the DEIS will be listed in the Federal Register as **EC-2** (Environmental Concerns, Insufficient Information). This rating indicates that EPA has identified areas of potential impacts that should be avoided to fully protect the environment (air emissions contributing to significant visibility impairment in Class I areas, and blasting emissions that are potentially hazardous to human health) and that there is insufficient information (ie. presentation of mitigation measures) to fully assess the environmental impacts resulting from increased coal activity in the Horse Creek Coal LBA.

Thank you for the opportunity to review and comment on this DEIS. If you have any questions or concerns about our comments on this DEIS, please call me at  
(303) 312-6228.

Sincerely,



Cynthia Cody, Chief  
NEPA Unit  
Ecosystem Protection Program

Enclosure



United States  
Department of  
Agriculture

Forest  
Service

Rocky  
Mountain  
Region

P.O. Box 25127  
Lakewood, CO 80225-0127  
Delivery: 740 Simms St.  
Golden, CO 80401  
Voice: 303-275-5350  
TDD: 303-275-5367

File Code: 2580

Date: JAN 28 2000

00 FEB - 8 AM 11:18

Nancy Dolger  
Bureau of Land Management  
Casper Field Office  
1701 East "E" Street  
Casper, WY 82601

MK

Dear Ms. Dolger:

The following are our comments on the Horse Creek Coal Lease Application Draft Environmental Impact Statement (DEIS) and technical support document. We appreciate the proactive approach that you have taken in including the Forest Service and other interested Agencies in the development of the cumulative impact air quality analysis, and in providing the opportunity for a field trip to see coal mining operations in northern Wyoming.

We understand from the EIS that the Horse Creek Coal Lease proposal is for a maintenance lease, adjacent to existing coal mining areas in the Powder River basin, and as such would not be increasing production levels from those allowed under existing air quality permits (30 million tons (mmtpy) of coal per year. The modeling required by the Wyoming Air Quality Division for these permits addresses only health based standards (National Ambient Air Quality Standards and Wyoming Ambient Air Quality Standards), not environmental impacts (visibility impacts, for example) usually disclosed under NEPA. Therefore it would seem reasonable that the EIS strive to address and disclose air quality impacts that could be expected to increase in the future because of the difference between the current production levels (19.4 mmtpy in 1998) and permitted levels (30 mmtpy by 2004), or between the no-action alternative (22 mmtpy) and permitted levels (30 mmtpy). We ask that BLM revisit the assumption in the current DEIS that because DEQ has given a 30 mmtpy permit already, no project specific air quality analysis is needed.

Although project-specific air quality impacts were not addressed in this analysis, the document did address cumulative air quality impacts from reasonably foreseeable and connected actions, such as permitted-but-not-operating power plants, and emissions from railroad engines that haul coal. We applaud BLM for its commitment, from the inception of this analysis, to using the latest generation of air quality models (CALPUFF) to model cumulative air quality impacts in the northeast Wyoming and western South Dakota areas.

The cumulative modeling analysis does continue to reinforce (consistent with the WYODAK cumulative air quality analysis) that emissions from cumulative sources in northeast Wyoming will be of great concern in the next decade. The cumulative air quality modeling analysis for this DEIS projects 66 days of potential visibility impacts at the .5 deciview level and 28 days of potential visibility impact at the 1.0 deciview level at the Black Elk wilderness in South Dakota.



The analysis predicts 15 days potential visibility impairment at the .5 deciview level and 4 days at the 1.0 deciview level for the Cloud Peak wilderness in Wyoming. At the .5 deciview level wilderness visitors may notice some impairment of views or decrease in clear visibility during some viewing conditions, and at the 1.0 deciview level wilderness visitors may notice impairment of views or decrease in clear visibility under most viewing conditions. We would like to begin some formal dialogue in the near future with the States of Wyoming and South Dakota regarding ways in which we might work cooperatively to address these projected cumulative impacts.

Please contact Tamara Blett at 303-275-5744 if you have questions on these comments.

Sincerely,



Handwritten initials: H, T, U, S, P, O  
BJORN DAHL  
Director, State and Private Forestry

cc: Don Shephard, National Park Service  
Dan Olson, Wyoming DEQ  
Forest Supervisor, Bighorn NF  
Forest Supervisor, Black Hills NF  
Jeanne Goodman, South Dakota Office of Air Quality

## RESPONSES TO COMMENTS

### Response to Letter 1: Army Corps of Engineers

Thank you for your review of the Draft EIS.

### Response to Letter 2: US Fish and Wildlife Service

#### **Threatened and Endangered Species**

**Comment A:** *“Since submission of our scoping comments in August, 1998, the peregrine falcon has been removed from the endangered species list.”*

#### **Response A:**

The final EIS has been revised to reflect the removal of the peregrine falcon from the endangered species list. Since the American peregrine falcon is included in the list of Migratory Birds of High Federal Interest (MBHFI), an approved plan to monitor it and the other species on that list and mitigate potential impacts to those species is in place for the existing Antelope Mine leases as part of the existing approved Antelope Mine mining and reclamation plan. A similar plan to monitor MBHFI and mitigate potential impacts to those species will be required for mining and reclamation plan for the Horse Creek LBA Tract, if it is leased. If Antelope Coal Company is the successful bidder, a mining and reclamation plan revision must be approved before any disturbance not authorized in the currently approved Antelope Mine mining and reclamation plan can occur on the Horse Creek tract.

Please advise us if any changes need to be made to the final document related to the status of any other species, such as the black-tailed prairie dog or the mountain plover.

**Comment B:** *“Section 3.10.8.1 (page 3-37) states surveys for threatened and endangered species have not been conducted specifically for the Horse Creek tract (LBA). However, Section 4.1.10 (page 4-22) states surveys for threatened and endangered species have been conducted on the LBA.”*

**Response B:**

The statement on page 3-37 has been corrected to reflect the fact that surveys for threatened and endangered species were conducted on the LBA tract in 1999. In the draft EIS, the section in Chapter 3 was not updated to reflect this after the survey was completed.

**Comment C:** *“The list of monitoring and mitigation measures for listed and proposed species in Chapter 4, and more specifically in Table 4-4, outlines surveys to be conducted, but does not indicate what will happen if a plant or animal species listed, or proposed for listing under the Endangered Species Act of 1973, as amended, is found during the course of these surveys. Additionally, survey methodology has not been presented. Therefore, there is inadequate information presented to support a determination of whether or not the proposed action will adversely affect any listed or proposed species. Without additional information, we cannot concur with a determination that this action is not likely to adversely affect a listed species.”*

**Response C:**

The issuance of a Federal coal lease gives the lessee the right to mine the Federal coal, but lease issuance does not constitute a permit to mine. When a Federal coal lease is issued, no disturbance of leased Federal coal lands can occur until after a detailed mining and reclamation plan is approved at the level of the Secretary of the Interior. The monitoring and mitigation measures that are outlined in Chapter 4 and Table 4-4 refer to the measures that are required by the Surface Mining Control and Reclamation Act of 1977 (SMCRA) and Wyoming state law as part of the mining and reclamation plan. The monitoring and mitigation measures that are required by SMCRA and Wyoming state law are considered to be part of the Proposed Action during the leasing process because they are regulatory requirements. This is explained in Section 4.3 of the draft EIS and this explanation was added to the description of the Proposed Action in Chapter 2 in the final EIS.

Before the mining and reclamation plan is approved by the Secretary, conditions are attached to the mining plan approval document. The mining plan approval documents for recently issued federal coal leases, including Federal lease WYW128322 (an LBA leased to the Antelope Mine in 1997), include the following condition: “The Secretary retains jurisdiction to modify or cancel this approval, as required, on the basis of further consultation with the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act, as amended, 16 U.S.C. 1531 *et seq.*” This mining and reclamation plan

condition provides a mechanism to ensure that adverse effects to listed plant or animal species can be prevented whether they are found during the baseline wildlife surveys that are conducted prior to approval of the mining and reclamation plan or later, during the required annual wildlife surveys that are conducted by the mines after the mining and reclamation plan is approved.

The BLM Wyoming State Director has also determined it would be appropriate for BLM to attach a stipulation concerning threatened and endangered species to Federal coal leases issued or readjusted in Wyoming in the future. The stipulation is included in Appendix D. The stipulation is also intended to ensure that adverse effects to any listed or proposed species are prevented, regardless of whether they are encountered during the leasing process, during the permitting process, or during the time between approval of the mining and reclamation plan but before disturbance occurs.

The methodology used for the wildlife surveys is in accordance with the mining and reclamation permit procedures set forth in Appendix B (Wildlife Monitoring Requirements for Surface Coal Mining Operations) of the WDEQ/LQD rules and regulations. The methodology is described in the wildlife baseline reports, in the MBHFI and raptor mitigation plans, in the mining and reclamation plan documents, and in the annual monitoring reports for each mine. In the case of the Horse Creek tract and the Antelope Mine:

1. A wildlife baseline survey, which included surveys for threatened and endangered species, was conducted in 1998 on the Horse Creek Tract and the wildlife baseline report (Powder River Eagle Studies-October, 1999) includes a section on the methods used to conduct the survey. According to this report, survey types and timing were arranged with the USFWS.
2. Surveys for MBHFI and raptors were completed on the Horse Creek tract in 1999. The Antelope Mine Migratory Birds of High Federal Interest Plan and Raptor Mitigation Plan for the Horse Creek Tract (Powder River Eagle Studies-October, 1999) and the Antelope Mine Migratory Birds of High Federal Interest Plan and Raptor Mitigation Plan for the existing mine (Powder River Eagle Studies-June, 1998) both include sections on survey methods used for both MBHFI and raptors. USFWS has reviewed the 1998 plan for the existing mine. This plan is included in the Antelope Mine Permit No. 525-T6 renewal document along with two letters of approval from USFWS dated July 1, 1998, and August 17, 1998.
3. The mining and reclamation plan for the Antelope Mine includes a section describing the monitoring procedures to be used in conducting

wildlife surveys for the annual reports.

4. The annual wildlife monitoring reports submitted to the Wyoming Department of Environmental Quality as part of the Annual Report for the Antelope Mine also include a section on methods of monitoring for each species.

BLM has obtained copies of the above referenced documents from Antelope Coal Company, and can provide copies to you if needed.

**Comment D:** *“Section 7(c) of Act requires that a biological assessment be prepared for any Federal action that is a major construction activity (e.g., an activity requiring preparation of an environmental impact statement) to determine the effects of the proposed action on listed and proposed species. Therefore, we recommend that Bureau of Land Management (BLM) to prepare a biological assessment for this project.”*

**Response D:**

Under the current planning and permitting processes, a Federal coal tract proposed for leasing must undergo four wildlife and T&E screening processes before it is mined:

1. As part of the land use planning process, all Federal coal tracts proposed for leasing are screened for acceptability for further lease consideration as part of the application of the coal unsuitability criteria. Unsuitability criteria 9, 10, 11, 12, 13, 14, and 15 relate to wildlife, including threatened and endangered species and migratory bird species. The unsuitability criteria were applied to the area of high and moderate coal potential in the Wyoming Powder River Basin by the BLM and the U.S. Forest Service (USFS) in 1984, as part of the Resource Management Plan for the BLM Buffalo Resource Area, and the Land and Resource Management Plan for the Medicine Bow National Forest and the Thunder Basin National Grassland. The unsuitability criteria were re-evaluated in 1992 and 1993 by the BLM and USFS, and a draft report of the findings of that screening was completed in 1997 (a final report has not been completed).
2. As part of the leasing process, all of the coal unsuitability criteria are reapplied site-specifically for each individual lease application based on the most current survey information.
3. As part of the mining and reclamation plan approval process, wildlife surveys are conducted and a biological assessment is prepared by the Office of Surface Mining using the most current survey information and an actual detailed site-specific mining plan, prior to the approval of the

mining and reclamation plan by the Secretary of the Interior. As indicated above, the issuance of a Federal coal lease gives the lessee the right to mine the coal, but lease ownership does not constitute a permit to mine. No disturbance of newly leased Federal coal lands can occur until after a detailed mining plan is approved at the level of the Secretary of the Interior. The process from preparation of the detailed mining plan through approval by the Secretary takes several years from the time a lease is issued.

4. After the mining and reclamation permit is approved, wildlife surveys are conducted annually in accordance with the permit requirements. The mining and reclamation permit specifies that observations of threatened and endangered species will be listed in the annual report and that all such observations will be promptly reported to USFWS, Cheyenne, Wyoming, with the exception of migrating and wintering bald eagles.

In the case of the Horse Creek coal lease application, there were no unsuitable findings under any of the wildlife criteria in either the 1984 or 1992-1993 screening. These findings were reviewed during the preparation of the draft EIS, using the currently available survey information on the tract and there were no unsuitable findings for the wildlife criteria for the Horse Creek tract. If a lease is issued for the Horse Creek tract, that lease will include the stipulation discussed in the preceding response and included in Appendix D. A biological assessment based on updated wildlife information and an actual detailed proposed mining plan will be required prior to any surface disturbance on the tract, and a condition related to T&E species (discussed above) will be attached to the mining and reclamation plan when it is approved. Consequently, BLM believes that little information or additional protection for T&E species would be gained by the preparation and review of a biological assessment for the Horse Creek tract at this stage of the process.

**Comment E :** *“The U.S. Fish and Wildlife Service has developed survey guidelines for the mountain plover. Although most mines include plovers in their annual migratory bird surveys, the survey methodology is usually not specific for mountain plovers. Mountain plovers are extremely difficult to detect, particularly during the breeding season. To increase the chances of detecting this species during annual monitoring surveys, if present, we are requesting our guidelines be used.”*

**Response E:**

As indicated in the draft EIS (page 3-39), mountain plover use areas in the

vicinity of Antelope Mine were identified during a 2-year contract study by the U.S. Fish and Wildlife Service Cooperative Wildlife/Fisheries Unit in Laramie, Wyoming, in 1988, and subsequent to that study, use areas on and near Antelope Mine have been surveyed annually during wildlife monitoring. The Migratory Birds of High Federal Interest Plan and Raptor Mitigation Plan for the existing mine and for the Horse Creek tract (Powder River Eagle Studies; June, 1998, and October, 1999, respectively) document mountain plover observation results since 1982. The surveys described in these plans were generally conducted prior to the issuance of the 1999 Mountain Plover Survey Guidelines included in your comment letter, however, those guidelines should be followed in future surveys since USFWS must approve the MBHFI and raptor monitoring plans developed by the mines prior to approval of mining and reclamation plans or revisions to those plans.

Antelope Coal Company has developed a habitat recovery and replacement plan to mitigate impacts of mining on mountain plovers. That plan, which is incorporated into Antelope Mine's WDEQ/LQD mining permit application, was approved by the U.S. Fish and Wildlife Service.

### **Cumulative Effects**

**Comment F:** *"The biological opinion referenced in Section 4.5.10 (page 4-73) was drafted in the early 1980's, when reclamation was anticipated to reach 70.45% by 1990 (Table 4-7, page 4-42). Actual reclamation estimated in 1998 was only 27.63%. Additionally, the biological opinion only discussed bald eagles, peregrine falcons and black-footed ferrets. Given the changes in actual reclamation realized, and species proposed for listing, as well as the new developments of coal bed methane, railroad construction, power plants and other mining activities, we do not believe this opinion can be used as a blanket threatened and endangered species clearance for the cumulative effects which may result from this project. Accordingly, we cannot concur with the determination on page 4-73 that there will be no significant cumulative impacts to a listed species."*

### **Response F:**

The discussion on page 4-41 of the draft EIS explains that the disturbance predictions in the 1979 and 1981 regional EISs were for disturbed areas available for reclamation, but that the disturbance figures in Table 4-7 include areas that are not available for reclamation (such as roads, ponds, mining and

transportation facilities, stockpiles, etc.) as well as areas available for reclamation, because all types of disturbance have been lumped together in annual reports submitted to WDEQ/LQD by the mines. As a result, the predicted disturbance figures shown in Table 4-7 are not directly comparable to the actual disturbance figures shown in Table 4-7, and the resulting reclamation percentage is a very conservative estimate. The 1998 Antelope Mine annual report includes a breakdown of active disturbance areas (i.e., roads, facilities, etc.) and inactive disturbance areas (i.e., areas available for contemporaneous reclamation) which can be used to demonstrate the difference in using the total disturbance area versus the area of disturbance available for reclamation. If the entire disturbed area at the Antelope Mine is considered, about 18% of the disturbed area at the Antelope had been reclaimed as of October, 1998, but if you consider the area of disturbance actually available for reclamation at that time, approximately 45% had been permanently reclaimed.

The section on potential cumulative impacts to threatened, endangered, and candidate species has been revised in the final EIS to reflect your statements, particularly with respect to the 1982 biological opinion. The conclusion that no significant cumulative impacts to T&E species are projected, with or without leasing of the LBA tract, has been revised to state that no significant cumulative impacts to T&E species are projected as a result of issuing a maintenance lease to the Antelope Mine. We believe this conclusion is warranted in view of the following:

1. There is a requirement to mitigate any potential impacts to T&E species. The U.S. Fish & Wildlife Service would be involved in the review of all mitigation plans prior to approval of the mining and reclamation plan, which must occur prior to any mining activity.
2. If the potential impacts to T&E species cannot be satisfactorily resolved or if species of concern are identified after the mining and reclamation permit is approved, then the stipulation attached to the lease and the condition attached to the mining and reclamation permit (which are discussed above) provide for limitation or constraint of mining operations based on the requirements of the Endangered Species Act, as amended.

### **Wetlands**

**Comment G:** *"As we stated in our scoping comments, wetlands provide extremely important habitat for all wildlife species, particularly given the arid nature of Wyoming. We are concerned with the statement on pages 4-17 and 4-*

*68 that wetlands developed for mitigation may not replace the function of the original wetlands. We recognize the difficulty in re-establishing functional wetlands. However, if the original wetland function cannot be replaced, wetlands should be avoided or the mitigation ratio for wetland replacement should be substantially increased.”*

**Response G:**

The U.S. Army Corps of Engineers regulates reclamation of jurisdictional wetlands, including the number of acres of wetlands required to replace wetlands that are disturbed by mining. Plans for wetland reclamation are developed as part of the mining and reclamation permit, and these plans are evaluated and approved by the Army Corps of Engineers prior to approval of the mining and reclamation permit. Approved plans are in place for the existing Antelope Mine and must be developed and approved for the Horse Creek tract prior to any wetland disturbance on that tract.

**General Comments**

**Comment H:** *“The proposed action is to lease 2,837.91 acres of surface area (page 3-2). However, Table 2-1 (page 2-11), and several discussions in Chapter 4 regarding the amount of native vegetation likely to be disturbed state up to 3,190 acres of surface area will likely be affected. This discrepancy should be explained.”*

On page 4-1, the draft EIS explains that if a lease is issued, the area that would have to be added to the existing permit area would include an adjacent strip of land that would be used for highwall reduction after mining and such mine-related activities as construction of diversions, flood- and sediment-control structures, roads, and stockpiles. An explanation of the fact that the area of disturbance will extend beyond the lease boundaries to allow for mining operations and to ensure that all of the coal in the lease can be recovered has been added to Chapter 2 in the final EIS.

**Summary Comments**

We believe that listed and proposed T&E species in the Powder River Basin have been and are being protected using the leasing and permitting processes that have been in place since the Powder River Federal Coal Region was decertified in 1990, but if your office has identified T&E issues that have not been satisfactorily resolved using these processes, we would appreciate the

opportunity to sit down with you and review any shortcomings you have identified. We feel that an interagency meeting to review the protection of listed and proposed T&E species during the Federal coal leasing and permitting processes might be timely. We would propose to invite other agencies involved in these processes, including the Office of Surface Mining, the U.S. Forest Service, the Wyoming Department of Environmental Quality, and the Wyoming Game and Fish Department, so that all stages of the process from leasing through permitting would be represented. Please contact Nancy Doelger (307-261-7627) or Mike Karbs in Casper (307-261-7600), or Mel Schlagel in Cheyenne (307-775-6257) if you have questions related to this response or to further discuss our meeting proposal.

### **Response to Letter 3: The Wildlife Management Institute**

#### **Response A:**

The Horse Creek draft EIS was prepared because BLM received an application to lease federal coal from an existing surface coal mine, the Antelope Mine, in the Wyoming portion of the Powder River Basin. In response to that application, BLM can make a decision to lease the coal that was applied for, to lease more or less coal than was applied for, or not to lease any of the coal applied for. Under the proposed action, BLM would lease the coal applied for in response to the applicant's proposal to lease and mine the coal in the tract. Under Alternative 1, the No Action Alternative, BLM would reject the proposal to lease the federal coal included in the tract at this time. This Alternative 2, reflects the results of BLM's evaluation of whether or not federal coal should be added to or removed from the tract proposed for leasing in order to:

1. Avoid making coal economically unrecoverable in the future;
2. Obtain the optimum return to the public for the value of the coal; and
3. Enhance the value of the remaining unleased coal for future development.

In developing this alternative, BLM considered both enlarging or reducing the size of the tract, but did not identify a smaller tract that would significantly enhance the objectives listed above. BLM also considered delaying the sale of the federal coal in the tract.

Alternative 1, the No Action Alternative, is a viable alternative because the BLM can make a decision not to lease the coal included in this tract. Not leasing the federal coal in response to this application (the No Action alternative) would shorten the life of the Antelope Mine and thus reduce the duration of the

environmental impacts associated with the operations at the Antelope Mine. That decision would not affect already permitted mining at the Antelope Mine or other mines in this area or existing and proposed oil and gas development in this area. There is no alternative that BLM can analyze related to the application being considered in this EIS that would affect or limit development of federal or non-federal minerals (coal or oil and gas) that has already been permitted as required under existing regulations, and there is no decision that BLM can make related to the proposal being analyzed in this EIS that would affect or limit any development that is not related to federal minerals. The BLM does not regulate surface coal mining activities or production rates after a tract of federal coal is leased. Surface coal mining activities after leasing are regulated by the Office of Surface Mining (in accordance with the Surface Mining Control and Reclamation Act of 1977 or SMCRA) and the Wyoming Department of Environmental Quality/Land Quality Division (in accordance with Wyoming State laws and regulations). BLM does not regulate the development of any non-federal minerals.

Leasing federal coal to an existing mine for maintenance of existing operations is environmentally preferable to leasing federal coal for a new mine start because a new mine start would mean additional disturbance and impacts due to the need for new mine facilities, new employment, and additional sources of dust.

The EIS reveals the environmental impacts of leasing the coal and not leasing the coal, which are the viable alternatives that we have identified with respect to the application we have received. Your comments suggest that BLM should develop a wider range of alternatives for the final EIS, however you did not identify other viable alternatives related to the proposal BLM is evaluating that were not considered in the draft EIS. BLM has considered the need to evaluate all reasonable alternatives in this and previous coal leasing EISs, but has not identified other alternatives that should be considered in evaluating the coal leasing proposals we have received.

**Response B:**

The BLM shares the concerns about the cumulative impacts of development in the Powder River Basin. Significant levels of mineral and energy development have been occurring in the Powder River Basin for a long time, and there does not seem to be an indication that this will change in the future. BLM evaluated regional impacts as a result of all predicted development in the Powder River Basin in the late 70s and early 80s, and we have extended those analyses by

comparing the activities predicted in those analyses with the actual levels of production and development that have occurred since those documents were prepared. As new development has occurred that was not anticipated in those regional EISs and as new issues and regulatory requirements have emerged, we have required and are continuing to require and conduct additional cumulative analyses to evaluate the large-scale impacts of all reasonably foreseeable development in this area.. Examples of these cumulative analyses include the cumulative air quality analysis that was prepared for the Wyodak Coal Bed Methane EIS and updated in the Horse Creek DEIS, and the cumulative groundwater analysis that was prepared for the Wyodak Coal Bed Methane EIS and referenced in the Horse Creek EIS. We are anticipating the need to do additional cumulative analyses related to these and other resources in future documents and are planning accordingly. We also consider and use the air quality and groundwater modeling and monitoring, and the wildlife monitoring that is required under SMCRA and Wyoming State law to evaluate cumulative impacts of proposed coal leasing actions in more specific detail.

#### **Response to Letter 4: Wyoming Office of Federal Land Policy**

Thank you for your review and comments. We have evaluated the tract delineation based on our objectives to avoid making coal economically unrecoverable in the future, obtain the optimum return to the public for the value of the coal; and enhance the value of the remaining unleased coal for future development. Based on our analysis, the BLM's preferred alternative is to offer the Horse Creek Tract as-applied-for at a competitive lease sale. The selection of the Proposed Action as the preferred alternative is based on an analysis by the BLM geologist, engineer, and economist for this project that evaluated the likelihood that this coal would be bypassed if it is not included as part of this tract compared to the probable per ton decrease in the average fair market value of the coal in the entire tract if this higher strip ratio coal is added to the tract. That analysis determined that not including this coal in the Horse Creek tract would not change the likelihood that it would be mined in the future, but would decrease the overall average fair market value of the coal in the tract. As a result, the tract as applied for was selected as the preferred alternative.

BLM also believes that it is in the public interest to recover coal bed methane resources prior to recovering coal resources, and supports proposals that would allow that to happen. A copy of the recently issued BLM policy on

conflicts between CBM and coal development, which advocates optimizing the recovery of both resources and ensure that the public receives a reasonable return for publicly-owned resources, can be found following the response to Comment Letter 9 at the end of Appendix F, for your information.

**Response to Letter 5: Wyoming State Engineer's Office**

It is BLM's understanding that the Wyoming State Engineer's Office reviews proposed mining and reclamation plans and mining and reclamation plan revisions prior to their approval and has the opportunity to ensure that they are in compliance with applicable state laws dealing with appropriation and beneficial use of water as part of that process.

**Response to Letter 6: Wyoming Game and Fish Department**

The correction regarding herd units has been corrected in the final EIS.

**Response to Letter 7: Wyoming State Geological Survey**

BLM has reviewed the tract delineation and selected the Proposed Action (the tract as-applied-for) as the preferred alternative for the reasons outlined in the response to Letter 4 from the Wyoming Office of Federal Land Policy.

BLM believes that it is in the public interest to recover both coal and coal bed methane resources to the extent possible and supports proposals that would make that feasible. A copy of BLM's policy on conflicts between CBM and coal development is included following the response to Comment Letter 9 at the end of this section of Appendix F, for your information.

**Response to Letter 8: U.S. Environmental Protection Agency**

**Response A:**

The adequacy of the existing levels of mitigation and monitoring was covered in section 4.3 of the DEIS. It states (DEIS, page 4-28): "If impacts are identified during the leasing process that are not mitigated by existing required mitigation measures, then BLM can include additional mitigation measures as

stipulations on the new lease. No mitigation or monitoring measures beyond those required by SMCRA or state law have been identified as necessary for the LBA tract at this time." The FEIS has been revised with the addition of a discussion of the concern about nitrogen oxide emissions related to blasting, the ongoing meetings related to that concern, and EPA's suggested mitigation action. In the FEIS, we are also adding a stipulation concerning Threatened and Endangered Species (see response to comments received from the U.S. Fish and Wildlife Service). This stipulation will be added to future federal coal leases.

All measures that are required by SMCRA and state law will be applied to all new leases, including the Horse Creek tract if it is leased. This will occur prior to approval of a mining and reclamation permit. It is BLM's experience that the levels of mitigation and monitoring required for surface coal mining by SMCRA and Wyoming state law are more extensive than those generally required for other surface disturbing activities, that this mitigation and monitoring is required by regulation for all newly leased land before it can be disturbed, and that the surface coal mine permitting process includes mechanisms to update, expand, or modify both mitigation and monitoring in response to new regulatory requirements, or issues that are not covered adequately under the existing monitoring and mitigation plans and procedures.

Mining and reclamation permits are regularly updated, and mining plan revisions must be submitted if the mines propose to change their existing mining plan or if they wish to expand their mine to include a new lease. When this happens, the monitoring and mitigation plans are reviewed by appropriate regulatory agencies prior to the approval of the mining plan. For example, the US Fish and Wildlife Service must review and concur with the monitoring and mitigation plans for MBHFI and raptors and the Army Corps of Engineers must review and approve of the wetlands inventories and wetlands replacement plans prior to approval of the mining and reclamation plan updates or revisions.

In our experience, when new issues have been identified that are not adequately covered under existing mitigation and monitoring plans, they have been addressed by the appropriate regulatory agencies. Examples of how this process works include recent (mid-1990s) concerns with selenium levels in replaced topsoil and backfill, and the current concerns with nitrogen oxide emission levels in the vicinity of blasting and visibility issues. As a result of the concerns about selenium levels, a research program was established to

evaluate issues like identifying appropriate analytical techniques for measuring selenium levels in soils, evaluating levels of selenium in vegetation in reclaimed areas and undisturbed areas, and evaluating how selenium is taken up by plants. The intent of the research was to identify the need to promulgate additional rules for handling seleniferous soils to minimize or avoid long-term impacts. Although the issues related to public concerns about nitrogen oxide emissions after blasting have not been resolved at this point in time, the concerns expressed by the public have led to a series of meetings between the agencies responsible for regulating air quality and blasting and the coal companies to try and develop appropriate monitoring procedures and techniques to avoid this problem. BLM is not involved in regulating air quality or blasting, but BLM supports the development of appropriate procedures and techniques to resolve the problems.

**Response B:**

The discussion of the concerns with mitigation and monitoring of nitrogen oxide emissions resulting from blasting of coal and overburden have been revised in the FEIS. Blasting is currently restricted by regulation to daylight hours. The regulations state when blasting can begin (relative to sunrise) and when it must end (relative to sunset).

**Response C:**

BLM is beginning work on an EIS to address the estimated impacts as a result of future oil and gas development in the Powder River Basin. This document would also update the planning document for the area of major oil and gas and coal development. As part of that analysis, BLM is planning to conduct a comprehensive air quality study that would include all currently existing and proposed oil and gas and coal development, power plant construction, and railroad operations. This cumulative analysis would build a cumulative model that could be used for evaluating the impacts of each federal action. The analysis would include all currently identified proposed projects, but each separate project could be broken out so that the increment of change associated with each project could be shown. The intent would be to involve all of the stakeholders, including state and federal agencies and industry, up front. BLM is beginning the process to plan this analysis, and identify and inform possible partners, and develop the air quality modeling protocol.

Responses to Specific Comments:

1. This comment provided a useful insight on a way to use the air quality

monitoring data that has been collected by the mines to help in the evaluating the relationship between TSP concentration and production increases.

2. This has been done as suggested.

3. This was a typographical error. The reference in the draft EIS should have been to Section 4.3, not 4.3.4.

**Response to Letter 9: U.S. Forest Service**

The air quality impacts that could be expected to increase in the future as a result of the difference between the projected production level at the Antelope Mine without the Horse Creek LBA tract (22 mmtpy) and with the LBA tract (30 mmtpy) has been addressed in the final EIS through evaluation of historical air quality modeling data that has been collected upwind and downwind at the Antelope Mine. This is now discussed in the final EIS in sections 3.5 and 4.1.4

We agree that the projected emissions from cumulative sources in northeast Wyoming are a source of concern in the next decade and agree that it is important to initiate discussions with the appropriate state and federal agencies to begin to address these concerns.