

APPENDIX J

DRAFT EIS COMMENT LETTERS, RESPONSES, AND
HEARING SUMMARY

To- BLM, Casper Field Office, Casper, WY 18 Feb. '08
Attn: Sarah Bucklin

Re- Draft, EIS for the West Andelope II Coal
Lease Application - WY/W 163340

Why don't proposals involving projected
consumption of the nations irreplaceable
natural resources give at least as much
concern to the effects, usually negative,
upon future generations?

Why is their resources, health, income,
environment, natural landscape and
recreational needs of lesser value than
ours? This coal lease proposal damages or
destroys each of these six needs of the
generations to follow.

Even the alleged current benefits are less
than claimed. Do we need more energy
production or greater efficiency in energy
utilization? When climate change is of
increasing concern, should negatively
impacting proposals be encouraged?

Where is there an iota of rationality in
venting CBNG, a valuable energy resource,
in order to mine coal to provide allegedly
needed energy?

Is there any economic justice, from a
national level, in selling coal to a con-
sortium at current prices when they
fully expect to sell that coal at much higher
prices? Isn't greater justice served by pricing

mined coal at the price existing when it is mined?

If the coal is mined as proposed, does the national public regain full mineral, including water, rights?

Vegetation will require a decade or longer to restore. The aquifer, decades longer. And the topsoil, centuries. Funds claimed as income (i.e. lease sale, tax revenue, employment wages, profits of mining associated businesses, etc.) will long ago have vanished, but not the cost of dislocated people, soil, water and the atmosphere.

3.17.1.2 Environmental Consequences — but the following 3.17.1.2.1 and 3.17.1.2.2 deal with economics, not the environment.

3.17.2 and 3.17.2.1 deal with population present, but what of population future?

Just in view of the foregoing, "Do not offer tract for sale at this time. Alternative #3."

From — Wendell Funk
1707 N. 12th
Quincy IL 62301

Wendell Funk

The pleasing pastoral photo prominently placed on the Draft's cover will never again be perceived by man.

Progress or putrefaction?

BUREAU OF LAND
MANAGEMENT
CASPER FIELD OFFICE
2008 FEB 25 P 1:35



BUREAU OF LAND
MANAGEMENT
CASPER FIELD OFFICE

2008 FEB 25 A 6:49

T RIBAL HISTORIC PRESERVATION OFFICE
S TANDING ROCK SIOUX TRIBE

Administrative Service Center
North Standing Rock Avenue
Fort Yates, N.D. 58538
Tel: (701) 854-2120
Fax: (701) 854-2138

February 20, 2008

Sarah Bucklin
Bureau of Land Management
Casper Field Office
2987 Prospector Drive
Casper, WY 82604

THPO file 08-07

RE: Draft EIS for the West Antelope II Lease Application

Dear Ms. Bucklin:

When will the uninventoried portions of the project receive a Class III inventory? This is a vital part of the Section 106 process. A final EIS should not be issued until the Section 106 process is complete.

1

It is virtually impossible to comment on specific sites because of a lack of information in the draft EIS. The EIS should contain a new table that provides more specific information about each site than is provided in Table 3-14. For example, there are many different kinds of prehistoric sites, e.g. lithic scatter, stone circle, effigy & c. These should be detailed in the additional table, including descriptions of what kinds of features are present. The table should specify what evaluative testing has been done including the number and depth of test units.

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Can you supply us with the site forms for all prehistoric sites?

3

In determining the NRHP eligibility of sites, were Native American tribes consulted? A site that is ineligible under the Secretary of Interior standards might be considered eligible if the Tribes assess it as a TCP/sacred site. A TCP study should be completed. Actual TCP determinations require an on-site visit by an elder but as a general rule the Standing Rock Sioux Tribe considers sites with stone features to potentially be TCPs/sacred sites. For your information, attached are two documents that address stone circles. The first summarizes D/Lakota use of tipis as burial lodges. The second provides information about D/Lakota use of stone circles for ceremonial purposes.

4

Are all of the listed sites going to be destroyed by coal mining? Clearly there is a time table and plan for mine expansion. It should be possible to provide an informed estimate of which sites will be destroyed. Please specify.

5

Sincerely,
STANDING ROCK SIOUX TRIBE

Byron Olson
Tribal Archaeologist

Attachments

Casper Field Office, BLM
ATTN: Sarah Bucklin
2987 Prospector Drive
Casper, WY 82604

March 24, 2008

These are my comments on the Draft EIS for the West Antelope II Federal Coal Lease By Application.

On page ES1, paragraph 4, I quote: " BLM must prepare an EA or EIS to evaluate site-specific and cumulative environmental and socio-economic impacts of leasing and developing the federal coal in the application area. The impacts of mining the coal are considered in this EIS because it is a logical consequence of issuing a maintenance lease to an existing mine."

I have experienced direct and cumulative impacts of this coal mine and others in the Powder River Basin for the last twenty-seven years. I hope that my comments will serve to lessen these impacts in the future.

I live, and ranch, 24 miles south of the entrance to the Antelope Coal Mine near the Burlington Northern-Union Pacific Joint rail line. I, and my neighbors, have been treated to coal fines from this mine and others as they fall off, or are blown off, the rail cars as they pass by. Only a small amount comes off each car, but at 30 loaded trains per day with an average of at least 120 cars each, with each car loaded to about 120 tons, that adds up to 432,000 tons passing each day. Much of the fugitive coal lands on the railroad right of way, but some then washes into nearby streams and draws, causing water and land pollution. Much of the wind-blown coal dust lands outside the right-of-way, causing air and then land pollution.

The coal that lands along the track is a problem for the railroad, as well, according to a recent article in the Casper Star Tribune, as it contaminates and weakens the ballast under the rails. This causes expensive replacement of the ballast and more expense to clean up the ballast windrow from the side of the track.

It also accumulates along the side of the track, but mainly along the sides of the earthen fills. These fills were seeded to grow grass after the initial construction was finished in about 1980. Occasionally, a train-caused fire will start in the grass, which then ignites the coal fines. In some areas, the coal fines are two feet deep. The result is a smoldering fire that can burn for days. Ironically, the railroad takes no responsibility for monitoring these fires should they escape the right-of-way. I, as a volunteer rural fireman, have been told that they do not have the personnel to monitor these smoldering embers, and that if I want my property protected, it is up to me to either put it out, or standby for the duration. Putting out smoldering coal embers is not an option, both from a practical, and a safety, standpoint.

There are several possible solutions that would end most of this problem. Either cover each car, as some gravel trucks are required to do, or spray a surfactant on the surface of the coal after it is loaded on the rail car, and/or restrict the loading of the car to below the level of the top rail of the car.

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It is my understanding that the surfactant is currently being applied in some cases at the request of the customer- the power plant that pays for the coal as it is loaded on the railcar. I have recently noticed that some trains emit very little dust as they go by on a windy day, while others emit a lot. I suspect that all railcars could be treated, but the question is who will pay for it. I suggest that the railroad be assessed a part of the cost, as it is a benefit to their track maintenance.

I ask you to remedy the situation for the coal leaving this mine by recognizing the cumulative environmental impact of this amount of coal and including in the terms of this permit, the requirement to eliminate the fugitive coal dust.

I also ask that in each future permit application, for every mine in the Powder River Basin, that this be a condition of the permit. If these remedies are recognized as effective, there should be a way to mandate this action immediately, prior to future permit applications.

I appreciate the ongoing efforts by industry and the State in response to a complaint I made with WY DEQ in February 2007, and I have seen some improvement in that fewer fines are being discharged, but there is still room for much improvement. Thank you for the opportunity to comment.



Frank G. Eathorne, Jr.
2661 Hwy 59
Douglas, WY 82633

C: Converse County Commissioners
Governor Dave Freudenthal
WY DEQ



Lesley
Collins/CFO/WY/BLM/DOI
03/27/2008 08:57 AM

To Mike Karbs/CFO/WY/BLM/DOI@BLM, Sarah
Bucklin/CFO/WY/BLM/DOI@BLM

cc

bcc

Subject Fw: request to be on mailing list for West Antelope DEIS

Lesley A. Collins
Casper Field Office
Public Affairs
Office: 307-261-7603

— Forwarded by Lesley Collins/CFO/WY/BLM/DOI on 03/27/2008 08:56 AM —



marcia and john nadolski
<nadolski_jnm@yahoo.com>
03/27/2008 12:50 AM

To casper_wymail@blm.gov

cc

Subject request to be on mailing list for West Antelope DEIS

Hello Mike and Sarah,

The United States of America needs a reliable source of power in order for us to maintain our growth. Coal is one of the most reliable and cheapest sources of power for us. Properly done, coal mining is a short-term land use, providing a source of power, jobs, and income while preserving our lands and heritage. I strongly encourage the BLM to go forward with the sale of the West Antelope II Federal Coal Lease.

Please include me on the mailing list for information dealing with the DEIS for the West Antelope proposal. Also, please let me know the date for accepting public comments. I look forward to hearing back from you.

} 1

Yours truly,

John Nadolski, PE
3123 Frontier Drive
Sugar Land, TX 77479



United States Department of the Interior

NATIONAL PARK SERVICE
INTERMOUNTAIN REGION
12795 West Alameda Parkway
PO Box 25287
Denver, Colorado 80225-0287



DES-08/0004

Memorandum

March 31, 2008

To: Sarah Bucklin, Bureau of Land Management, Casper Field Office

From: Roxanne Runkel, National Park Service, Intermountain Region /s/

Subject: National Park Service comments on the Draft Environmental Impact Statement, West Antelope II Coal Lease Application (WYW163340)

The National Park Service has reviewed this project in relation to any possible conflicts with the Land and Water Conservation Fund and the Urban Park and Recreation Recovery programs.

We have found L&WCF project 56-00796, Skateboard Park Improvements that may be impacted.

We recommend you consult directly with the officials who administer the L&WCF program in the State of Wyoming to determine any potential conflicts with section 6(f)(3) of the L&WCF Act (Public Law 88-578, as amended). This section states:

"No property acquired or developed with assistance under this section shall, without the approval of the Secretary [of the Interior], be converted to other than public outdoor recreation uses. The Secretary shall approve such conversion only if he finds it to be in accord with the ten existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location."

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The administrator for the L&WCF program in Wyoming is Ms. Mary Moore Grants Coordinator, Wyoming Division of Parks and Recreation. Ms. Moore's phone number is 307-777-5598.

If you have any questions regarding the L&WCF projects that could be impacted, please contact Terree Klanecky, Outdoor Recreation Planner, in our Midwest Regional Office at 402.221.1556.

We appreciate the opportunity to comment. If you have any questions, please contact me at (303) 969-2377.

cc:
Dale Morlock, NPS-WASO
Ellen Singleton, NPS-WASO



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
5353 Yellowstone Road, Suite 308A
Cheyenne, Wyoming 82009

BUREAU OF LAND
MANAGEMENT
CASPER FIELD OFFICE
2008 APR -3 P 1:02
APR 02 2008

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In Reply Refer To:
ES-61411/W.02/ WY08FA0068

Memorandum

To: Mike Karbs, Assistant Field Manager of Solids, Bureau of Land Management,
Casper Field Office, Casper, Wyoming

Attention: Sarah Bucklin, Environmental Protection Specialist

From: *for* Brian T. Kelly, Field Supervisor, U.S. Fish and Wildlife Service, Wyoming Field
Office, Cheyenne, Wyoming *Scott Hicks*

Subject: Scoping Comments for the Draft Environmental Impact Statement for the West
Antelope II Coal Lease Application

The U.S. Fish and Wildlife Service (Service) received the Bureau of Land Management's (BLM) Draft Environmental Impact Statement (DEIS) for the West Antelope II Coal Lease Application on February 11, 2008. This DEIS assesses the environmental consequences of the competitive lease of an approximately 4,109 acres tract of Federal coal located adjacent to the Antelope Mine in Converse and Campbell counties, Wyoming. In response to your request for our review of the DEIS, the Service is providing the following comments.

General Comments

The Service feels that the DEIS is generally well written and effectively addresses BLM sensitive species, threatened, and endangered species and migratory bird issues.

Specific Comments

Chapter 3, Page 89, Paragraph 2: It is stated that "Following reclamation, the LBA tract would be primarily a mixture of upland prairie grasslands with graminoid/forb dominated areas." Elsewhere in the DEIS the LBA tract has been described as encompassing black-tailed prairie dog colonies (Appendix H, Page 31) that provide habitat for other BLM sensitive species including the mountain plover and burrowing owl. The Service looks forward to a discussion of potential management actions to restore prairie dog ecosystems in reclaimed areas. } 1

Appendix I, Page 15, Paragraph 1: In the first sentence of the paragraph it is stated that the proposed action may affect, but is not likely to adversely affect Ute ladies tresses. However, in }

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the last sentence of the paragraph it is stated that "If undetected populations are present, they would be lost due to surface disturbing activities." The Service advises BLM that if undetected populations are lost due to surface disturbing activities, those actions would constitute an adverse effect to Ute ladies'-tresses.

In accordance with the Services 1996 formal consultation and resultant biological opinion to the Office of Service Mining, coal mines in Wyoming need to develop species-specific protection measures if adverse impacts to threatened and endangered species may be anticipated. Examples of protection measures may involve avoiding mine related activities in suitable habitats for the orchid or conducting surveys of all suitable habitat, and subsequently avoiding areas where Ute ladies'-tresses have been observed.

Thank you for the opportunity to comment on the West Antelope II Coal Lease Application DEIS. We look forward to receiving the final EIS and biological assessment. Please feel free to contact our office at any time to discuss issues or concerns regarding this proposed coal lease. If you have any questions regarding this letter, please contact Trish Sweanor at (307) 772-2374 extension 239.

cc: WGFD, Lander, Non-Game Coordinator (B.Oakleaf)
WGFD, Cheyenne, Statewide Habitat Protection Coordinator (V.Stelter)

2

April 7, 2008

MEMORANDUM

TO: Sarah Bucklin
Bureau of Land Management
Casper Field Office

FROM: Foster Kirby
Acting NW Branch Manager
Program Support Division
OSM – Western Region, Denver

SUBJECT: Review of the Draft Antelope II EIS

Comments on the West Antelope II Coal Lease Application Environmental Impact Statement by Office of Surface Mining Reclamation and Enforcement Western Region, Denver, Colorado

The Office of Surface Mining Western Region (OSM) as a cooperating agency has reviewed the “Draft Environmental Impact Statement West Antelope II Coal Lease Application Converse and Campbell Counties, Wyoming”. The DEIS is well written and organized. The document adequately describes the purpose and need for the proposed action and the alternatives considered. It is anticipated that the final EIS will serve OSM’s NEPA needs in preparing a Federal Mining Plan recommendation (if the property is leased) for the Department of Interior Assistant Secretary of Lands and Minerals under the Mineral Leasing Act. We found no serious flaws in the document or supporting analysis and offer for your consideration a few editorial recommendations.

General: We recommend for purposes of clarity moving pg. 2-40 to be page 2-25, 2-26 (2.7.2 Summary of Alternatives) to present “up-front” terms used in tables 2-2 thru 2-5 that would now follow. Additionally, for the reader that is not familiar with NEPA terminology, other terms used in the tables (2-3, 2-4, 2-5) could be defined or better described (such as the “scale” for impact magnitude) in the summary section

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Specific: Recommend checking the barrels to gallons conversion in 4.1.2.2 (pg. 4-19) CBNG Development – 2.3 billion barrels (96,600 million gallons). We believe that 9.6 billion gallons is easier to understand than the 96,600 million gallons.

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Thank you for the opportunity to comment. Should you have any questions please call me at (303) 293-5039.



"Robert Ukeiley"
<rukeiley@wildearthguardians.org>

04/08/2008 03:32 PM

To <Sarah_Bucklin@blm.gov>

cc "'Leslie Glustrom'" <lglustrom@gmail.com>

bcc

Subject West Antelope II comments

Dear Ms. Bucklin:

Attached, please find WildEarth Guardians comments on the proposed West Antelope II coal lease. These comments are supported by the literature Leslie Glustrom submitted to you via e-mail on April 6th and 7th.

If you have any difficulty opening the attached document or any questions, please do not hesitate to contact me.

Sincerely,

Robert Ukeiley,
Director and Staff Attorney
Climate and Energy Program
WildEarth Guardians
720-563-9306

As of January 28, 2008 Forest Guardians, Sinapu, and the Sagebrush Sea Campaign have joined forces to become WildEarth Guardians. With offices in Boulder, Denver, Phoenix and Santa Fe, WildEarth Guardians protects and restores wildlife, wild places, and wild rivers in the American West.



West Ant comments on DEIS vfin.pdf

Note from BLM:

During the West Antelope II Draft EIS public comment period, Leslie Glustrom sent BLM nine emails regarding global climate change and related topics. The emails are included in this appendix as supplemental information to the WildEarth Guardians formal comment letter. They have been considered in the EIS and have been incorporated into the EIS Administrative Record. Ms. Glustrom's emails are located behind the WildEarth Guardians letter.

WILDEARTH

GUARDIANS

VIA E-MAIL

April 8, 2008

Bureau of Land Management
Casper Field Office
Attn: Sarah Bucklin
2987 Prospector Dr.
Casper, WY 82604
Sarah_Bucklin@blm.gov

RE: Draft Environmental Impact Statement West Antelope II Coal Lease Application

Dear BLM,

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for the West Antelope II Coal Lease Application (WYW 163340) issued in February 2008. These comments are being submitted on behalf of WildEarth Guardians, our approximately 4,500 members and Leslie Glustrom.

Before beginning we would like to thank Sarah Bucklin and the team of specialists that wrote the Draft EIS (DEIS). It was obviously a large undertaking and the writing and organization are generally clear and the information well presented. We also thank Sarah Bucklin for her prompt and helpful responses to our questions.

We appreciate your attention to the following comments on the DEIS for the West Antelope II Coal Lease Application:

1) Irretrievable Loss of Coal (e.g. pp 3-23, 3-174 and 4-29)—It does not appear that the DEIS has properly emphasized the irretrievable loss of these coal deposits. Fossil fuels are highly valuable forms of stored energy and carbon and once they are used, then they are irretrievably lost. By definition, the planet will not be making any more fossil fuels in a human time frame. If the coal is mined, then its carbon will be released and the coal will never be available again for use by future generations. There are some industrial processes (e.g. making steel) for which fossil fuel resources are uniquely suited. If the federal government leases the coal in this tract for burning in steam power plants to produce electricity (which we have many other ways of producing), then the coal will not be available in future years for processes for which there is no particularly good

} 1

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alternative. As discussed below, we don't have nearly as much economically accessible coal as has often been stated in the mainstream media.

2) Loss of Economically Accessible Coal (e.g. pp 3-8, 3-12, and 3-13) It does not appear that the DEIS has properly emphasized the increasing overburden associated with potential mine expansion into the West Antelope II lease analysis area. According to Table 3-2 (p. 3-8) the average overburden in the existing mine is 122 feet, while in the areas being considered for expansion, the overburden is approximately 260-280 feet, or more than a 100% increase. As overburden increases, then the associated production costs are also likely to increase significantly. Not only do costs go up but environmental impacts also increase. For example, more fuel is required to move the overburden. This means more fuel consumption and more air emissions, including criteria pollutants like NO_x, SO_x, CO, PM₁₀, PM_{2.5} and more greenhouse gas emissions like N₂O and CO₂. If the coal in the West Antelope II area is mined, then the next expansion is likely to have an even greater increase in overburden—and an even greater production cost.

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3) Need to Place the Coal Resources and Their Accessibility in a Broader Context: (e.g. Sections 3.3 and 4.2.2) It does not appear that the Draft EIS has placed the coal resources of the Powder River Basin in general and the West Antelope II area in a broader context. A review of the data in the Federal Assessment of Coal Resources from August 2007 (especially pages 25 and 33) shows that the amount of overburden in the Powder River Basin generally increases as you move from east to west and that approximately 70% of the coal in the Powder River Basin will not be surface accessible. The figures on pages 25 and 33 of the Federal Assessment should be reproduced in the Powder River Basin EISs so that this broader context can be easily seen.

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4) Need to Emphasize Legal Requirement of the Clean Air Act to Prevent Future and Remedy Existing Visibility Impairment in Class I Areas (e.g. pp 3-45 to 3-50) It does not appear that the DEIS has adequately emphasized the visibility goal of the Clean Air Act to prevent future and remedy existing impairment of visibility in Class I areas such as national parks and wilderness areas. It would be helpful to cite the exact provision of the Clean Air Act (including citations to both statutory and rule provisions). The Draft EIS seems to imply that maintaining existing visibility impairments is adequate (e.g. Figure 3-10, page 3-48) instead of emphasizing the need to remedy existing visibility impairments in Class I areas. In addition, as the planet warms, increased drought in the interior of continents (see p. 3-168) is likely to increase particulate pollution, potentially degrading visibility even further. This should be discussed as a probable impact of mining the coal in the West Antelope II analysis area.

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5) Need to Discuss Irrecoverable Losses Related to Acidification of Lakes (e.g. p. 3-50 and 3-174) It does not appear that the DEIS has properly emphasized the irretrievable losses related to lake acidification. When lakes become acidified then the biota can be adversely affected both from the increased acidity and from secondary consequences such as elevated aluminum. Once a lake loses significant amounts of its life it is unlikely to recover in a reasonable amount of time.

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6) Effects on Groundwater (e.g. p. 3-52 to 3-63 and 4-41 to 4-50) It appears that the DEIS should contain more data on both groundwater quantity and quality. There is a lot of text, but not much data organized into easy to read tables. As a result it is difficult to know what baseline data is available and what the expected consequences are. As just one example, the recharge data discussed on page 4-44 should be presented in much more detail in a table format with specific numbers for the level of the water and how it compares to pre-mining conditions. Similarly, the water quality data discussed on page 4-49 should be provided in a summarized form in a Table. Also, it would be very helpful if the text had subheadings to make it easier for the reader to follow the various issues. Finally, the discussion of irreversible and irretrievable commitment of resources on page 3-174 should discuss the effects on ground and surface water quantity and quality.

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7) Need for Further Monitoring for Ute Ladies Tresses (e.g. Appendices H and I) It is well established that Ute Ladies Tresses are extremely difficult to survey for. According to the 2005 Rangewide Status Review of Ute Ladies' Tresses by Fertig and co-authors plants, can bloom over a period from early July to late October (p. 69, Fertig) and can go dormant for 1-4 years confounding survey efforts. (pp 61-62). According to the Draft EIS (e.g. Appendix I, pages I-12 to I-15), surveys were only conducted on two days in August of 2006 and over a one three week period in 2007. Before moving ahead with the Final EIS, there should be at least four years of surveys for the Ute Ladies' Tresses and in each year they should be done a couple of times a month from July to October.

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8) Concerns About Sensitive Species: According to the Sensitive Species Evaluation in Appendix H (e.g. p. H-2), some of the goals of the sensitive species policy are to maintain vulnerable species habitat and to ensure sensitive species are considered in land management decisions. It would be very helpful to have a table of the Sensitive Species potentially inhabiting the general analysis area. (Appendix H, pages H-15 to H-62) and include a summary of the habitat requirements, all surveys done for this species and/or its habitat, the dates of the survey, where the results can be found, and the conclusion of the surveys and this should be discussed in the body of the report and in the Executive Summary. There are several species of concern including, but not limited to, Northern Leopard Frogs, Black Tailed Prairie Dogs, Swift Foxes, Ferruginous Hawks, Burrowing Owls, Chestnut Collared Longspur, McCown's Longspur, Sage Grouse, Bald Eagles, Golden Eagles, Mountain Plovers , Loggerhead Shrikes, Brewer's Sparrow, and several of the plant species. The determinations that the coal leasing "may adversely impact individuals, but is not likely to result in loss of viability in the general analysis area, nor cause a trend toward federal listing," are suspect until the actual survey dates and locations are more carefully documented and the public has an opportunity to review the surveys and to analyze the basis for each conclusion. Also, there appear to be contradictions between conclusions reached on pages H-15 to H-62 and Table with respect to the Northern Leopard Frog and the Swift Fox. Also, it is not clear what the key for "Status on TBNG" is for Table H-2 and Figure H-1 (p. H-28) appears to have a wealth of data that does not appear to be discussed elsewhere. For example, there appear to be numerous Golden Eagle nests in and around the Analysis Area that don't appear to

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be discussed in the Draft EIS. This may have implications for other laws such as the Migratory Bird Treaty Act. For Figure H-1, it would be very helpful to provide a table of each of the sitings and other markings on the Figure and provide dates, field observations and other notes regarding the observations. Also, as discussed further below, all assumptions about revegetation and reclamation should be reconsidered in light of the questionable track record of the Powder River Basin Mines in reclamation. In turn, any claims about reclamation have to be modified by the probable drying of the interior of continents as the planet warms (e.g. see p. 3-166). This warming and drying is likely to make revegetation efforts significantly more difficult as the feedback processes of desertification begin to operate.

9) Greenhouse gas emissions: We appreciate the expanded discussion of global warming and greenhouse gas emissions and the summary of the Intergovernmental Panel on Climate Change Fourth Assessment Report (p. 3-166 to 3-171) but it is essential that the Draft EIS be amended to address the following issues:

a) Once taken out of the ground it is essentially certain that the carbon in the coal will be oxidized and become CO₂.

b) Scientific studies tell us that CO₂ has an atmospheric lifetime of at least hundreds of years and a fraction stays for thousands of years.

c) The CO₂ in the atmosphere will block heat leaving the planet leading to increased planetary warming which in turn will lead to increased CO₂ releases (e.g. through melting of the permafrost and release from soils, vegetation and the oceans).

d) Numerous scientific studies are now making it clear that the already dire conclusions of the IPCC's Fourth Assessment Report were inadequate. This has been most apparent in the area of ice melt (e.g. Arctic ice, Greenland's glaciers and Antarctica's Ice Shelves), but it is likely that the accelerated impacts seen in these systems will also be reflected in an increasing number of systems as we move through the coming decades. This will have extremely severe consequences for all systems, both societal and environmental and these should be discussed in detail.

e) One of the many impacts of increasing CO₂ levels in the atmosphere will be accelerated species loss—especially when combined with habitat losses and competition from exotic species. This also needs to be discussed in detail.

f) BLM needs to consider the cumulative impact of this action and other actions on climate change. These other actions include other BLM oil and gas lease sales such as the January 16, 2008 lease sale by the New Mexico State Office of the BLM, as well as recent lease sales in other states such as Utah and Wyoming. These other actions also include BLM's revision of its plan for oil and gas extraction at the Pinedale Anticline in Wyoming and the actions covered in the Great Divide plan revision which is currently open for public comment. These other actions also include the issuance of all Applications for Permits to Drill (APD) for oil and gas activities that are occurring now or are reasonably foreseeable.

Furthermore, the cumulative actions that BLM must consider in terms of greenhouse gas emissions are not limited to oil and gas activities. For example, coal fired power plants are the largest source of greenhouse gas emissions in the United States. BLM is currently considering the Toquop coal fired power plant. Emissions of

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greenhouse gases from this plant, and any other coal fired power plant BLM is considering, must also be considered in the cumulative impacts analysis.

Livestock is also a major source of greenhouse gas emissions. See e.g. Henning Steinfield, Livestocks Long Shadow: Environmental Issues and Options, (2006). Thus, BLM must consider its actions which involve livestock grazing in its cumulative impacts analysis of greenhouse gas emissions.

Coal mining is also a major source of greenhouse gases. These sources include the direct impacts of mining the coal and the indirect impacts of transporting, burning and disposing of the coal combustion waste. Therefore, BLM must consider its actions which involve coal mining in its cumulative impacts analysis of greenhouse gas emissions.

Until such time as BLM analyzes the cumulative impacts of greenhouse gas emissions from BLM's oil and gas, coal-fired power plant, livestock grazing, and coal mining activities, BLM cannot move forward with the leasing of this mine.

g) The statement on p. 3-170 about the No Action Alternative not resulting in a decrease of U.S. CO₂ emissions because power plants would just use another source of coal should be eliminated. To begin with this speculation is inaccurate. Decreases in coal supply increase the cost of coal which results in less use of coal. We are witnesses this right now on a global scale. Not going forward with this mine would contribute to this situation of decreasing supply and increasing prices resulting in less reliance on coal and more reliance on other, cleaner, safer, methods of meeting our energy demands. Moreover, the nation's environmental laws (e.g. NEPA, MUSY, ESA, CAA, CWA etc.) require consideration of the cumulative impact of hundreds of individual decisions and prohibit engaging in a practice that attempts to avoid issues of cumulative impact. If "Two wrongs don't make a right," then certainly "a million wrongs don't make it right..." either. Each coal mine expansion will need to take these extremely serious issues into account and of course we have many perfectly fine ways to manage and meet our desire for electricity including efficiency, wind, solar (both concentrating solar thermal and photovoltaic) and geothermal.

h) Finally the discussion of CO₂ emissions needs to have any discussion of possible CO₂ "capture and storage" rewritten. At this point in time carbon "storage" (sometimes referred to as "sequestration") is only at the beginning stages of development and it should not be assumed that successful technical and legal strategies will exist for carbon "storage" during the time covered by the potential coal lease.

The Draft EIS needs to be amended to consider all of these matters and to reflect the explosion of scientific papers documenting these extremely serious concerns. We have submitted key scientific papers electronically, but the BLM should conduct a thorough literature survey of the scientific literature and include that in the Final EIS and the results should be prominently displayed and included in the Executive Summary.

10) Other Emissions from Coal Burning: The section on other "by-products" of coal burning needs to be greatly expanded to discuss all emissions from coal plants including SO₂, NO_x, particulates, volatile organic compounds, CO, dioxin, radioactive materials and all of the heavy metals (including but not limited to mercury) as well as coal combustion waste. Matter can't be created or destroyed, so once the coal is taken out

10

of the ground, all of the elements that it contains will be released into the environment in a more mobile state than when they are in coal whether it is through air, water or solid waste emissions. The rate of release from coal in the ground is very slow compared to the rate of release from the burning of coal and all of this should be discussed in serious detail and the conclusions clearly stated and included in the Executive Summary for each of the emissions that will occur.

11) Reclamation: Throughout the Draft EIS the assumption is made that any mine expansion will be reclaimed and the landscape will be largely returned to its pre-mine existence. Each and every one of these statements needs to be rewritten and there needs to be a thorough discussion of existing efforts at reclamation at mines throughout the Powder River Basin and at the Antelope Mine in particular. For each mine in the Powder River Basin there needs to be a presentation of:

- a) Total number of acres disturbed
- b) Total number of acres at each stage of reclamation
- c) Results of the reclamation in terms of species impacts, soil, vegetation and wetlands.
- d) Rate at which reclamation efforts are proceeding
- e) Projected date for full reclamation of the existing mine.

All discussions of impacts (present, future, cumulative and residual) need to be rewritten in light of the actual experience of the Powder River Basin mines with respect to reclamation. No assumptions should be made that reclamation will be completed until all reclamation efforts have been completed at existing mines. Moreover, any discussion of future reclamation efforts should include a discussion of the probable complications that will arise as the planet warms and the interior of continents dry out.

12) Explanation of Key Laws and Regulations: It would be very helpful to have the list of key federal authorities on page 1-10 expanded to include the title of the law, where it can be found and the key provisions that apply to the coal lease application. The goal of an Environmental Impact Statement is to help the general public understand how these decisions are being made and how they can get involved and most members of the public will not understand what the acronyms are or what the key provisions of the laws are. Then the EIS should explain how each of the key provisions of these laws either is or isn't being followed and this should be included in the Executive Summary. A similar effort should be undertaken with respect to all the key regulations governing coal leasing and mining.

13) Discussion of Alternatives: The Draft EIS should note that there are many alternatives to burning coal for producing electricity. These include:

- a) Improved energy efficiency and other demand side management measures including solar thermal water heating
- b) Wind
- c) Photovoltaic Solar
- d) Solar Thermal Electric (also called Concentrating Solar Power)
- e) Geothermal

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f) Biomass

Since we have many ways of making electricity but no way of either making new coal or effectively managing the “by products” resulting from the burning of the coal it is important to give thorough consideration to these alternatives before deciding to lease coal which will invariably lead to the production of all the various “by products.”

14) Readability of the Draft EIS: While there were obvious efforts made to make the Draft EIS readable, the bulk of the document has the effect of making the information not very accessible. All key summary statements of effects should be clearly presented in the Executive Summary and for each chapter and subsection there should also be a collection of the key conclusions so that the reader doesn't have to read hundreds of pages and keep extensive notes in order to understand what is being said. At each step of the way the key conclusions should be gathered into a central location and format that is easy to access and decipher.

14

In closing, we thank you for the hard work already done on this Draft EIS and we thank you in advance for the work that we have asked for in these comments. The decision to lease millions of tons of coal is a very serious decision indeed, and every effort must be made to ensure that all laws and regulations are fully complied with.

Sincerely,

/s Robert Ukeiley

Robert Ukeiley,
Director and Staff Attorney
Climate and Energy Program
Wild Earth Guardians



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Subject West Antelope II Comments--Part 1 Federal Assessment of
Coal Resources

Hi Sarah—I expect some more formal comments to be submitted tomorrow , but I wanted to forward some supporting reports that I hope you'll consider on the West Antelope II Draft Environmental Impact Statement. Thanks for all your help and your hard work on the DEIS.

To begin with I'd like you to consider the Federal Coal Assessment. In particular, the diagrams on pages 25 and 33 are key and should be included in the Final EIS. The key thought is that increasing overburden means that coal that has less overburden is very valuable and we should be considering the need to leave this coal in the ground so future generations will have some relatively accessible coal to use for purposes that don't have good alternatives.

We have lots of way to make electricity, but the planet won't be making any more coal anytime soon and there are some purposes (e.g. making steel) for which it may be difficult to find other alternatives.

More e-mails to follow. Thanks. Leslie



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Fed Report on Coal Resources Aug 2007.pdf



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Subject West Antelope Comments—Part 3 Carbon Dioxide Articles

Hi Sarah—Part 3 of the West Antelope II Comments .

Carbon Dioxide stays in the atmosphere for a really long time. The attached pdfs talk about approx 25% staying for over a thousand years.

-Archer Journal of Geophys Research 110, C09S05 (2005)

- Montenegro Geo Physical Research Letters 34, L19707 (2007)

These are important to consider when we take coal out of the ground. Once the carbon becomes oxidized and turns into CO2 it will stay in the atmosphere essentially forever. Before we take coal out of the ground we have to give this the deepest of thought.

We have many ways of making electricity but once the CO2 is in the atmosphere it will be there essentially forever heating up our planet and accelerating feed back cycles. This is critical to think about before we take the coal out of the ground.

More e-mails to follow.

Thanks. Leslie



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Archer Fate of Fossil Fuel CO2 in Geologic Time J Geophys Research 110, C09S05 (2005).pdf



Montenegro Long Term Fate of Anthropogenic Carbon Geo Phys Res Letters 34, L19707 (2007).pdf



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04/06/2008 01:26 PM

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Subject West Antelope II Comments Part 4--Caldeira on CO2
Reductions

Hi Sarah—The attached paper from Caldeira

Geo Phys Res Letters 35 L04705 (2008)

discusses the need to essentially reduce CO2 emissions to zero to start stabilizing the climate of the planet. This is a paper we'll discuss in the more formal comments and which should be cited in the Final EIS.

Thanks. Leslie



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Geo Phy Res Letters 35 L04705 2008 Caldeira on Need Near Zero Emissions1.pdf



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To "Sarah_Bucklin@blm.gov" <Sarah_Bucklin@blm.gov>
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Subject West Antelope II Comments Part 4--Extinction Risks from
CO2 Emissions and Climate Change

Hi Sarah--With respect to the West Antelope II Draft EIS, it needs to be strengthened with respect to the extinction risks associated with CO2 accumulation and the warming of the planet.

There are three articles that should be included in the Final EIS. The discussion of endangered species should not be restricted to the immediate area of the coal lease application, but rather to the full picture of the risks to species that will accompany the oxidation of the coal and the increase of CO2 in the atmosphere.

The three articles are:

- 1) "Climate Warming and Disease Risks for Terrestrial and Marine Biota," Harvell et al., Science 296, 2158 (2002)
- 2) "Climate Change, Human Impacts, and the Resilience of Coral Reefs," Hughes et. al., Science 301, 929 (2003)
- 3) "Extinction Risk from Climate Change," Thomas et al., Nature 427, 145 (2004).

There are also many references contained in these articles. Leasing the coal in the West Antelope II will increase risks to many species including those identified as "threatened or endangered," and this must be thoroughly documented before moving ahead with the coal lease application.

More e-mails to follow.

Thanks. Leslie

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Climate Change and Disease Risks Science 296,2158 (2002).pdf



Climate Change Coral Reefs Science 301, 929 (2003).pdf



Extinction Risks from Climate Change Nature 427, 145 (2004).pdf



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04/07/2008 07:16 AM

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Subject West Antelope II Comments—Part 5—Climate Change and
Species Loss—IPCC Working Group II

Hi Sarah—With respect to the West Antelope II Draft EIS, I really appreciate your summary of the results of Working Group I of the IPCC. Thanks!

It is also important to discuss the relationship between climate change and species loss. This is addressed in the report of Working Group II to the IPCC as well as in some of the scientific articles I sent you yesterday.

The Working Group II Summary for Policymakers is attached, but you should probably use the most recent version available from www.ipcc.ch as well as the numerous references included in the full Working Group II report.

When coal comes out of the ground it will be oxidized much faster than it would if it stayed in the ground and the resulting CO2 will impact species all around the globe. This should be addressed in great detail in the Final EIS.

Sorry to create more work, but we must take these decisions to take coal out of the ground and oxidize it very, very seriously because the impacts on our planet will go on for thousands of years.

Thanks. Leslie



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IPCC 4th Assessment Impacts and Adaptation.pdf



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To <Sarah_Bucklin@blm.gov>
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Subject West Antelope II Comments--Part 6 Accelerated Ice
Melt--IPCC AR4 Too Conservative

Hi Sarah—With respect to the West Antelope II Draft EIS I really appreciate the summary of the Intergovernmental Panel on Climate Change Assessment 4 Physical Basis report in the Draft EIS.Thanks.

As you probably know, it is now clear to the scientists that they underestimated the rate of loss of ice sheets in the IPCC Assessment 4. A few scientific articles (or their abstracts) are attached. These issues were generally not covered in the IPCC AR4. The articles are:

- 1) "Changes in the Velocity Structure of the Greenland Ice Sheet," Rignot and Kanagaratnam, Science 311, 986 (2006)
- 2) "Abrupt Increase in the Permafrost Degradation in Arctic Alaska," Jorgensen et. al. Geo Phys Res Letters 33, L02503 (2006)
- 3) "Permafrost and the Global Carbon Budget," Zimov et.al. Science 312, 1612 (2006)
- 4) "Paleoclimatic Evidence for Future Ice-Sheet Instability and Rapid Sea-Level Rise," Overpeck et al. Science 311, 1747 (2006)
- 5) "Missing feedbacks, asymmetric uncertainties, and the underestimation of future warming," Margaret Torn, Geophys Res Letters 33, L10703 (2006)

All of this should be discussed in the Final EIS. The dynamic melting processes that are beginning to occur are stunning the climate change scientists and I wish I was exaggerating when I say you can see, hear and feel the panic when these scientists speak about what is happening to the planet.

Before taking more coal out of the ground just to produce electricity when we have so many other good low- or non-carbon ways of producing the same electricity we need to carefully consider the impacts on the only planet we know of that supports life.

I'll send some of the data and articles from 2007 and 2008 when I next get a chance.

Thanks. Leslie



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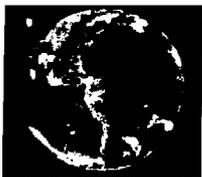
Subject West Antelope II Comments--Part 7 2007 Ice Melt Data

Hi Sarah—With respect to the West Antelope II Draft EIS, the following articles (and any more recent ones that appear before the final is issued) should be summarized. The science on the dire consequences of the build up of CO2 in the atmosphere is telling us that things are probably even worse than the IPCC stated in the Fourth Assessment Report. This must be considered before approving the coal lease application.

Here are the articles:

- 1) "Arctic Sea Ice Decline: Faster than Forecast," Geo Phys Res Letters 34, L09501 (2007)
- 2) "Greenland Surface Melt Trends 19730-2007: Evidence of a Large Increase in 2007 Geo Phys Res Letters 34, L22507 (2007)
- 3) A Younger, Thinner Arctic Ice Cover: Increased Potential for Rapid, Extensive Sea-Ice Loss," Geo Phys Res Letters 34, L 24501 (2007)
- 4) "Pushing the Scary Side of Global Warming," Science 316, 1412 (2007)
- 5) "Why is Climate Sensitivity So Unpredictable?" Science 318, 629 (2007)
- 6) "Climate Change and Trace Gases," Phil Trans Royal Society A 365, 1925 (2007)
- 7) "Disappearing Arctic Lakes," Science 308, 1429 (2005)

Thanks. Leslie



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| Arctic Sea Ice Faster Than Modeled Geo Res Ltrs May 2007.pdf | Hansen Trace Gases Phil Trans 2007.pdf |
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| Maslanick Younger Thinner Arctic Ice Geo Phys Res Letters 34, L24501 (2007).pdf | Pushing Scary Side Science 2007-06-08.pdf |
|  |  |
| Arctic Lakes Disappearing Science 308, 1429 (2007).pdf | Climate Sensitivity So Unpredictable Science 318, 629 (2007).pdf |
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| Mote Greenland Melt 1973-2007 Geo Phys Res Letters 34, L22507 (2007).pdf | |



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Subject West Antelope II Comments--Part 8- Risks to Species from
CO2 Accumulation Plus Carbon Loss From Soils and
Southwest Drying

Hi Sarah—With respect to the West Antelope 2 EIS, the CO2 that will be formed once the coal is taken out of the ground poses very serious risks to species all around the planet and this should be carefully analyzed and considered before issuing the Final EIS.

I've attached a few articles to get you going. They all contain many references that should also be discussed in the FEIS along with any scientific articles that appear before the FEIS is issued. I've added a couple of more on related subjects including the drying of the interior west and the increasing loss of carbon from the soils—one of the feedback loops that appears to be beginning. I've also included a classic Jim Hansen paper from 2005 on the energy imbalance on the planet. It is key to a thorough discussion of the science.

The articles are:

- 1) "Past Peak Water," SW Hydrology (2006)
- 2) "Carbon Losses From All Soils Across England and Wales from 1978-2003," Nature 437, 245 (2005)
- 3) "Extinction Risk From Climate Change," Nature 427, 145 (2004)
- 4) "Climate Warming and Disease Risks for Terrestrial and Marine Biota," Science 296, 2158 (2002)
- 5) "Earth's Energy Imbalance: Confirmation and Implications," Science 308, 1431 (2005)
- 6) "Coral Reefs Under Rapid Climate Change and Ocean Acidification," 318, 1737 (2007)

Clearly, the threat to species is much broader than just what will happen in the vicinity of the mines in the Powder River Basin. This must all be discussed and carefully considered before approving a lease to take more coal out of the ground.

Thanks. Leslie



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SW Hydrology Oct 2006 Past Peak Water Hoerling.pdf Carbon Loss From English Soils Nature 437,245 (2005).pdf



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Subject West Antelope II Comments—Part 9—Alternatives and
National Transmission

Hi Sarah—We're almost done—at least for now....Phew!!

The last key is to build national transmission and ship electrons instead of shipping coal. I've attached a news article and a PPT about American Electric Power's vision as well as a Scientific American concept article on the idea of a national grid.

Presently our transmission system is like a system of two lane highways and what is being said is that we need to do for transmission what Eisenhower did for the highway system. While no one likes transmission (including me) it is a lot better than continuing on our present trajectory towards run away climate change.

It is just about making electrons flow and then shipping them long distances. We know how to do that, but we don't know how to "build" another planet...

All of this should be discussed under Alternatives in the Final EIS on the West Antelope II Final EIS.

Well—that's all for now...

I'm sorry to have just given you a huge pile of work—but we must stop blithely leasing coal just because that's what we've always done in the past. We only have one planet—and it is absolutely irreplaceable.

Coal is easily replaced. The planet is not. It is that simple and I'm afraid you will now be in the middle of that discussion.

Thanks in advance for all your work—both past and future!

Best Regards. Leslie



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Bureau of Land Management
 Casper Field Office
 Attn: Sarah Bucklin
 2987 Prospector Drive
 Casper, Wyoming 82604

April 8, 2008

**Re: Comments on the West Antelope II LBA Coal Lease Application Draft
 Environmental Impact Statement**

Dear Ms. Bucklin:

Thank you for the opportunity to comment on the West Antelope II Coal Lease Application and Draft Environmental Impact Statement (“DEIS”). These comments are submitted on behalf of Defenders of Wildlife (“Defenders”), a non-profit public interest conservation organization with over 500,000 members nationally.

Defenders is dedicated to protecting imperiled species and their habitats by combining scientific research, public organizing, and administrative and legal advocacy. Defenders relies on the Endangered Species Act (“ESA”), and other federal conservation laws to protect endangered and threatened species, and imperiled species not currently benefiting from ESA protections. In addition to species-specific litigation, Defenders is a committed advocate for the protection of the nation’s wildlife refuges, parks, forests and other public lands.

In February 2007, the Intergovernmental Panel on Climate Change (“IPCC”) declared, “[w]arming of the climate system is unequivocal,” and it is “very likely” that most of the warming since the middle of the 20th century is the result of human pollutants. Global warming is a global phenomenon with well-documented and serious local impacts. In addition to its other disruptive direct effects, coal leasing poses serious climate threats: the mining of coal will likely result in the generation of high quantities of greenhouse gas emissions, the predominant cause of global warming. With concerns about global warming, coal is paralyzing scary. The Bureau of Land Management (“BLM”) was obligated to consider the impacts of a coal lease sale in the DEIS.

The DEIS fails to consider global warming on many fronts. It fails to: (1) analyze the greenhouse gas emissions inevitably resulting from a lease sale; (2) analyze the observed and projected effects of global warming on the welfare of ecosystems; (3) analyze alternatives to



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coal based energy in meeting energy needs; and (4) analyze the impacts of the lease sale on threatened and endangered species protected under the ESA, as well as imperiled species that have yet to be listed.

These comments address and analyze the effects of coal mining on greenhouse gas emissions and the deficiencies of the DEIS. Federal agencies in general, and the Bureau of Land Management (“BLM”) in particular, are required to incorporate global warming and its impacts in their decision calculus under a number of mandates, including the National Environmental Policy Act of 1969, 42 U.S.C. §§ 4331 et seq. (“NEPA”). In addition, the project fails to comply with the Endangered Species Act, 16 U.S.C. §§ 1531-1544. We believe that the DEIS must be revised and redistributed prior to approval as the DEIS is fatally flawed, violates NEPA and the ESA, and must be supplemented to integrate global warming in its analysis.

The DEIS Fails to Analyze Greenhouse Gas Emissions

The Bureau of Land Management (“BLM”) failed to consider and analyze the greenhouse gas emissions that would result from the lease sale of the West Antelope II tract in the Powder River Basin (“PRB”) in Wyoming. The BLM administers mineral resources owned by the federal government. It leases these resources for development under the Mineral Leasing Act, 30 U.S.C. § 221 *et seq.*, and manages them according to resource management plans developed under the Federal Land and Policy and Management Act (“FLPMA”), 43 U.S.C. § 1701 *et seq.* BLM’s failure to substantially consider the greenhouse gas and global warming considerations in the DEIS is arbitrary, capricious, otherwise not in accordance with law, and not supported by substantial evidence.

Congress enacted NEPA in 1970 with the following purpose: “To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation.” 42 U.S.C. § 4321; Center for Biological Diversity (2006).

To accomplish these goals, all federal agencies must assess the environmental impacts of their proposals before taking any action on them. The preparation of an Environmental Impact Statement (“EIS”) lies at the heart of NEPA (Center for Biological Diversity 2006). The purpose of the EIS is to ensure policies and goals of NEPA are included in federal programs and actions. 40 C.F.R. § 1502.1. It also shall serve to inform both decision makers and the public about the alternatives and adverse impacts of the project. *Id.* See also Columbia Basin Protection Ass’n v. Schlesinger, 643 F.2d 585, 592 (9th Cir. 1981)



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("[T]he preparation of an EIS ensures that other officials, Congress, and the public can evaluate the environmental consequences independently.").

These objectives require that environmental information be disseminated "early enough so that it can serve practically as an important contribution to the decision-making and will not be used to rationalize or justify decisions already made." 40 C.F.R. § 1502.5; Center for Biological Diversity (2006). See also Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 371 (1989) ("the broad dissemination mandated by NEPA permits the public and other government agencies to react to the effects of a proposed action at a meaningful time"); Metcalf v. Daley, 214 F. 3d 1135, 1143-44 (9th Cir. 2000). Given the magnitude and irreversible effects global warming will have on our public resources, the BLM, as an Interior Department agency, faces an increasingly daunting challenge to preserve the public resources for which they are responsible.

Coal-fired electric power plants are the nation's largest emitter of greenhouse gases, the leading culprit in global warming, yet the BLM failed to do more than a cursory analysis of the impacts on global warming that will occur as a result of this leasing decision. The Antelope Mine produced 33.9 million tons of coal in 2006, which represents about 7.8 percent of the coal produced in the Wyoming PRB in 2006, or about 1.1 percent of the estimated U.S. CO₂ emissions in 2006. DEIS, 3-169. The BLM, through the Antelope Coal Company ("ACC"), estimates that approximately 429.5 million tons of coal would be recoverable from the West Antelope II LBA tract. DEIS, 2-5. ACC estimates that the life of the mine would be extended by about 12 additional years beyond 2018 at an average annual coal production rate of approximately 36 million tons. If the average annual production rate increases to 42 million tons, which is the maximum rate allowed by the current air quality permit, the life of the mine would be extended by ten additional years under the Proposed Action. DEIS, 3-167, 3-170.

Under the Proposed Action, the Antelope Mine anticipates producing the coal included in the West Antelope LBA tract at currently permitted levels using existing production and transportation facilities, which would extend CO₂ emissions related to burning coal from the Antelope Mine for up to 13 additional years beyond 2018. DEIS, 3-170. The greenhouse gas emissions from this volume of coal production will contribute significantly to greenhouse gas emissions.

Under the No Action Alternative, CO₂ emissions attributable to burning coal produced by the Antelope Mine would be extended at about this level for approximately eleven years, or until about 2018, while the mine recovers its remaining estimated 394.3 million tons of currently leased coal reserves. DEIS, 3-169, 3-170.

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As discussed further below, the public and decision makers are entitled to know the true costs and impacts of all aspects of the coal lease, including its greenhouse gas emissions. Laying bare the true impacts and costs of the direct and cumulative greenhouse gas emissions from the coal lease program, and disclosing alternatives and mitigation measures, would very likely lead to increased energy conservation and use of renewable energy sources (see Center for Biological Diversity 2006). The BLM prevented this result by producing a DEIS that hid the true greenhouse gas emissions of its proposal. Instead, the BLM stated that it is “not possible to project the level of CO₂ emissions that burning the coal in the West Antelope II LBA tract would produce due to the uncertainties about what emission limits will be in place at that time or where and how the coal in the West Antelope LBA tract would be used after it is mined.” DEIS, 3-170. This position is contrary to the mandate of NEPA to disclose the full environmental consequences of the West Antelope II lease. The BLM’s failure to consider the greenhouse gas emissions of the coal resources taints every aspect of the DEIS and the decision making process. The BLM must prepare a revised DEIS that properly considers the greenhouse gas and global warming implications of the lease sale, prior to proceeding to the Final EIS. See, Center for Biological Diversity, 2006.

The DEIS Fails to Analyze the Observed and Projected Effects of Global Warming

Global warming represents the most significant and pervasive threat to the future of biodiversity worldwide, affecting both terrestrial and marine species. The periodic assessment reports issued by the United Nations Intergovernmental Panel on Climate Change (“IPCC”) serve as a useful barometer for the advancement of understanding surrounding global warming. The IPCC’s mission is to comprehensively and objectively assess the scientific, technical and socioeconomic information relevant to human-induced climate change, its potential impacts, and options for adaptation and mitigation (IPCC Mandate). The IPCC Assessment reports authoritatively document the adverse environmental impacts of global warming at local, regional, national and global scales, and the primary role of burning fossil fuels, including energy derived from coal mining, in causing global warming. The technical reports underlying these periodic assessments are a synthesis of the existing scientific and technical literature compiled by the world’s leading climate change experts, representing the collective wisdom of thousands of scientists from around the world, including hundreds of academic and government researchers within the U.S. The reports represent the “best available science” addressing climate change and its impacts on the natural world.

The evidence of the IPCC reports conclusively shows that greenhouse gases, including carbon dioxide (“CO₂”), endanger public health, welfare, and the environment. The IPCC’s fourth assessment report, issued in February 2007, determined that the evidence of warming global temperatures is “unequivocal” and that observed changes in temperatures



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since the mid-20th century have been “very likely” (>90% chance) caused by increases in anthropogenic greenhouse gas emissions. In addition, the largest growth in global greenhouse gas emissions between 1970 and 2004 has come from the energy supply sector (an increase of 145%).

Many of the public resources managed by the Department of the Interior are being harmed by global warming resulting from increased greenhouse gas emissions (see generally GAO, Climate Change). As stated by the U.S. Supreme Court last year, “[t]he harms associated with climate change are serious and well recognized.” Massachusetts v. EPA, 127 S. Ct. 1438, 1455 (2007). These harms—already occurring throughout the planet—include “the global retreat of mountain glaciers, reduction in snow-cover extent, the earlier spring melting of rivers and lakes, [and] the accelerated rate of sea levels during the 20th century relative to the past few thousand years.” Id. (quoting National Research Council, Climate Change: An Analysis of Some Key Questions, at 16). The impacts from global warming on species and ecosystems are not too uncertain to predict.

For example, one of the most immediate general effects of climate change on terrestrial plants and wildlife are shifts in geographical ranges, catalyzed by changes in the normal patterns of temperatures and humidity that generally determine such ranges (Thuiller 2007). As a result of warming temperatures, significant range shifts averaging 6.1 kilometers per decade towards the poles and an advancement of spring events by 2.3 days per decade have already occurred (Parmesan & Yohe 2003). Because many ecosystems and species cannot make such “shifts,” global warming presents risks of widespread extinctions (Thomas et al. 2004; Thuiller 2007).

In addition to general impacts, different regions throughout the world will be increasingly affected in ways specific to those locations.

The Arctic region has been the most obvious early indicator of the effects of global warming on the planet. While the planet as a whole warmed approximately 1°F during the 20th century, some regions of the Arctic experienced warming of 4-5°F since the 1950s alone, and the region continues to warm at rates approximately twice that in the rest of the world (ACIA 2004).¹ Most notably, the melting of Arctic sea ice due to global warming has occurred much more rapidly and on a scale that scientists believed would not happen for another half century. At the end of summer in 2007, the volume of Arctic sea ice was half

¹ A phenomena known as the “Ice-Albedo feedback” is largely responsible for these disproportionate effects. Because the arctic ice has high albedo, meaning it reflects much more solar radiation than other sources, once that ice melts, the uncovered land and water absorbs more solar radiation, leading to a positive feedback loop and rising temperatures.



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what it was only four years ago, nearly 23 percent below the previous record low. (Borenstein 2007).

The rapid melting of the Arctic ice has grave repercussions for the many Arctic species that rely wholly or partially on the ice for feeding, nesting, breeding, sheltering, and other essential behavioral functions. The melting of Arctic sea ice caused by global warming directly threatens the polar bear, which is completely dependent on the ice for every aspect of its life cycle. Melting sea ice will shorten the time frame in which polar bears can hunt seals due to earlier ice break-up and later freeze-up dates, reduce availability of prey, increase distances bears need to swim because of melting ice, and increase bear-human conflicts as bears move into terrestrial and populated areas in search of food.

Additionally, the world's oceans, occupying 70 percent of the planet, are being profoundly affected by global warming, as primarily evidenced by warming temperatures and increasing acidification of the oceans (Rosenzweig 2007). Coral reefs have served as an early bellwether of these changes, and NMFS on May 9, 2006 determined two species—the elkhorn (*Acropora palmata*) and staghorn (*A. cervicornis*) corals—to be threatened, the first coral species to be given protection under the ESA. 71 Fed. Reg. 26,852.

In addition to the precipitous declines in staghorn and elkhorn coral populations as a result of global-warming induced bleaching, global warming also adversely affects coral species by increasing the acidification of ocean waters (Hoegh-Guldberg 2007). Ocean acidification is especially driven by CO₂; as greater levels of CO₂ enter the ocean, it reacts with seawater to produce carbonic acid, which ultimately reduces the amount of carbonate available to the reefs, leading to decreased calcification and increased erosion. In a recent study, a team of researchers presented three scenarios based on the business-as-usual/alternative scenario approach, and found that even if CO₂ emissions leveled at 380 ppm, coral reefs worldwide would still undergo fundamental changes (Hoegh-Guldberg 2007). If carbon dioxide levels rise to double that of preindustrial levels under a business-as-usual approach, “[t]hese changes will reduce coral reef ecosystems to crumbling frameworks with few calcareous corals...Under these conditions, reefs will become rapidly eroding rubble banks” (Hoegh-Guldberg 2007).

Like the rapidly accumulating evidence addressing the negative effects of global warming on coral reef species and the polar bear, new scientific information demonstrates that global warming is increasingly having negative effects throughout the western United States. The west has warmed more than any other area in the country outside of Alaska, with projections of future warming varying from 3 to 7°F, to as much as 14°F in the Southwest (Leung and Qian 2005; Overpeck 2005). As new scientific information developed since 1996 convincingly demonstrates, global warming is already affecting the West by causing wetter



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and warmer winters with reduced snowpacks and earlier springs with associated early-season melting of the already-reduced snowpack (Mote et al. 2005). In addition, many areas of the West are in the midst of the worst drought in hundreds of years, and researchers believe global warming could cause drought to become essentially permanent.

This combination of effects is already having real-world consequences for biological resources. For example, scientists identified high temperatures as one of the likely causes of a massive die-off of piñon and ponderosa trees across 3.5 million acres of Arizona and New Mexico (Breshears et al. 2005). In addition, less snowpack and earlier snowmelt have been correlated with increasing numbers of large forest fires in the west, as earlier snowmelt acts to dry out forest fuels (Westerling 2006).

The effects of global warming present heightened risks to species already imperiled by other causes, especially those with restricted ranges or highly specific ecological needs (Randall 2006). Climate change during the past 30 years has in fact already been implicated in one species-level extinction, and a potential mass extinction (an estimated 67 percent of 110 species) of *Atelopus*, a genus of amphibians endemic to the American tropics (Pounds et al. 1999; Pounds et al. 2006). If levels of greenhouse gases continue to rise unabated, newly-developed science indicates that extinction levels in the U.S. and worldwide would likely be catastrophic. As stated by James Hansen, senior scientist at Columbia University Earth Institute and Director of the NASA Goddard Institute for Space Studies:

In my opinion there is no significant doubt (probability >99%) that [] additional global warming of 2°C would push the Earth beyond the tipping point and cause dramatic climate impacts including eventual sea level rise of at least several meters, extermination of a substantial fraction of the animal and plant species on the planet, and major climate disruptions. Much remains to be learned before we can define these effects in detail, but these consequences are no longer speculative climate model results.

(Hansen 2006).

Echoing this assessment, a team of 18 scientists recently estimated that 15-37 percent of terrestrial species within sample regions covering approximately 20 percent of the Earth's surface would be "committed to extinction" by 2050 if greenhouse gas emissions continue rising on current trajectories (Thomas et al. 2004). If those percentages of loss are extrapolated to a planetary level, more than 1 million species could be driven extinct in the next fifty years (Thomas et al. 2004). Many ocean species will also suffer pronounced losses (Hunter 2007).

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The BLM is required under NEPA to analyze global warming impacts that result from its actions

In April 2007, the U.S. Supreme Court issued a decision that recognized the severity of the climate change crisis, and the U.S. Environmental Protection Agency's obligation to confront the problem. The Supreme Court held, in Massachusetts v. EPA, 127 S. Ct. 1438 (2007), that the "unambiguous" definition of "air pollutants" includes carbon dioxide and other greenhouse gases. This case was initiated by a dozen states and numerous environmental organizations, and the Supreme Court's ruling is widely viewed as a landmark recognition of the global warming crisis by the judiciary. The Court noted that the "[t]he harms associated with climate change are serious and well recognized." Id. at 1455. The Court also acknowledged "the enormity of the potential consequences associated with man-made climate change," and the contribution of carbon dioxide emissions to global warming. Id. at 1457-58. Given the Supreme Court's conclusion that, "[t]he harms associated with climate change are serious and well recognized," the federal government has a responsibility to take action to reduce it, even if such action may not completely reverse global warming. Id. at 1458. BLM is not exempt from that responsibility.

Since 1990, 17 coal leases containing more than five billion tons of federal coal have been issued following competitive sealed-bid sales in the PRB. The West Antelope II LBA tract would be mined as part of the Antelope Mine. DEIS, 2-6. The Antelope Mine produced: 23.0 million tons of coal in 2000; 24.6 million tons of coal in 2001; 26.8 million tons of coal in 2002; 29.5 million tons of coal in 2003; 29.7 million tons of coal in 2004; 30.0 million tons of coal in 2005; and 33.9 million tons of coal in 2006. DEIS, 2-6. If the project moves forward as applied for, an estimated total of 823.8 million tons of coal would be recovered after January 1, 2007, with an estimated 429.5 million tons coming from the LBA tract. DEIS, 2-6. This mined coal will inevitably be used in the coal-fired power plants.

Coal-fired power plant emissions include carbon dioxide (CO₂), which is the principal anthropomorphic greenhouse gas. CO₂ emissions represent about 84 percent of the total U.S. greenhouse gas emissions. DEIS, 3-168. Of that 84 percent, estimated CO₂ emissions from the electric power sector totaled 2,343.9 million metric tons, or about 39.5 percent of total U.S. energy-related CO₂ emissions in 2006 (See Massachusetts, 127 S. Ct. at 1446 ("A well documented rise in global temperatures has coincided with a significant increase in the concentration of carbon dioxide in the atmosphere. Respected scientists believe the two trends are related . . . It is therefore a species—the most important species—of a 'greenhouse gas.'")).

The concentration of CO₂ in the Earth's atmosphere now exceeds 380 parts per million ("ppm"), more than 80 ppm greater than the maximum levels of at least the last



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740,000 years, and perhaps the last 20 million years (Hoegh-Guldberg et al 2007). Because coal-fired power plants are one of the two “largest and fastest growing” sources of carbon dioxide emissions, their greenhouse gas outputs “must be addressed to move emission trends off the Business-as-Usual path and onto something approximating the Alternative scenario” (Hansen 2006; EPA 2007:8) (emphasis added).

Greenhouses gases emissions are within the direct, indirect and cumulative effects that NEPA documents must analyze. 40 C.F.R. § 1508.8. Not only are increased greenhouse gas emissions “reasonably foreseeable” but so too are their climate consequences. 40 C.F.R. §§ 1508.7, 1508.8. As discussed previously, the overwhelming consensus of national and international scientific evidence supports the conclusion that the build-up of greenhouse gases in the atmosphere is contributing to global warming, and that the subsequent changes will adversely affect local, regional and global environments. The DEIS should have disclosed and analyzed the greenhouse gas emissions from past, proposed, and estimated future coal production. The DEIS should also have examined other major sources of greenhouse gas emissions to provide an adequate overall description of cumulative impacts. The DEIS fails to do so.

NEPA’s requirements are not satisfied by assertions that because “the demand for power is increasing in the U.S. and throughout the world”... “[i]t is not likely that selection of the No Action Alternative would result in a decrease of U.S. CO₂ emissions attributable to coal-burning power plants in the longer term because there are multiple other sources of coal that could supply the demand for coal beyond the time that the Antelope Mine completes recovery of the coal in its existing leases. DEIS, 3-169, 3-170. Irregardless, coal-fired power plants are a significant contributor to the generation of greenhouse gases, and consequently, to global warming. The BLM has a responsibility to examine not only the increase in greenhouse gases from the proposed leasing and development of the West Antelope II tract, but also the location, regional and global impacts of global warming on resources. The current DEIS neither discusses these impacts nor attempts to quantify them.

There is now growing scientific consensus that greenhouse gas emission reductions must begin within the next decade; otherwise, the planet will cross a “tipping point,” beyond which “it is virtually certain that there will be large-scale disastrous climate impacts for humans as well as for other inhabitants of the planet,” including “extermination of a substantial fraction of the animal and plant species on the planet” (Hansen 2006:15, 30). The impacts of climate change, which are exacerbated by coal leasing and development are much more than “reasonably foreseeable”—and the BLM must analyze them in the DEIS.

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The DEIS Fails to Analyze the Alternatives to Coal Based Energy and the “No Action” Alternative

The DEIS correctly acknowledges that the demand for power is increasing in the U.S. and throughout the world. DEIS, 3-169. According to the North American Electric Reliability Council, peak demand for electricity in the U.S. is expected to double in the next 22 years. DEIS, 3-169 (citing Associated Press, 2007). There are methods of generating electricity that result in fewer greenhouse gas emissions than burning coal, including natural gas, nuclear, hydroelectric, solar, wind, and geothermal resources. DEIS, 3-168. According to the IPCC, “there is high agreement and much evidence that all stabilization levels can be achieved by deployment of a portfolio of technologies that are either currently available or expected to be commercialized in coming decades....” DEIS, 3-168.

The existence of a viable but unexamined alternative renders an EIS inadequate. An agency must look at every reasonable alternative. Alaska Wilderness Recreation & Tourism Ass’n v. Morrison, 67 F.3d 723, 729 (9th Cir.1995)

NEPA mandates that federal agencies “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. § 4332(2)(E). Yet the DEIS failed to consider alternative methods. NEPA “requires that alternatives ... be given full and meaningful consideration.” Bob Marshall Alliance v. Hodel, 852 F.2d 1223, 1229 (9th Cir. 1988). The BLM failed to meet NEPA’s requirements.

After failing to analyze the greenhouse gas emissions that will result from the coal lease, the DEIS then compounds its error by failing to analyze a legitimate “No Action” alternative (Center for Biological Diversity 2006). In order to provide “a clear basis for choice among options by the decisionmaker and the public,” an agency’s EIS must consider the “no action” alternative. 40 C.F.R. § 1502.14; 40 C.F.R. § 1502.14(d) (EIS shall “[i]nclude the alternative of no action”). According to the BLM, in this case, there can be no true “No Action” alternative for the West Antelope II coal lease, because continued coal consumption is essentially a forgone conclusion. According to the DEIS “[i]t is not likely that selection of the “No Action” alternative would result in a decrease of U.S. CO₂ emissions attributable to coal-burning power plants in the longer term because there are multiple other sources of coal that could supply the demand for coal beyond the time that the Antelope Mine completes recovery of the coal in its existing leases.” DEIS, 3-170.

Climate change scientists have shown that imminent action is necessary to stabilize and reverse the rapid climate change already occurring. Regardless of what actions are taken to reduce greenhouse gas emissions, some level of global warming is already “in the

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pipeline,” because of past and current emissions. Scientists, however, have generally outlined two broad scenarios based on levels of future emissions: the “Business-as-Usual” scenario and the “Alternative” scenario. Under the alternative scenario, which would yield global warming of less than 1°C in the 21st century, carbon dioxide emissions must moderately decline before 2050 and then have a subsequent steeper decline in order that atmospheric carbon dioxide peaks at 475 ppm in 2100 and declines slowly thereafter. Under the business-as-usual scenario, if emissions continue to rise 2 percent a year, the same rate of increase as the first five years of the 21st century, there will be at least 2°C of global warming by 2100. If warming approaches these levels, the Earth will be a “different planet,” and “it is virtually certain that there will be large-scale disastrous climate impacts for humans as well as for other inhabitants of the planet” (Hansen 2006).

The window of opportunity to implement the alternative scenario is exceedingly narrow. If carbon dioxide emissions continue to rise at 2 percent per year for another decade, “the 35% increase [] (between 2000 and 2015) will make it implausible to achieve the Alternative scenario”). As the same time, “the tripwire between keeping global warming less than 1°C, as opposed to having a warming that approaches the range 2-3°C, may depend upon a relatively small difference in human-made direct forcings” (Hansen 2006).

The BLM was required to compare all of the environmental impacts from producing and utilizing the anticipated coal resources to the environmental impacts of not using them and instead relying on alternative energy sources. This disclosure and comparison is designed to facilitate better decision making, and allow the public and decision makers to change harmful behavior (see Center for Biological Diversity 2006). It is highly probable that if the public and decision makers were informed of the true costs of coal production, that they would greatly reduce use of these fuels by increased energy conservation, increased use of renewable energy, and other measures. Id. By hiding the impact of the greenhouse gas emissions from the proposed coal production, the BLM has prevented this process from functioning and attempted to turn its assumption about the continuing use of fossil fuels into a self-fulfilling prophecy. Id. This violation cannot be countenanced in light of the severe environmental consequences of continued fossil fuel use. Id.

The DEIS Fails to Analyze the Impacts of the Coal Lease on Threatened and Endangered Species

In both generalities and particulars, extensive new scientific information strongly demonstrates that global warming will adversely affect and jeopardize the continued existence of many threatened and endangered species.



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Statutory Background

The ESA was enacted, in part, to provide a “means whereby the ecosystems upon which endangered species and threatened species depend may be conserved...[and] a program for the conservation of such endangered species and threatened species...” 16 U.S.C. § 1531(b). The ESA “is the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” Tennessee Valley Authority v. Hill, 437 U.S. 153, 180 (1978). The Supreme Court’s review of the ESA’s “language, history, and structure” convinced the Court “beyond a doubt” that “Congress intended endangered species to be afforded the highest of priorities.” Id. at 174. As the Court found, “the plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost.” Id. at 184.

In order to fulfill the substantive purposes of the ESA, under section 7(a)(2) of the ESA, Congress prohibited federal agencies from authorizing, funding, or carrying out actions that would jeopardize the continued existence of threatened and endangered species, or that will destroy or adversely modify their designated critical habitat. 16 U.S.C. § 1536(a)(2) (Section 7 consultation); see also 50 C.F.R. § 402.02 (providing examples of agency “action”).

This mandate is met through a statutorily-created consultation process, under which the action agency, in cooperation with the U.S. Fish and Wildlife Service (“FWS”) (terrestrial species) or National Marine Fisheries Service (“NMFS”) (marine and anadromous species), analyzes potential impacts of the action on listed species, based on the “best available science.” Id. § 1536(b); 50 C.F.R. § 402.012(b). The action agency, in this case the BLM, must first assess the project’s effects on listed species and if the agency determines that the action may affect listed species, must prepare a biological assessment to initiate the consultation process. FWS or NMFS is then responsible for preparing a biological opinion (“BO”), which must address whether the project will violate the ESA’s prohibition against jeopardizing listed species or adversely modifying their critical habitat. If so, the agency may not proceed with any program, permit, or decision that would jeopardize a species’ survival unless the BO specifies reasonable and prudent alternatives (“RPAs”) that will avoid jeopardy and allow the agency to proceed with the action. 16 U.S.C. § 1536(b). See also Sierra Club v. Marsh, 816 F.2d 1376, 1384-86 (9th Cir. 1987) (enjoining highway construction because agency could not meet burden of absolute assurance that mitigation required to avoid jeopardy was possible).

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The West Antelope II Coal Lease “Affects” ESA-Listed Species

The scientific community has made enormous strides in its understanding of the nature and scope of anthropogenic global warming, as well as the enormous risks it poses to wildlife, birds, fish, and plants—especially those species that are already imperiled.

Numerous species will be affected by global warming. Species that are already imperiled by habitat destruction and fragmentation, pollution, over-harvesting and other factors will be especially prone to extinction as a result of global warming (Hannah et al. 2005:3-14). Therefore, the greenhouse gas emissions of the lease “may affect” such species, triggering the consultation requirement.

More pronounced global warming effects in the western U.S. pose particular risks to the region’s many threatened and endangered species. For example, the “sky island” mountains of Arizona, so named because they contain “islands” of forested habitat rising above a “sea” of desert and grasslands, contain at least 28 threatened or endangered species listed under the ESA. Because many of the mountain ranges are isolated from one another, their forested expanses contain a high proportion of endemic wildlife with highly restricted ranges. The U.S. Forest Service, which administers most of the land within these ranges, recently concluded that rising temperatures associated with global warming had adverse impacts on the sky islands, stating that its plants and wildlife “have not evolved to tolerate these new conditions.” (Egan 2007). For species that exist at the higher elevations of these ranges, there may be no opportunity to adapt; as temperatures rise, their habitat will simply disappear. As stated by one prominent scientist, “[a]s the climate warms, these species on top of the sky islands are literally getting pushed off into space.” Or in the words of another researcher, “I honestly believe that we are standing at the edge of a very, very large mass extinction, and top-of-mountain species are going to be the first to go” (Erickson 2005).

The highly imperiled Mt. Graham red squirrel, listed as endangered, vividly illustrates this risk. Endemic to a sky island range known as the Pinaleños, its population numbers have already been dramatically reduced through historic habitat loss. Beginning in 1996, the species’ only forest habitat has been altered through a series of insect outbreaks driven by warmer and drier conditions caused by global warming (Koprowski et al. 2005). As noted by scientists studying the species, “these impacts are expected to increase with current trends in global climate change” (Koprowski et al. 2005: 491; Ayres and Lombardero 2000). If those trends do continue, “[i]n a sense, the topmost community [of the Pinaleños] (the spruce-fir community [will] literally be[] burned up into the sky,” causing the Mt. Graham red squirrel to go extinct (Warshall 2007).²

² Global warming and, in particular, longer drought, is also predicted to negatively impact another squirrel species endemic to the eastern U.S., the Delmarva fox squirrel (Hilderbrand et al. 2007).



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The adverse effects of global warming on listed species within the western U.S. are by no means limited to mountaintop species, however. For example, global warming has been identified as a driving factor in the extirpation of thirty of the eighty peninsular bighorn sheep populations in California, as researchers have correlated those extirpations with those places where the climate has been the warmest and driest (Epps et al. 2004). In addition, decreasing snowfall associated with global warming has been found to negatively affect the Canada lynx, through decreased prey availability and decreased competitive advantage over other carnivores (Carroll 2006).

BLM is Violating Section 7 the ESA

Section 7 of the ESA requires federal agencies to ensure that any “action” they authorize, fund, or carry out is not likely to “jeopardize the continued existence of any endangered [] or threatened species,” or result in the destruction or adverse modification of critical habitats. 16 U.S.C. § 1536(a)(2). The applicable regulations direct agencies, in considering whether formal consultation is required, “to determine whether any action may affect listed species or critical habitat.” 50 C.F.R. § 402.14(a). A later portion of the same regulation confirms that agencies must consider the “effects of the action as a whole.” *Id.* § 402.14(c). The “[e]ffects of the action” include the “direct and indirect effects of an action on the species or critical habitat,” and “[i]ndirect effects are those that are caused by the proposed action and are later in time, but still are reasonably certain to occur.” *Id.* § 402.02. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. *Id.*

Despite increasing recognition that global warming poses grave threats to both human society and the natural world, and the fact that the mining and burning of coal is one of the paramount contributors to such warming, the BLM continues to approve new coal leases, which will in turn feed new coal-fired power plants. Coal mining emissions, and their contribution to global warming and species endangerment, are thus an “effect” of the BLM coal leasing program triggering a duty to initiate formal consultation. The BLM and Services are currently in violation of section 7, as they have failed to commence formal consultation.

Under these regulations, federal agencies are required to consider the “total impact” of a proposed project on listed species when consulting under section 7. Riverside Irrigation Dist. v. Andrews, 758 F.2d 508, 512 (10th Cir. 1985); North Slope Borough v. Andrus, 642 F.2d 589, 608 (D.C. Cir. 1980) (agency must look at “all ramifications” of its action). By requiring federal action agencies to broadly assess the effects of their proposed actions, and to consider such effects in the context of independent, baseline harms already occurring to a

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species, ESA regulations ensure that the section 7 consultation process is not conducted “in a vacuum,” and that agencies will “not take action that will tip the species from a state of precarious survival into a state of likely extinction.” Nat’l Wildlife Fed’n v. NMFS, 481 F. 3d 1224 (9th Cir. 2007). Coal-fired power plants are properly considered both “interrelated” and “interdependent” actions to the BLM’s coal leasing program, and the effect of these power plants on global warming and listed species must be assessed in the new consultation.

By defining “effects of an action” broadly, the ESA regulations do not distinguish between direct and indirect effects—both must be considered during consultation. Indeed, the centrality of indirect effects analysis to the consultation process is highlighted throughout the section 7 regulations. In addition to “effects of the action” encompassing both “direct and indirect effects,” the regulatory definition of “action” (actions include those “indirectly causing modifications to the land, water, or air”), “action area,” (“all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action”) and “destruction or adverse modification” of critical habitat (“a direct or indirect alteration that appreciably diminishes the value of critical habitat”) all explicitly include indirect effects. 50 C.F.R. § 402.02 (emphasis added); see also Village of False Pass v. Clark, 733 F.2d 605, 611 (9th Cir. 1984) (consultation must insure that direct and indirect effects of agency action will not jeopardize listed species); Connor v. Burford, 848 F.2d 1441, 1452 (9th Cir. 1988) (section 7 requires preparation of biological opinion analyzing all phases of agency action).

In determining what constitutes an indirect effect, the regulations demand only that they be “reasonably certain to occur,” 50 C.F.R. § 402.02, a standard that is consistent with normal tests of proximate causation and foreseeability. While “[p]roximate causation is not a concept susceptible of precise definition . . . It is easy enough [] to identify the extremes.” Babbitt v. Sweet Home Chapter of Cmty. for a Great Ore., 515 U.S. 687, 713 (O’ Connor, J., concurring). As such, questions of causation “depend[] to a great extent on considerations of the fairness of imposing liability for remote consequences . . . [A]t the least, [] proximate cause principles inject a foreseeability element into the statute.” Id.

Under even the most rigid of formulations, the contribution of coal-burning power plants on global warming are reasonably foreseeable indirect effects of the BLM coal leasing program under ESA regulations.³ The causal chain at issue is, in fact, short and unattenuated: the BLM permits the lease of coal, the Office of Surface Mining (“OSM”) approves the mining of coal under its coal regulatory program, and the mined coal is then

³ As noted above, the actual process of coal mining, and the handling and transportation of the mined coal, both result in significant greenhouse gas emissions, particularly methane. Thus, global warming is also a direct effect of the OSM coal mining program.



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utilized at coal-fired generating stations that comprise the largest source of CO₂ in the country. The greenhouse gas emissions and their contribution to global warming—which pose greater risks of mass extinctions than any other activity in human history—are consequently a reasonably foreseeable consequence of the BLM’s action. C.f. Friends of the Earth v. Watson, 2005 U.S. Dist. LEXIS 42335 (N.D. Cal. Aug. 23, 2005) (finding causation for standing purposes in action against agencies that provide loans, loan guarantees, and insurance to U.S. companies that invest in large international energy projects which contribute to global warming). It is equally clear that the mining and burning of coal within the U.S., by contributing to global warming, poses threats to listed species far beyond the regulation’s de minimis “may affect” threshold. See 51 Fed. Reg. 19,926, 19,949 (June 3, 1986) (section 7 rulemaking in which FWS and NMFS interpreted the “may affect” threshold for initiation and reinitiation of consultation as a very low bar, finding that “any possible effect, whether beneficial, benign, adverse, or of an undetermined character, triggers the formal consultation requirement.”) (emphasis added). Consequently, greenhouse gas emissions from coal-fired power plants, and their effect on global warming and listed species, are an indirect effect of the BLM’s coal mining program compelling formal consultation.

In addition to the requirement to consider greenhouse gas emissions as an indirect effect of the coal program, the ESA regulations create an independent duty on the BLM to consider coal-fired power plant emissions as an interrelated and interdependent action. “The test for interrelatedness or interdependentness is ‘but for’ causation: but for the federal project, these activities would not occur.” Sierra Club v. Marsh, 816 F. 2d 1376, 1387 (9th Cir. 1987) (quoting 51 Fed. Reg. 19,932 (1986)). Here, U.S. coal-fired power plants would not and could not operate without the domestic coal mining program possible through coal leases administered by the BLM. In recent years, approximately 90 percent of coal mined in the U.S. has been utilized at domestic power plants, while importation has always “represented a negligible share of U.S. coal,” and has not risen above 3.5 percent of domestic consumption for the past 35 years (EIA 2006:17; EIA 2007:3). Because these coal-fired power plants are interrelated to, and interrelated with the BLM coal leasing program, their effects on threatened and endangered species present an additional and independent basis compelling the BLM to initiate consultation.

Conclusion

Although the BLM does not authorize mining by issuing a lease for federal coal, it is a logical consequence of issuing a maintenance lease to an existing mine that coal will be mined. Although the use of the coal after it is mined is not determined at the time of leasing, almost all of the coal that is currently being mined in the Wyoming PRB is being used by coal-fired power plants to generate electricity. Therefore, and based on the aforementioned

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deficiencies, we believe the BLM must revise the DEIS and update it to include an accurate, current, and complete discussion of the impacts of greenhouse gas emissions from the lease sale, of the impacts of global warming on the resources affected, and of impacts on listed species and non-listed species.

All references cited in the text are listed in the Literature Cited section below. We request that the BLM carefully review and consider these important references. A CD with the scientific studies will be provided at a later date and under a different cover. They are also part of the administrative record for this rulemaking.

Thank you very much for your consideration of these comments. Please contact me at (202) 682-9400 or at the address on this letterhead if you have any questions or concerns.

Sincerely,

Erin Lieberman
Legal Fellow



National Headquarters

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United States Department of the Interior

U. S. GEOLOGICAL SURVEY

Reston, VA 20192

In Reply Refer To:
Mail Stop 423

April 11, 2008

Ms. Sarah Bucklin
Bureau of Land Management
Casper Field Office
2987 Prospector Drive
Casper, WY 82604

Subject: Draft Environmental Impact Statement for the West Antelope II Coal Lease
Application WYW163340, WY

Dear Ms. Bucklin:

As requested by your correspondence of January 11, 2008, the U.S. Geological Survey (USGS) has reviewed the subject draft environmental impact statement (DEIS) and offers the following comments.

SPECIFIC COMMENTS

Section 3.3.2.1.1 Conventional Oil and Gas, page 3-14, first paragraph

This paragraph cites USGS Fact Sheet 2006-3135 as the source of estimated means of undiscovered oil and conventional and continuous gas resources for the Powder River Basin.

The resource data provided in the DEIS are:

- 639 million barrels of conventional and continuous oil,
- 1.21 trillion cubic feet of conventional gas (i.e. not including coal bed natural gas), and
- 130.91 million barrels of conventional and continuous natural gas liquids.

These data are somewhat inconsistent with the USGS data published in Fact Sheet 2006-3135, which is available on the Internet at: http://pubs.usgs.gov/fs/2006/3135/pdf/FS06-3135_508.pdf. Table 1 in the fact sheet lists resource values as follows:

- Total estimate of mean undiscovered conventional and continuous oil resources = 638.96 million barrels of oil
- Total estimate of mean undiscovered conventional and continuous gas resources = 16.63 trillion cubic feet of gas
- Total estimate of mean undiscovered conventional gas (i.e. not including coal bed natural gas) resources = 1.16 trillion cubic feet

- Total estimate of mean undiscovered conventional and continuous natural gas liquids = 130.91 million barrels of natural gas liquids

The DEIS reports USGS mean undiscovered estimates for conventional and continuous oil and natural gas liquids, but for natural gas only estimates of conventional resources are reported. It would help the reader to explain why continuous gas resources were excluded.

The basis of the estimate of 1.21 trillion cubic feet of conventional gas (i.e. not including coal bed natural gas) should be provided. From Table 1 in the USGS Fact Sheet, the total should be 1.13 trillion cubic feet of conventional gas.

Thank you for the opportunity to review and comment on the DEIS. If you have any questions concerning our comments, please contact Frances Pierce, Geology Discipline, at (703) 648-6636 or at fpierce@usgs.gov.

Sincerely,

/Signed/

James F. Devine

Senior Advisor for Science Applications



Lesley
Collins/CFO/WY/BLM/DOI
03/26/2008 11:07 AM

To Sarah Bucklin/CFO/WY/BLM/DOI@BLM
cc
bcc
Subject Fw: Attn Sarah Bucklin

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"Shannon Anderson"
<sanderson@powderriverbasin.org>
03/25/2008 01:32 PM

To <casper_wymail@blm.gov>
cc
Subject Attn Sarah Bucklin

Hi Sarah,

Please find our comments on the West Antelope II DEIS attached. We greatly appreciate the opportunity to participate in the process. I also enjoyed attending the meeting last night -- the information was presented well and was very informative.

Kind regards,
Shannon

Shannon Anderson
Powder River Basin Resource Council
934 N. Main St., Sheridan, WY 82801
Office: 307-672-5809 Cell: 307-763-1816



sanderson@powderriverbasin.org W. Antelope Coal Lease DEIS Comments.doc

ENCOURAGING RESPONSIBLE DEVELOPMENT TODAY ~ FOR TOMORROW

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March 31, 2008

Bureau of Land Management, Casper Field Office
 Attn: Sarah Bucklin
 2987 Prospector Drive
 Casper, WY 82604
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RE: Draft EIS West Antelope II Coal Lease Application

Dear Ms. Bucklin:

Thank you for the opportunity to review the Draft Environmental Impact Statement (DEIS) and present our comments and concerns on the proposed West Antelope II Coal Lease Application.

The Powder River Basin Resource Council (PRBRC) has a long history of involvement working for responsible coal leasing and mining in the Powder River Basin. PRBRC was formed in 1973 by ranchers and concerned citizens of Wyoming to address the impacts of strip mining on rural people and communities. Today, we work for the preservation and enrichment of our agricultural heritage and rural lifestyle; the conservation of our unique land, mineral, water, and clean air resources, consistent with the responsible use of those resources to sustain the livelihood of present and future generations; and the education and empowerment of our citizens to raise a coherent voice in the decisions that will impact their environment and lifestyle. Our members live, work, and travel throughout the Powder River Basin near the various coal mines of the area. We write these comments on their behalf.

1. Failure to Appropriately Demonstrate Project Need and Purpose

The DEIS's one and a half page analysis of project need and purpose¹ is woefully inadequate. The BLM fails to explain why the mine is needed at this time, especially when it estimates that the existing mining tracts of the Antelope Mine will not be depleted for "approximately 11 years." According to the DEIS, the mine will produce an estimated 36-42 million tons of coal each year and will extend the life of the Antelope Mine by 10-12 years.² However, the DEIS speaks only in general terms about how this coal "helps provide a stable supply of power" and does not appropriately demonstrate that this mine is specifically needed to provide coal to existing or projected coal-fired power plants. The DEIS lacks a discussion about existing coal

¹ DEIS at 1-8 to 1-9.

² DEIS at 2-6.

reserves and whether those existing reserves (and projected reserves through the next 11 years) will be sufficient (or not sufficient) to meet existing and projected power needs.

Additionally, the DEIS fails to mention whether the coal mined through this new lease will be needed in the United States or will be exported internationally. Growth of coal-fired power plants in the United States has dramatically slowed because of concern over greenhouse gases and other pollution. At the same time, coal is in high demand across Asia and other parts of the world. According to the Washington Post, "In the United States, it is getting harder to license and borrow money to build new coal plants. But Peabody Energy's chief executive Gregory H. Boyce says foreign demand will sustain mining output."³ The New York Times recently reported that coal exports are continuing to increase in light of this growing international demand.⁴ The public, and particularly citizens of Wyoming that will be heavily impacted by this development, have the right to know whether the true need for this project is domestic or international.

Without complete analysis of the project need, it is difficult for members of the public and consulting agencies to appropriately comment on the proposed alternatives and whether these alternatives could meet the project need. For instance, Alternative 5 (delaying the sale of the lease tract), which was not analyzed in detail, could potentially meet the project need and provide environmental and socio-economic benefits (such as potential increase in royalty revenue, increased chance for contemporaneous reclamation, and improved local and regional air quality). Likewise, Alternative 3 (no action) may be the most prudent choice at this time given the significant environmental and public health consequences of the other alternatives. However, given the lack of specific and detailed analysis in the DEIS about project need, it is almost impossible for a member of the public to exercise their judgment.

2. Adequate Protection of Public Health & Welfare

Coal mining in the Powder River Basin creates significant public health impacts. In particular, coal mining activities contribute to emissions of particulate matter. PM₁₀ is small enough to "pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects."⁵ According to the California Air Resources Board:

PM₁₀ is among the most harmful of all air pollutants. When inhaled these particles evade the respiratory system's natural defenses and lodge deep in the lungs. Health problems begin as the body reacts to these foreign particles. PM₁₀ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections.⁶

³ Stephen Mufson and Blaine Harden, *Coal Can't Fill World's Burning Appetite*, WASHINGTON POST, March 20, 2008, Page A01, available at <http://www.washingtonpost.com/wp-dyn/content/article/2008/03/19/AR2008031903859.html?wpisrc=newsletter&sid=ST2008032000989>.

⁴ Clifford Krauss, *An Export in Solid Supply*, NEW YORK TIMES, March 19, 2008, available at <http://www.nytimes.com/2008/03/19/business/19coal.html?ex=1206590400&en=7ab8547ecec3f33&ei=5070&emc=etal>.

⁵ U.S. Environmental Protection Agency, *Particulate Matter*, available at <http://www.epa.gov/particles/>.

⁶ California Environmental Protection Agency, Air Resources Board, PARTICULATE MATTER BROCHURE, available at <http://www.arb.ca.gov/html/brochure/pm10.htm>.

As the DEIS notes, “In early 2007, nine exceedances [of the PM₁₀ standard] were monitored at four mines.”⁷ Clearly, particulate matter emissions are an ongoing problem in the Powder River Basin and notably in the Wright Area Subregion where the Antelope Mine is located.

Additionally, blasting activities lead to increased nitrogen oxides (NO_x) exposure of nearby residents. Repeated exposure to one form of NO_x, NO₂, “may exacerbate pre-existing respiratory conditions, or increase the incidence of respiratory infections.”⁸ Reactions between NO_x and other compounds form ozone which is the main component of smog. The Environmental Protection Agency (EPA) is in the process of improving its ozone regulations in response to concerns about ozone’s impacts on public health and the environment.⁹

Mining activities also create a number of socio-economic concerns that impact human health, including inadequate and unaffordable housing and an overall increased cost of living.¹⁰

In light of these concerns, we believe BLM should conduct a Human Health Impact Assessment¹¹ related to the site-specific issues of this proposed coal lease and cumulative health issues of coal mining and related energy activity in the Powder River Basin. Requiring a Health Impact Assessment will allow BLM to fulfill its responsibility under NEPA to consider the effects on the “human environment.” 42 U.S.C. § 4332(B), 40 C.F.R. § 1508.14. The protection of public health was one of the primary goals of NEPA. During congressional hearings, Senator Henry Jackson, one of the Act’s primary authors, testified that one of NEPA’s main purposes is to stimulate the health of the nation. With this history in mind, the CEQ regulations specifically require that agencies consider “the degree to which the proposed action affects public health or safety.” 40 C.F.R. § 1508.27(b).

We also urge BLM to add the Center for Disease Control and Prevention, Wyoming Department of Health and/or local public health departments as consulting agencies for this DEIS. As evidenced by the paucity of information related to human health in the DEIS, the BLM and the current consulting agencies do not have the appropriate expertise or information to fully and adequately analyze potential impacts to public health. At the very least, the DEIS needs to include and consider available public health data and research to allow BLM and mining companies to properly mitigate additional harms caused by this proposed coal lease.¹²

⁷ DEIS at 3-28.

⁸ DEIS at 3-38.

⁹ See WY Department of Environmental Press Release, *EPA Releases new National Ambient Air Quality Standards for Ozone*, March 12, 2008, available at <http://deq.state.wy.us/out/downloads/EPA%20ozone%20standard.pdf>.

¹⁰ The DEIS cites that “The average selling price of homes in Converse County in 2005...was \$147,560, nearly 29 percent higher than the preceding year.” DEIS at 3-160.

¹¹ Intergovernmental institutions have adopted requirements for Health Impact Assessments. Even international corporations and trade groups such as the International Association of Oil and Gas Producers, have endorsed Health Impact Assessments as a way to protect the public, achieve the maximum benefit for local communities, and streamline permitting through proactively addressing communities’ concerns.

¹² The Wyoming Department of Health has information on environmental public health that could be incorporated into this DEIS. See <http://www.health.wyo.gov/phsd/ehl/index.html>. Likewise, the Center for Disease Control and Prevention has resources and expertise that should be utilized in this DEIS. See <http://www.cdc.gov/Environmental/>.

3. Minimization of Global Warming Impacts

Although we appreciate the inclusion of climate change impacts in the DEIS,¹³ we believe the DEIS falls short in addressing all “reasonably foreseeable” environmental impacts of this proposed action. 40 C.F.R. §§ 1508.7, 1508.8. Greenhouse gas emissions are clearly within the direct, indirect and cumulative effects that NEPA documents must analyze.¹⁴

An estimated 90 percent of coal that is mined in the United States is used for coal-fired power generation. Coal-fired power generation is one of the leading contributors to global warming and global climate change in the United States and internationally. Additionally, new projects, such as coal-to-liquids plants, threaten to dramatically increase carbon dioxide and other global warming pollution levels. Moreover, as mentioned above, more and more coal is being exported from the Powder River Basin internationally to countries that do not have the same environmental protections that the U.S. has.

Completing a thorough analysis will help the BLM fulfill its legal obligation under NEPA to “recognize the worldwide and long-range character of environmental problems” and support international efforts to prevent “declines in the world environment.” 42 U.S.C. § 4332 (F).

4. Proper Consideration of Cumulative Impacts

“A necessary component of NEPA’s ‘hard look’ is ‘a sufficiently detailed catalogue of past, present, and future projects, and...adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment.’”¹⁵ The Powder River Basin is already heavily impacted by coal and other industrial development, such as oil, gas, uranium, and coalbed methane. The DEIS needs to greatly expand the cumulative impacts section and properly account for the interplay between all of this development and its continuing substantial impact on the people and places of Northeast Wyoming.

5. Site Specific & Cumulative Air Quality Impacts

Our members have expressed serious concern throughout the years regarding the degraded and poor air quality caused to nearby landowners from the dust and other emissions coming off mines in the Powder River Basin. We feel the DEIS does not properly analyze site specific and cumulative air quality impacts of industrial activity in the Powder River Basin.

In particular, we encourage BLM or other public land managers to condition approval of this lease on the inclusion of blasting restrictions similar to those of the Eagle Butte and Black Thunder Mines to mitigate the public health and environmental impacts of NOx. Although the DEIS mentions these restrictions,¹⁶ the document does not disclose whether the restrictions

¹³ DEIS at 3-167 to 3-168.

¹⁴ See *Mid States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520 (8th Cir. 2003) (holding increased coal consumption and global warming emissions was reasonably foreseeable effect of railroad expansion to transport coal).

¹⁵ *Oregon Natural Resources Council Fund v. Goodman*, 505 F.3d 884, 892 (9th Cir. 2007), quoting *Lands Council v. Forester of Region One*, 395 F.3d 1019, 1027-28 (9th Cir. 2005).

¹⁶ DEIS at 3-42 to 3-43.

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4

would apply to this new mine tract or whether the measures would merely be voluntary. We encourage BLM and WDEQ to ensure that these restrictions will take place, or else they should not be considered as appropriate mitigation measures for NOx impacts.

The DEIS does not adequately analyze how local and regional climatic conditions contribute to air quality concerns. According to the Wyoming Climate Atlas of the University of Wyoming, “during the winter there are frequent periods when the wind reaches 30 to 40 mph with gusts of 50 or 60 mph.”¹⁷ The Atlas states that Wyoming ranks first in the United States in annual average wind speed.¹⁸ Winds of these speeds have the potential to blow particulate matter and other air pollution for great distances, impacting public health and visibility for hundreds of miles. Violations of National Ambient Air Quality Standards (NAAQS) have been recorded for the area surrounding the Antelope Mine and these violations are often attributed to high wind events. As mines get increasingly larger in geographic area, additional exposed land coupled with wind contributes to reduced air quality. We object to the use of the Natural Events Action Plan¹⁹ as a scapegoat for industry to avoid their legal duties to protect public health and the environment. Mitigation measures should be created to prevent exceedances in the first place not merely ameliorate them when they occur.

In addition to health consequences detailed above, PM₁₀ causes substantial environmental impacts. Fine particulate matter is “the major cause of reduced visibility (haze) in parts of the United States, including many of our treasured national parks and wilderness areas.”²⁰ Since wind carries particles over long distances, the local and regional consequences of coal and other industrial activity become more severe in high wind areas. The settling of particulate matter carried by wind has numerous ecological impacts, including “making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.”²¹

As Campbell County’s Natural Resource and Land Use Plan identifies, air quality “is of...significant value to the economic viability of Campbell County and the state of Wyoming.”²² We urge the BLM and other public land managers to take that message to heart and do everything it can to protect the value of Wyoming’s air resources.

6. Site Specific & Cumulative Impacts on Groundwater Quality & Quantity

It is common knowledge that water is a precious and scarce commodity in Wyoming. As much of Wyoming is classified as a desert because of limited rainfall, most residents and businesses depend on groundwater. Although water quality is a concern, impacts to water quantity are equally a concern of our members. While the DEIS briefly mentions “dewatering” that has

¹⁷ Jan Curtis and Kate Grimes, Wyoming Climate Atlas, University of Wyoming, Section 11.1, *available at* <http://www.wrds.uwyo.edu/wrds/wsc/climateatlas/wind.html>.

¹⁸ *Id.*

¹⁹ See DEIS at 3-35.

²⁰ U.S. Environmental Protection Agency, *Particulate Matter: Health and Environment*, *available at* <http://www.epa.gov/particles/health.html>.

²¹ *Id.*

²² Campbell County Natural Resource and Land Use Plan, adopted August 21, 2007, at 75, *available at* <http://cgg.co.campbell.wy.us/Commissioners/Land%20Use%20Plan.pdf>.

occurred “as a result of previous mining and CBNG development,”²³ the document fails to substantially and adequately analyze the site specific and cumulative impacts of industrial and other development in the area. Specifically, how many wells will be lost or impacted? Will the groundwater drawdown impact residential or livestock uses? If lost water rights are replaced from other sources,²⁴ how will this activity impact regional aquifers? The DEIS should consider the overarching question of whether any drawdown is appropriate in an area where CBM development has already produced significant and irreversible impacts to regional aquifers. All of these questions must be answered prior to this lease. The DEIS also fails to discuss the growing demand for water in Gillette and other areas of the Powder River Basin, specifically as a result of growing populations from industrial development, and the issue of where this water supply will be met.

6

7. Site Specific & Cumulative Impacts on Surface Water Quality & Quantity

The DEIS notes that “no mining has been conducted on Antelope Creek nor on an adjacent buffer zone of 100 ft on either side of the creek.”²⁵ We urge the BLM to consider the impacts of the proposed revision to OSM’s stream buffer zone rules.²⁶ If these rules are approved, will this buffer zone change? If so, what will be the impacts to water quantity and quality in the area? Moreover, if the current buffer remains, what steps will BLM and OSM take to ensure that the buffer is enforced?

We also encourage the BLM to comply with Section 404 of the Clean Water Act. Section 404 regulates the discharge of dredged and/or fill materials into waters of the United States, including materials caused by mining activities. Regulations for Section 404 establish a regulatory framework to avoid, minimize, and then mitigate impacts caused by the discharge of dredged or fill materials. According to the Fish and Wildlife Service, “The fundamental rationale of the [404] program is that no discharge of dredged or fill material should be permitted if there is a practicable alternative that would be less damaging to our aquatic resources or if significant degradation would occur to the nation’s waters.”²⁷ As the DEIS recognizes, wetlands serve a critical role in prairie ecosystems by “controlling flood waters, recharging groundwater, and filtering pollutants” and “the vegetation in [wetland] environments is highly productive and diverse, and provides habitat for many wildlife species.”²⁸ There is no mention in the DEIS of the Section 404 framework; instead, the BLM takes for granted that through leasing this coal tract, “42.9 acres of wetland and other waters of the U.S. would be disturbed.”²⁹ The DEIS must, at the very least, explain why impacts to these wetlands cannot be avoided or minimized.

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There are very few streams or other surface water sources in the Powder River Basin, and the BLM and other public land managers need to appropriately protect these water resources.

²³ DEIS at 3-59.

²⁴ DEIS at 3-70.

²⁵ DEIS at 3-67.

²⁶ See Office of Surface Mining Press Release, August 24, 2007, at <http://www.osmre.gov/news/082407.pdf>.

²⁷ U.S. Fish & Wildlife Service, *Clean Water Act Section 404*, at <http://www.fws.gov/habitatconservation/cwa.htm>.

²⁸ DEIS at 3-76.

²⁹ DEIS at 3-78.

8. Impacts on Wildlife Populations and Habitat

The BLM must fully analyze habitat depletion and how mining activities will impact threatened or sensitive species. BLM estimates that mining activities will destroy 42.9 acres of wetlands and will reduce habitat diversity and carrying capacity (even after reclamation).³⁰ Additionally, mining activities will impact sagebrush and grassland habitats. Sagebrush habitat takes a long time to properly reclaim and as the DEIS acknowledges, “An overall reduction in [vegetation] species diversity, especially for the shrub component, would occur.”³¹ We are concerned that the increasing loss of sagebrush habitat in the Powder River Basin may be contributing to population declines, particularly of sage grouse. Sage Grouse leks are known to historically occur in and near the proposed area. Given the likelihood of greater sage grouse being listed on the endangered species list, the DEIS needs to provide current information on the status of the leks and the sage grouse in the leasing area. Please provide a map showing the leks and known sage grouse populations in the area in the DEIS. Although the DEIS explains in detail likely impacts on sage grouse from mining activities, the document is silent on mandatory and voluntary mitigation measures that could be implemented to reduce the impact on this critical species, including protection for the leks and buffer areas. Moreover, mitigation measures for other key species should be included in the lease plan and documented in the DEIS.

Thank you for the opportunity to review and comment on the proposed West Antelope II coal lease application. Given the above concerns, we hope you will integrate our comments and expand the analysis of the DEIS. We urge you to amend the DEIS and re-circulate it for public comment. We look forward to participating in that process.

Sincerely,

Shannon Anderson
Organizer, Powder River Basin Resource Council

³⁰ The DEIS acknowledges that “Direct adverse impacts resulting from topographic moderation include a reduction in microhabitats for some wildlife species and a reduction in habitat diversity.” DEIS at 3-7.

³¹ DEIS at 3-89.



Lesley
Collins/CFOWY/BLM/DOI
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03/26/2008 10:49 AM

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cc
Subject Attn Sarah Bucklin

Please supplement our comments to the DEIS on the West Antelope II coal lease tract with the following information just released from West Virginia University, available at <http://health.wvu.edu/newsreleases/news-detail.asp?ID=844>.

1

Thank you,

Shannon Anderson
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08-051
For More Information:
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WVU study links chronic illness to coal-mining pollution

MORGANTOWN, W.Va. – Pollution from coal mining may have a negative impact on public health in mining communities, according to data analyzed in a West Virginia University research study.

“Residents of coal-mining communities have long complained of impaired health,” Michael Hendryx,

Ph.D., associate director of the WVU Institute for Health Policy Research in WVU's Community Medicine department, said. "This study substantiates their claims. Those residents are at an increased risk of developing chronic heart, lung and kidney diseases."

The study, "Relations between Health Indicators and Residential Proximity to Coal Mining in West Virginia," will appear in the April issue of the American Journal of Public Health.

Hendryx and co-author Melissa Ahern, Ph.D., of Washington State University, used data from a 2001 WVU Health Policy Research telephone survey of more than 16,400 West Virginians. That was correlated with data from the West Virginia Geological and Economic Survey, which shows volume of coal production from mining in each of the state's 55 counties.

The goal was to determine whether there is a relationship between coal production and forms of cardiovascular, lung and kidney disease in the state.

According to Hendryx, as coal production increases, so does the incidence of chronic illness. Coal-processing chemicals, equipment powered by diesel engines, explosives, toxic impurities in coals, and even dust from uncovered coal trucks can cause environmental pollution that could have a negative affect on public health.

According to Hendryx, the data show that people in coal mining communities

- have a 70 percent increased risk for developing kidney disease.
- have a 64 percent increased risk for developing chronic obstructive pulmonary disease (COPD) such as emphysema.
- are 30 percent more likely to report high blood pressure (hypertension).

"We've considered that chronic illness might be prevalent in these areas because rural West Virginians have less access to health care, higher smoking rates and poorer economic conditions," Hendryx said. "We've adjusted our data to include those factors, and still found disease rates higher in coal-mining communities."

Hospitalization rates in these communities also were studied. Data show the risk of hospitalization stays for

- COPD increases 1 percent for every 1,462 tons of coal.
- hypertension increases 1 percent for every 1,873 tons of coal.

"Total mortality rates are higher in coal-mining areas compared to other areas of Appalachia and the nation," Hendryx said. "The incidence of mortality has been consistently higher in

coal-mining areas for as long as Centers for Disease Control rates are available, back to 1979.”

Total mortality data for West Virginia suggests there are 313 excess deaths every year from coal-mining pollution.

More detailed reports documenting the increases of mortality rates in coal-mining communities will be published in national journals this spring.

The researchers note that their study is an analysis of existing data, which limits the overall depth of the findings. Their next steps are to directly measure air and water quality in coal-mining communities.

“People in coal-mining communities need better access to healthcare, cleaner air, cleaner water, and stricter enforcement of environmental standards,” he said. “Our study helps open the door for further explorations of community health and coal mining. We owe it to people in those communities to start protecting and repairing their health.”

For more information on the WVU Department of Community Medicine, visit www.hsc.wvu.edu/som/cmed/.

- WVU -

cw: 03-25-08

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements

Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - - Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate: EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information: The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate: EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment, February, 1987.



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

1595 Wynkoop Street
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Phone 800-227-8917
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Ref: EPR-N

April 22, 2008

Sarah Bucklin
Project Manager
Bureau of Land Management
Casper Field Office
2987 Prospector Drive
Casper, WY 82604

Subject: Draft Environmental Impact Statement for West Antelope II Coal Lease Application [CEQ# 20080038]

Dear Ms. Bucklin:

The U.S. Environmental Protection Agency (EPA) has reviewed the Bureau of Land Management's (BLM) Draft Environmental Impact Statement (DEIS) for West Antelope II Coal Lease Application to assess the consequences of issuing a lease for a 4109-acre tract of federally-owned solid minerals making available 430 million tons of surface-minable coal in the Powder River Basin of Wyoming. Our review and comments are provided pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(c) and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609.

Air quality continues to be EPA's main concern for the energy activities in the Powder River Basin (PRB). Large surface coal mines have the potential to become particulate emission sources in the PRB contributing to air quality degradation. Although the Wyoming Department of Environmental Quality (WDEQ) has by statute, the authority and responsibility to require mitigation for air quality impacts, the FEIS should propose additional mitigation measures for air quality impacts that may go beyond BLM's jurisdiction for managing this solid mineral lease. (See CEQ Forty Questions: #19b). Recent air quality monitoring has shown exceedances of the PM₁₀ (particulate matter less than 10 micrometers in diameter, commonly referred to as fugitive dust) air standard.

Air quality models also predict additional increases in PM₁₀ emissions for this mining area, potentially causing exceedances of the air quality standards. Therefore, we are recommending that the FEIS analyze more effective dust control measures than the current BACT and BACM practices and develop additional mitigation to reduce fugitive dust from mining the lease tract and the cumulative effects of mining in the surrounding area.

EPA also has concerns about the impacts of nitrogen dioxide emissions from cast blasting shots and whether or not existing mitigation is sufficient. Voluntary blasting restrictions to control public exposure to NOx emissions may not be reasonable mitigation depending on the proximity of public exposure to the explosive fumes. The most successful control measure would be to eliminate cast blasting entirely as the Eagle Butte Mine has done.

EPA is also concerned about wildlife impacts to raptors, sage grouse and the long-term success of coal mine reclamation to replace destroyed wetlands in the basin.

Based on the procedures EPA uses to evaluate the potential effects of the examined alternatives and the adequacy of the information in the DEIS, the proposed action will be listed in the Federal Register in the category EC-2 (EC - Environmental Concerns, 2 - Adequate Information). This rating means that the review identified environmental impacts that should be avoided in order to fully protect the environment and the DEIS adequately sets forth the environmental impacts of the preferred alternative from information reasonably available on the project. Tiering your discussion of the cumulative environmental consequences from the information reported in the PRB Coal Review studies has been effective. For that reason, all the reports still in preparation from that series should be completed by the FEIS publication date.

Please see the following detailed comments for our specific environmental and informational concerns. We appreciate your interest in our comments. If you have any further questions, please contact James Hanley of my staff at (303) 312-6725.

Sincerely,

/S/

Larry Svoboda
Director, NEPA Program

In our comments, EPA endeavored to provide new regulatory information that could alter your conclusion. Our review examined your analyses or assumptions for flaws that would undermine the preferred alternative. We tried to point out any technical errors that might mislead the concerned public reader of this document. Most importantly, we have issued most comments to request clarifications that will support your conclusions in the Final Environmental Impact Statement (FEIS).

Air Quality

PM₁₀ Fugitive Dust

1. 4.2.3 (Tables 4-10 through 4-11). The tables disclose potential cumulative impacts that BLM modeled in the recent PRB Coal Review. Potential cumulative impacts exceeded significance thresholds in the case of the National Ambient Air Quality Standards (NAAQS) for particulate matter as PM₁₀ and some of the increments under the Prevention of Significant Deterioration regulations. Air monitoring stations located near the West Antelope Mine have measured concentrations near the 24-hour PM₁₀ NAAQS. In addition, several other PM₁₀ stations in the Powder River Basin have also measured PM₁₀ above the 24-hour standard. EPA is concerned that both monitoring data and modeling results suggest potentially significant project-specific and cumulative PM₁₀ impacts caused by existing or future development. The FEIS should also more fully evaluate mitigation for reducing PM₁₀ through future actions tiering from this NEPA analysis such as additional stipulations or conditions of approval for the coal-mining plan of development.

1

2. Current Monitoring Data exceeds predictions of Wyoming DEQ Permit Model. The theory of PM₁₀ control in the Wyoming PRB coal mines is: (1) Wyoming DEQ uses a conservative Fugitive Dust Model to determine coal production levels that will not exceed annual NAAQS at any monitor when required BACM (Best Available Control Methods) is used; and (2) monitoring data is used (in the absence of accurate short term models) to show that at actual production levels, 24-hour PM₁₀ NAAQS exceedances do not occur (and confirm compliance with the Annual NAAQS).

When monitoring does not correspond to the predictive model, this indicates that the assumptions and input to the model need to be reassessed. This is particularly important when we have data documenting exceedances and the model predicts that the mines will comply with the standard. Unfortunately, monitoring data showing exceedances at nearby Black Thunder and North Rochelle mines since 2000 have shown the current air quality control approach to be flawed. Both annual and 24-hour PM₁₀ exceedances have occurred. We have listed below some potential causes of the disparity between the air permit model and monitoring data:

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- a. The current DEQ Permit model under predicts mine emissions even with implemented BACM.
- b. BACM, while required, was not in place when exceedances occurred.
- c. The background level is higher than that assumed.

- d. New, unmodeled sources have been introduced near the monitors showing exceedances.

No matter which of these situations is the actual cause or a combination, either mine emissions or other emissions must be reduced before production at the 36 to 42 mmtpy will comply with PM₁₀ standards.

- 3. 3.4.2.3 (Page 3-35), the Natural Event Action Plan (NEAP) for the mines in the PRB is referenced. The NEAP was developed with cooperation between the Wyoming Department of Environmental Quality (WDEQ) and the PRB coal mines, including West Antelope. The EPA approved the NEAP in January 2007. On 22 May 2007, EPA finalized the Exceptional Event Rule (40CFR50 and 40CFR51) which has many of the same features as the previous policies that preceded it and should be appropriately referenced in this section. The PM₁₀ control strategies, including BACM, listed in the NEAP are applicable to the Exceptional Event Rule as Reasonable and Appropriate controls. The controls listed within the NEAP should be viewed as the minimum required. Additional mitigation of PM₁₀ should be introduced if PM₁₀ exceedances occur at the Antelope mine.

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- 4. 3.4.1.1 (Table 3-3) Assumed Background Air Pollutant Concentrations. This table contains references to several air monitoring site data collected generally from 2002-2004. The Table units are presented as ug/m³, however, for some of the parameters it appears that ppb units may be shown instead. Please ensure units are correct. In addition, there are much more recent data available from 2006 and 2007 that should also be incorporated into the table.
 - a. The background concentration for NO₂ is listed for the Thunder Basin National Grassland Monitoring Site, which is located more than 20 miles north of Gillette. Please replace this location with the Antelope Site 3 NO₂ monitoring data located near the Antelope II Coal Lease, which would be more representative of true background conditions.
 - b. The background concentration for O₃ is listed to be 70 ppb. The most recent data for the Thunder Basin National Grassland Monitoring Site is 0.069 ppm for a 3-year average 4th max. Another WDEQ operated site located 15 miles SSW of Gillette measured 0.067 ppm for the 3-year average 4th max.
 - c. Data for SO₂ should be updated to more recently measured concentrations at the Wyodak Site 4 monitoring station in Campbell County, Wyoming.
 - d. It is unclear why data from Eagle Butte Mine was used for background PM₁₀ in Table 3-3. There are numerous nearby PM₁₀ monitoring sites in the southern PRB, including sites at the Antelope Mine, which are presented in Tables 3-4 and 3-5 of the DEIS. For NEPA purposes data presented as Background Data should be

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data that represents base case ambient conditions near the proposed action.

5. 3.4.2.1 (Table 3-4) The table presents summary data from the Antelope mine PM10 monitoring sites. It is not clear why the 2nd maximum PM₁₀ concentrations were presented. Typically, maximum PM₁₀ 24-hour concentrations are presented. Please update the data to include 1st maximum concentrations. The Table should also include the 2006 and 2007 data.

a. Table 3-5 Summary of PM₁₀ for Wright Area Subregion should also include data from 2006 and 2007.

6. 4.2.3 (Page 4-33, 1st full paragraph) Current text indicates modeling shows that *the projected mine activities at the Antelope Mine will be in compliance with the PM₁₀ ambient air standards for the life of mine*. It is not clear to EPA that this conclusion has been demonstrated in the DEIS. 3.4.2.2.1 (Page 3-29, 2nd full paragraph) references modeling analysis conducted to ensure compliance with the annual PM₁₀ standard. Very little information is supplied in the DEIS on this project-specific analysis. A description of this modeling with assumptions and results should be made in the FEIS. A cumulative analysis was conducted for the DEIS as referenced from the PRB Coal Review analyses.

a. Page 4-35 references the Memorandum of Agreement between the WDEQ and EPA (January 24, 1994). A condition of the agreement is to continue PM₁₀ monitoring near the mine to ensure compliance with the 24-hour PM₁₀ NAAQS. BLM should ensure that the mine operator consult with the WDEQ on any monitoring site adjustments or additions due to the proposed expansion of the active mine area. Particular attention should be made to shifting monitors closer to the active mine areas and the placement of air monitoring sites in order to determine maximum impacts from the proposed action.

7. We recommend that the DEIS disclose that emissions from coal combustion have been identified as a significant source of atmospheric mercury. EPA's web site at <http://www.epa.gov/mercury/report.htm> has several reports summarizing the environmental impacts of mercury, primarily bioaccumulation in the aquatic food web. Concentrations of mercury emitted as a result of combustion vary depending on the chemistry of coal deposits and the type of air pollution controls. For purposes of the DEIS, we recommend including any existing information on mercury emissions from power plants currently burning coal from the PRB mines.

Nitrogen Dioxide

8. 3.4.3.1.2 Mitigation for Nitrogen Dioxide Emissions. According to page 3-38, the Antelope Mine has already implemented voluntary measures to reduce NO₂ emissions. Because the measures are voluntary, ACC may choose not to implement the mitigation

measures. It should also be noted that the measures for the mines do not include a prohibition of blasting when conditions are unfavorable (large blast, wet conditions, weather inversions, little wind, wind direction towards residences/road, etc.) The existing mitigation merely requires notification and monitoring. We recommend that a condition of approval be added to the lease prohibiting blasting when conditions are unfavorable. The mines would then need to analyze the size of blasts in conjunction with weather conditions and potential public exposure, to prevent exceedances of the EPA and NIOSH recommended toxicity levels. The FEIS also needs to more fully describe the types and levels of mitigation and how the mitigation will be implemented to reduce exposure to nitrogen dioxide. For example we understand that several of the mines have reduced the sizes of blasts, changed the composition of the material used for blasting, and/or changed the placements of blasting agents. Are these measures required or are they voluntary?

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Cumulative Impacts

9. 4.2.3 Greenhouse Gas Emissions Impacts. EPA believes that BLM should include a discussion of greenhouse gases and climate change in the FEIS. Although there are currently no EPA regulatory standards directly limiting greenhouse gas emissions from burning Antelope Mine coal to produce power, there is enough information developed by the International Panel on Climate Change (IPCC) to inform a quantitative estimate of the GHG generated by the known coal-fired power plants burning this continuing supply of low sulfur compliance coal.¹

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10. We recommend that the impact sections for resources that are substantially impacted by cumulative impacts be reevaluated to determine how the impacts will overlap in time and for the resource as a whole. For example, does the timing of maximum impact from other activities (e.g., coalbed methane) coincide with the peak of impacts from coal mining? Are any resources impacted by coal mining approaching sustainability limits because of cumulative impact levels?

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This broader cumulative impact analysis should also factor in the success of reclamation/mitigation plans for various resources. Mining reclamation works well for restoring some aspects of resources such as grazing livestock and wildlife, and visual aesthetics. Other resource values may take a long time to return to a full function or may not be restorable at all (e.g., wetlands, groundwater, and unique habitats).

Wetlands

¹ Since the issuance of the April 2, 2007 Supreme Court opinion in Massachusetts, et al. v. EPA, 127 S.Ct. 1438 (2007), EPA has been developing a response to the remand as well as evaluating the broader ramifications of the decision throughout the Clean Air Act (CAA). On March 27, 2008, the Administrator announced that he has directed his staff to draft an Advanced Notice of Proposed Rulemaking (ANPR) to discuss and solicit public input on the specific effects of climate change and the interrelated issues raised by the possible regulation of greenhouse gas emissions under the CAA. Thus, this comment letter does not reflect, and should not be construed as reflecting, the type of judgment that might form the basis for a positive or negative finding under any provision of the CAA.

11. 3.7.3 Wetlands Mitigation. The wetlands mitigation plan needs to be amended to compensate for the long-term loss of wetlands values during and following mining. The mitigation ratios may need to be increased to compensate for the temporal loss of wetlands. Wetlands obviously cease to function during the 10 to 20 years of mining. However, wetlands fed by groundwater will not regain function until the ground water table recovers. We recommend that additional mitigation be established to compensate for the long-term loss of wetland values. The mitigation plans for previous or current reclamation may provide good locations for increasing wetlands in the area. Alternatively, the mines may want to improve other wetlands damaged by over grazing, poorly constructed roads, or off-road vehicle damage.

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Wildlife

12. 4.2.8.4 Special Status Species. The analysis for wildlife impacts should be based on the habitat needs of the species of concern, rather than the specific boundaries of the mines and lease tracts. There also needs to be sufficient analysis to understand the impacts of the LBA decisions. For example, on page 4-71, the DEIS states that no sage grouse leks occur within five miles of the West Antelope II LBA tract. It is unclear if the absence of nesting areas is important to the decline in sage grouse population or if there are sufficient numbers of leks nearby to sustain the population. In addition, this information does not appear to be consistent with the cumulative impacts discussion in the last paragraph of page H-67, which states that "Given the absence of grouse, and the limited quantity and marginal quality of potential grouse habitat in the area, USDA-FS Management Direction guidelines for Management Indicator Species (MIS) to not apply to this project." By looking at sage grouse habitat on a component-by-component basis and mainly on LBA and mining properties, the impacts of the LBA decisions are not apparent on the health and sustainability of the grouse population in this area. We note that a full biological assessment and evaluation document is being prepared for review in addition to the information in the EIS analysis.

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WYOMING GAME AND FISH DEPARTMENT

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RON LOVERCHECK
ED MIGNERY
BILL WILLIAMS, DVM

14

May 15, 2008

WER 183.02
Bureau of Land Management
Casper Field Office
Draft Environmental Impact Statement
Antelope Coal Company/West Antelope Tract II
Campbell and Converse Counties

Sarah Bucklin
Bureau of Land Management
Casper Field Office
2987 Prospector Drive
Casper, WY 82604

Dear Ms. Bucklin:

The staff of the Wyoming Game and Fish Department has reviewed the Draft Environmental Impact Statement for Antelope Coal Company/West Antelope Tract II in Campbell and Converse Counties. We offer the following comments for your consideration.

Terrestrial Considerations:

The Bureau of Land Management (BLM), in conjunction with Rio Tinto Energy and Jones and Stokes wildlife consultants, has already performed extensive biological survey work for this project. Potential impacts to big game as well as sensitive, threatened and endangered species have been considered. Our standards regarding big game ranges, reclamation, and sensitive, threatened and endangered species are adequately integrated into the draft EIS. These include recommended fencing to allow movement of big game, installation of raptor-proof structures along new power lines, mapping of raptor nests and prairie dog towns, and other standard wildlife surveys. In addition, Rio Tinto Energy and Jones and Stokes have and continue to conduct extensive surveys to monitor wildlife species. At this time, we have no further comments regarding terrestrial wildlife that pertain to the West Antelope II Tract coal lease and associated draft EIS. We commend the BLM for their thorough and comprehensive work on this management plan.

Aquatic Considerations:

We have no aquatic concerns pertaining to this project.

1

Ms. Sarah Bucklin
May 15, 2008
Page 2 - WER 183.02

Thank you for the opportunity to comment.

Sincerely,



for JOHN EMMERICH
DEPUTY DIRECTOR

JE:VS:gfb

cc: USFWS

Responses to Comment Letter 1
W. Funk

Comment Response 1: Please review Chapters 3 and 4 in the EIS. They discuss in great detail the site-specific and cumulative environmental and socioeconomic consequences of the proposed coal lease.

Comment Response 2: We have added information in the EIS recognizing the broader mix of electric generation sources, including greater efficiency in energy utilization. We have included two studies that attempt to forecast the likely mix of generation sources, including the expected growth in “carbon neutral” methods such as nuclear, wind, solar, and newer renewable innovations such as river turbines and tidal power. The EPRI study assumes regulation of CO₂ emissions to 1990 levels and predicts what that level of reduction would potentially do to the mix of electric generation technologies. Please see Section 4.2.13.1 in the FEIS.

Comment Response 3: CBNG is a valuable energy resource, and BLM policy encourages the development of this resource, where economically feasible, in advance of coal mining. The EIS acknowledges that a portion of the CBNG has been recovered by oil and gas operations that are economically recovering CBNG. Section 3.18.1 in the DEIS recognized the release of methane as a result of mining, although the rate of methane release at the Antelope Mine is lower than a typical surface mine as a result of the past and ongoing commercial recovery of methane by CBNG operations.

Comment Response 4: Coal from the PRB, and specifically from the Antelope Mine, is sold on a national coal market. Prices are variable and coal is generally sold on short term contracts or at spot prices that reflect demand and supply in that market. Additionally, coal companies are not able to stockpile coal at their mines. The market tends to result in coal being sold at prices as of the time of mining. Since royalties are based on a percentage of price at the time of sale, the U.S. is receiving a return that reflects the future prices of the coal.

Comment Response 5: The coal that could potentially be mined as a part of the West Antelope II lease by application is federally owned coal. All other non-coal mineral rights, whether they are federal, state, or private, are retained by the owners during the leasing process, including water rights. If the owner of a water right has had their water source interrupted, discontinued, or diminished due to coal mining, SMCRA and Wyoming state law require that the surface coal mine operator provide the owner of the affected water right with water of equivalent quantity and quality.

Comment Response 6: As you noted in your letter, reclamation is a long term effort. Lands that are disturbed to recover coal must be reclaimed following mining in accordance with the requirements of state and federal law. The Surface Mining Control and Reclamation Act of 1977 requires sufficient bonding to cover anticipated reclamation costs. When mining is permitted, the WDEQ-LQD sets the bond amount for reclamation of all disturbed lands and the operator posts an acceptable bonding instrument for this amount with the State of Wyoming. The reclamation bond is not released until a minimum of ten years have elapsed from the date of final seeding and the WDEQ-LQD has determined that all reclamation verifications have occurred.

Comment Response 7: Revenues to state, local, and federal governments are a part of the impact on the local economy. Socioeconomic impacts are disclosed as part of the NEPA analysis in Chapters 3 and 4. Impacts to the local communities include population change and how that change affects community services, facilities, and social setting.

Comment Response 8: The picture on the front cover of the West Antelope II EIS is an area that has been mined and reclaimed by Antelope Coal Company. Elk from the Rochelle Hills elk herd are regularly seen inhabiting and foraging at this mine reclamation area.

In 2004, Rio Tinto Energy America, owner and operator of Antelope Coal Company and Jacobs Ranch Mine, partnered with the Rocky Mountain Elk Foundation to create a conservation easement for wildlife on lands that were mined for coal and reclaimed in the Powder River Basin. In June, 2007, the formal agreement was finalized and the Rochelle Hills Conservation Easement was created. The easement ensures that the land will be preserved for wildlife use, indefinitely, and includes approximately 730 reclaimed acres of critical elk wintering habitat. The reclamation features high quality forage, diverse topography, and establishment of water sources that have created ideal conditions for the Rochelle Hills elk herd.

The Wyoming Game and Fish Department reviewed monitoring data on big game species in and around the mine sites in the Powder River Basin in 1999 and concluded that the monitoring indicated a lack of impacts to big game on existing mine sites. No severe mine-caused mortalities had occurred and no long-lasting impacts to big game had been noted on existing mine sites. After reclamation, reclaimed lands support the same uses as they did prior to mining.

Responses to Comment Letter 2
Tribal Historic Preservation Office
Standing Rock Sioux Tribe

Comment Response 1: The FEIS has been revised to include additional information regarding cultural resources in the West Antelope II general analysis area. As described in Section 3.12 of the final EIS, Class III inventories have been completed for the entire West Antelope II general analysis area. Site evaluations and assessment of potential effects and mitigation needs will be detailed in the Conditions of Approval accompanying the Record of Decision. The EIS process is bound by the National Environmental Policy Act. Additionally, the requirements of Section 106 of the National Historic Preservation Act will be completed prior to the authorization of any surface disturbing activities.

Comment Response 2: The EIS has been revised to include additional information regarding cultural resources in the West Antelope II general analysis area. Additional detailed information will be provided to the Tribal Historic Preservation Officer during the Section 106 consultation process.

Comment Response 3: According to BLM Manual 8120 and BLM Handbook H-8120-1, site forms are provided to parties that have a data sharing agreement in place. To coordinate a data sharing agreement with Wyoming BLM for this project, please contact Ranel Capron at the BLM Wyoming State Office at 307-775-6108.

Comment Response 4: Thank-you for providing additional information regarding the stone features that are important to the Standing Rock Sioux Tribe. BLM will strive to conduct consultation for archaeological sites containing stone features.

BLM conducts Native American Consultation with Native American tribes known to have tribal history in the Powder River Basin. BLM will conduct Native American Consultation before a Record of Decision is issued.

For a site to be considered a TCP, it must be in use today and for the last several generations. A professional archaeologist can apply the criteria of eligibility for archaeological sites under the National Register of Historic Places.

Comment Response 5: In Wyoming, the mitigation of cultural sites is the responsibility of the permitting agency that authorizes the mining activity. For coal mining in the Powder River Basin, the Wyoming Department of Environmental Quality and the U.S. Office of Surface Mining Reclamation and Enforcement are the primary permitting agencies. If an eligible site is threatened with destruction, the site will either be pulled from being leased or the site would be mitigated to create a “no adverse effect” or “no effect” situation. Mitigation of cultural sites will be completed prior to surface disturbance.

Response to Comment Letter 3
F. Eathorne, Jr.

Comment Response 1: Additional information regarding coal loss during transport has been added to the Final EIS. Please see Section 3.15.4.1. We have incorporated the information that you provided.

The Wyoming Department of Environmental Quality, with oversight from the U.S. Office of Surface Mining Reclamation and Enforcement, authorizes and issues permits to mine coal in Wyoming. BLM does not permit coal mining nor authorize any surface disturbance due to coal mining.

BLM contacted the National Coal Transportation Association (NCTA) on June 25, 2007 regarding your concern. According to NCTA’s Executive Director, NCTA is examining the issue.

Response to Comment Letter 4
J. Nadolski

Comment Response 1: The EIS presents BLM’s analysis of environmental impacts under the authority of NEPA and associated rules and guidelines. The analysis will be used to make a leasing decision.

Response to Comment Letter 5
U.S. National Park Service

Comment Response 1: The Land and Water Conservation Fund project 56-00796 listed in your comment letter, Skateboard Park Improvements, is located approximately 50 miles north of the EIS general analysis area. We anticipate no conflicts with the referenced L&WCF project if the federal coal being evaluated in the West Antelope II Coal EIS is leased.

Responses to Comment Letter 6
U.S. Fish and Wildlife Service

Comment Response 1: We have provided additional information in Appendix H and I of the Final EIS regarding black-tailed prairie dog community restoration.

Comment Response 2: The nearest known Ute ladies'-tresses (ULT) population is located 20 miles upstream of the project area. Antelope Mine has conducted multiple ULT surveys over multiple years during the known time of ULT flowering using USFWS accepted techniques. Each survey has resulted in negative findings.

Although individual plants of this species do not necessarily produce annual flowering stalks nor above-ground growth consistently from year to year, it is unlikely that Ute ladies'-tresses populations would have remained undetected during multiple surveys over multiple years, if it were present in the area.

We have provided additional information in Appendix I regarding ULT and will continue to coordinate with USFWS throughout the Section 7 consultation process.

Responses to Comment Letter 7
U.S. Office of Surface Mining Reclamation and Enforcement

Comment Response 1: The information provided in your comment letter has been considered in the preparation of the Final EIS.

Comment Response 2: The information provided in your comment letter has been considered in the preparation of the Final EIS.

Responses to Comment Letter 8
WildEarth Guardians

Comment Response 1: The coal mined from Antelope Mine and other PRB mines as a group has historically been purchased and used to generate electricity for the United States. The coal is sold on an open market where purchasers use this coal for uses suitable to their needs. The demand for PRB coal at this time is based on the coal's suitability for use in existing power plants throughout the United States in order to meet electrical demand in compliance with regulations and at lowest cost. It is not likely that selection of the No Action Alternative (that is do not offer the tract for competitive leasing) would result in a decrease of coal production

because there are multiple other sources of coal that would supply the country's demand for coal beyond the time that the Antelope Mine completes recovery of the coal in its existing leases. We have supplemented the discussion of alternative sources for electrical generation in Section 4.2.13.1 of the Final EIS.

Comment Response 2: The EIS recognizes the increasing strip ratio (ratio of coal to overburden) as mining would progress from current leases into the proposed new lease area. This is a general fact in reserve acquisition at surface mines. Mining generally starts in areas of lowest strip ratio and progresses to deeper areas as the margin of expected mining costs to revenues allows. The EIS discusses the additional impacts as strip ratio increases; particularly in terms of surface disturbance. The air quality modeling for permitting recognizes the specific emissions resulting from the mining based on the lessee's mining proposal, should the lease be offered and sold.

Comment Response 3: The 2007 study that you referenced is the "Inventory of Assessed Federal Coal Resources and Restrictions to Their Development." It was prepared jointly by the U.S. Departments of Energy, Interior, and Agriculture. BLM was a participant in this study. As you noted, the overburden thickness does increase generally as you move westward from where coal mining is occurring at the eastern outcrop of the Wyodak seam. Overburden thickness was modeled from data that was of various sources and reliability and at a broad scale. The figure on page 25 of that study is generally reliable, but not reliable at the fine-detail level used in mine planning. The figure on page 33 of that study is based in part on the assumption that coals at greater strip ratios than 10:1 were not minable by surface mining practices, and that any coals with lesser strip ratios could be surface mined. This assumption is very broad. The actual determination of whether surface mining operations are practical is a function of coal demand and expected market prices, as well as the costs of available mining technology at the time the mining method decision is made.

Comment Response 4: Section 169 of the Clean Air Act addresses visibility protection. On June 15, 2005, EPA issued final amendments to its July 1999 regional haze rule. These amendments apply to the provisions of the regional haze rule that require emission controls known as Best Available Retrofit Technology, or BART, for industrial facilities emitting air pollutants that reduce visibility. The nearest Class I PSD areas to the general analysis area for this LBA are Wind Cave National Park (about 100 miles east), and the Badlands Wilderness Area (about 150 miles east). There are also five Class II PSD areas 80-100 miles away from the LBA general analysis area; all others are at least 100 miles away. These are listed in the DEIS on page 3-46.

This EIS uses two tools to evaluate visibility impact. Regional modeling is used to estimate and disclose the change in the number of days that a change of 10 percent or more in extinction would occur by 2010, in relation to a baseline, also modeled, for 2002. On site monitoring at Class I areas is included to show actual measured changes in visibility over the period of record (1989-2004). While monitoring results show annual variability in visibility impairment at the two sites illustrated in the graphs on page 3-48, the trend is stable overall with some slight lessening of impairment in recent years.

Potential impacts of global warming and effects upon climate in the western U.S. have been studied by USGS. Geologic studies of past periods of global warmth and simulations of these past climates by numerical models suggest that the degree of warming can vary greatly across the globe and that precipitation and temperature regimes are affected differently in different regions. Given the complex nature of regional responses to global warming and the fact that natural climate variability is a complicating factor, better tools are needed to assess the impacts of a range of likely future climate variations on the western United States and elsewhere. Climate change will directly affect water availability and quality, agriculture, forestry, power production from dammed rivers, and the storage of toxic materials (“A Strategy for Assessing Potential Future Changes in Climate, Hydrology, and Vegetation in the Western United States”, USGS Circular 1153, 1998).

Comment Response 5: Please refer to Section 3.4.5.2 regarding acidification of lakes. To help reduce acid rain, EPA implemented a program to reduce releases of SO₂ and other pollutants from coal-fired power plants. The first phase began in 1995 for SO₂ and targeted the largest and highest emitting power plants. The second phase, started in 2000, set tighter restrictions on smaller coal-, gas-, and oil-fired plants. Scientists predict that the decrease in SO₂ emissions required by the Acid Rain Program will significantly reduce acidification. Regulatory limits on emissions by coal-fired power plants have been and will continue to be enacted.

The USDA-Forest Service has been monitoring air quality in the Wind River Mountain Range in Wyoming since 1984 and is seeing a general trend of decreasing sulfates. In a 2002 analysis conducted by USGS, Appalachian and Illinois Basin coals supplying a Kentucky power plant were found to contain 2.5 to 3.5 percent sulfur. In the same study, Powder River Basin coal supplying an Indiana power plant was found to contain 0.23 to 0.47 percent sulfur. Based on this study, PRB coal contained approximately 8 times less sulfur than the coals being utilized from the Appalachian and Illinois Basins (“Characterization and Modes of Occurrence of Elements in Feed Coal and Fly Ash—An Integrated Approach”, USGS Fact Sheet-038-02, 2002).

Comment Response 6: The Water Resources analysis in the EIS was formulated based on data originating from several sources including the Gillette Area Ground Water Monitoring Organization (GAGMO) reports, which are a compilation of the information from the annual reports prepared by the coal mines, and the Cumulative Hydrologic Impact Analysis (CHIA) prepared by WDEQ-LQD. The annual reports and the CHIAs are available for the public to review at the WDEQ-LQD .

Comment Response 7: Federal agencies have a responsibility under Section 7 of the Endangered Species Act to conserve federally listed threatened and endangered species. BLM is partnered with USFWS to fulfill our Section 7 consultation obligations and responsibilities. BLM has provided Appendices H and I to USFWS and USDA-Forest Service for their review; the EIS has been revised based on written comments, discussions, and additional information that we have received.

Six ULT surveys were completed between 2006 and 2008 in the EIS general analysis area. ULT surveys were also conducted on portions of these areas in 1997, 1998, 1999, and 2004. These surveys were carried out according to ULT guidelines that were written and provided by

USFWS. The Service developed these guidelines in concert with biologists and ecologists that were knowledgeable about the species. The ULT determination of “may affect, not likely to adversely affect” is based on the results of multiple ULT surveys of potentially suitable habitat, during multiple years, during the known time of flowering, using USFWS accepted survey methods.

Comment Response 8: The information provided in your comment has been considered in the preparation of the Final EIS.

Table H-1 provides habitat types for BLM listed sensitive plant species. Table H-2 is a USDA-Forest Service regional species list that includes all Region 2 Forest Service sensitive species from Colorado, Kansas, Nebraska, South Dakota, and Wyoming. The Region 2 list was provided by Forest Service. Because Table H-2 is a regional list, many of the plant species are not applicable to the EIS area. Therefore, habitat types are not provided. The USDA-FS species that are more likely to have potential habitat in the general analysis area were also compiled by USDA-FS and are presented in Table H-3. Each of the plant species listed in Table H-3, their habitat types, and presence or absence in the area are discussed in the text following the table.

The Sensitive Species Evaluation in Appendix H of the EIS has been revised to clarify information pertaining to the northern leopard frog and the swift fox. The information presented in Table H-3 is specific to the 240 acres of USDA-Forest Service lands in the southeast corner of the EIS general analysis area. Swift fox have been documented in the past on some lands, but they have not been documented on the 240 acres of USDA-FS lands in the general analysis area. As described in Appendix H of the EIS, swift fox observations within the EIS general analysis area were located at least three miles north of the USDA-FS lands associated with the West Antelope II LBA tract. Suitable but unoccupied swift fox habitat is present on and near the 240 acres of USDA-FS lands considered in this analysis. Habitat conditions for northern leopard frogs vary considerably between the overall BLM general analysis area for the West Antelope II LBA tract and the 240 acres of USDA-FS lands in the southeastern corner of that larger area. As described in Appendix H of the EIS, none of the physical characteristics considered as optimum for the various life stages of the northern leopard frog are present on the 240 acres of USDA-FS lands in the southeastern corner of the West Antelope II general analysis area, and no leopard frogs or anuran egg masses have been documented on those lands during more than 25 years of annual monitoring efforts.

The wildlife analysis has been reviewed by professional wildlife biologists in the Wyoming Game and Fish Department, USFWS, USDA-Forest Service, and BLM. For detailed information on surveys, timing, and methods used, supporting data reports are on file with the BLM Casper Field Office. The public is welcome to review these reports. To review annual wildlife survey reports conducted at permitted mines, please contact the Wyoming Department of Environmental Quality/Land Quality Division.

Comment Response 9: We have updated the analysis of global climate change and greenhouse gas emissions. Please see Section 3.18.2 and Section 4.2.13.1 in the Final EIS. The EIS includes estimates of carbon dioxide that have resulted from use of the coal mined from the Wyoming PRB as well as the Antelope Mine. The EIS also estimates anthropogenic methane releases from

the local mines. The EIS recognizes the current uncertainty regarding the possible regulation of greenhouse gas emissions, and also includes available information regarding the current status of regulatory initiatives. The EIS also discloses the relationship of the proposed leasing action to coal supply. Impacts of historic global warming have been incorporated into the EIS, including sea level changes, differential temperature change, and changes to vegetation and habitat.

BLM and other federal agencies are required to assess and disclose the impacts of their proposed actions prior to making decisions. This EIS addresses the impacts of a proposed coal leasing action. If a federal action is required, the oil and gas and power plant actions that are listed must be the subject of the NEPA analysis by the appropriate agencies. As you noted, agricultural sources account for about 30 percent of anthropogenic methane emissions, in large part due to enteric fermentation in domestic animals.

Coal prices have recently increased in response to demand, and coal production has increased in response. As noted earlier, the domestic coal market is large and diverse, and has substantial capacity to adjust to market fluctuations. Coal production has increased through 2007, both domestically and internationally. The FEIS contains additional discussion of the forecasting used to identify future coal production rates, both at the Antelope Mine and on a cumulative basis for the PRB. This forecasting is dependent on market demand. A major factor in this market has been, and is predicted to be, nation-wide electric demand. While site specific and cumulative impacts are based on current forecasts, we recognize the uncertainty contained in these forecasts as a result of proposed policy and potential regulation of carbon-based fuels for electric generation.

As you point out, carbon capture and sequestration is not a commercially established process. The current processes for capture and sequestration are costly and energy intensive. However, analysis shows the potential for cost reductions of 30–45 percent for CO₂ capture. Post-combustion, pre-combustion, and oxy-combustion capture systems being developed are expected to be capable of capturing more than 90 percent of flue gas CO₂. The next step is to sequester (store) the CO₂. The primary means for carbon storage are injecting CO₂ into geologic formations or using terrestrial applications.

Geologic sequestration involves taking the CO₂ that has been captured from power plants and other stationary sources and storing it in deep underground geologic formations in such a way that CO₂ will remain permanently stored. Geologic formations such as oil and gas reservoirs, unmineable coal seams, and underground saline formations are potential options for storing CO₂. Storage in basalt formations and organic rich shales is also being investigated.

Terrestrial sequestration involves the net removal of CO₂ from the atmosphere by plants and microorganisms that use CO₂ in their natural cycles. Terrestrial sequestration requires the development of technologies to quantify with a high degree of precision and reliability the amount of carbon stored in a given ecosystem. Program efforts in this area are focused on increasing carbon uptake on mined lands and evaluation of no-till agriculture, reforestation, rangeland improvement, wetlands recovery, and riparian restoration. (National Energy Technology Laboratory website, 2008)

Comment Response 10: We have expanded our analysis of Mercury, Coal Combustion Residues, and Other By-Products. Please see Section 4.2.13.2 in the Final EIS.

Comment Response 11: Lands that are disturbed to recover coal must be reclaimed following mining in accordance with the requirements of state and federal law. The Surface Mining Control and Reclamation Act of 1977 requires sufficient bonding to cover anticipated reclamation costs. When mining is permitted, the WDEQ-LQD sets the bond amount for reclamation of all disturbed lands and the operator posts an acceptable bonding instrument for this amount with the State of Wyoming. The reclamation bond is not released until a minimum of ten years have elapsed from the date of final seeding and the WDEQ-LQD has determined that all reclamation verifications have occurred.

Individual coal mine annual reports are available to the public at WDEQ-LQD offices which include specific reclamation information. The Office of Surface Mining also prepares reports describing reclamation activities in Wyoming.

Currently, the BLM is completing a regional technical study, the PRB Coal Review, to evaluate cumulative impacts of coal and other mineral development in the PRB. One of its tasks includes to define past and present coal development in the PRB and to develop a forecast of reasonably foreseeable development in the PRB through 2020. Tables 4-2 and 4-3 in the Final EIS address baseline and projected reclaimed and unreclaimed mining acres in the PRB. BLM is also completing work on developing a comprehensive database to use in tracking development activities in the PRB. The database will track cumulative actual reclaimed and unreclaimed acreages of coal mines.

Comment Response 12: For abbreviations and acronyms used in the EIS, please refer to the Abbreviation and Acronym section which follows the Table of Contents.

The West Antelope II proposed coal lease is being processed according to the regulatory authorities and responsibilities listed under Section 1.3 of the EIS. Regulations that govern the BLM's coal leasing program are found in Title 43, Groups 3000 and 3400 of the Code of Federal Regulations (CFR). This publication is available in law libraries and most large public libraries. The CFR is also available on-line from the Government Printing Office (www.access.gpo.gov). Additional information is also available at the BLM Federal Coal Leasing Program website at: http://www.blm.gov/wo/st/en/prog/energy/coal_and_non-energy/federal_coal_leasing.html

Comment Response 13: The EIS has been revised to address and recognize the broader mix of electric generation sources. We have included two studies that attempt to forecast the likely mix of generation sources, including the expected growth in “carbon neutral” methods such as nuclear, wind, solar, and newer renewable innovations such as river turbines and tidal power. The EPRI study assumes regulation of CO₂ emissions to 1990 levels and predicts what that level of reduction would potentially do to the mix of electric generation technologies. Please see Section 4.2.13.1.

Comment Response 14: The EIS evaluates the environmental impacts of leasing federal coal. We evaluated the site-specific and cumulative impacts in the coal lease application area.

Because of the numerous resources involved, the analysis can sometimes be technical and complex. The Executive Summary, which follows the title page, provides a condensed synopsis of the impacts and effects.

Responses to Comment Letter 9 **Defenders of Wildlife**

Comment Response 1: We have revised the analysis of greenhouse gas emissions, global climate change, and coal-fired power plant related GHG emissions. Please see Section 3.18.2 and 4.2.13.1. The EIS includes estimates of carbon dioxide that have resulted from use of the coal mined from the Wyoming PRB as well as the Antelope Mine. The EIS also estimates anthropogenic methane releases from mining at these mines. The EIS recognizes the current uncertainty regarding the possible regulation of greenhouse gas emissions and includes available information about the status of regulatory initiatives. The DEIS also discloses the relationship of the proposed leasing action to coal supply.

Comment Response 2: The EIS has been revised to include impacts of historic global warming including sea level changes, differential temperature change and changes to vegetation and habitat. Please see Section 4.2.13.1.

Comment Response 3: The FEIS contains additional discussion of the forecasting used to identify future coal production rates, both at the Antelope Mine, as well as on a cumulative basis for the PRB. This forecasting is dependent on market demand. A major factor in the market has been, and is predicted to be, electric demand. While site-specific and cumulative impacts are based on current forecasts, we recognize the uncertainty contained in these forecasts as a result of proposed policy and potential regulation of carbon-based fuels for electric generation.

We have added information in the EIS recognizing the broader mix of electric generation sources. We have included two studies that attempt to forecast the likely mix of generation sources, including the expected growth in “carbon neutral” methods such as nuclear, wind, solar, and newer renewable innovations such as river turbines and tidal power. The EPRI study assumes regulation of CO₂ emissions to 1990 levels and predicts what that level of reduction would potentially do to the mix of electric generation technologies. Please see Section 4.2.13.1.

Comment Response 4: The U.S. Fish and Wildlife Service (USFWS) is responsible for the administration of the Endangered Species Act. USFWS is the lead agency that manages threatened and endangered species and consults, through the Section 7 process, with other agencies in how proposed projects might impact and affect listed species. All federal agencies have a responsibility under Section 7 (a)(1) of the Endangered Species Act to conserve federally listed threatened and endangered species. BLM is partnered with USFWS in fulfilling our Section 7 consultation obligations and responsibilities. The West Antelope II Biological Assessment (Appendix I) has been prepared and provided to USFWS for their review. We continue to work with USFWS in order to address concerns and provide any additional information needs. The EIS has been revised based on comments and oral discussions with the USFWS. Section 7 consultation will be completed before a decision is made on the West Antelope II proposed coal lease.

It is the mandate and responsibility of USFWS to provide guidance to federal agencies in how to avoid adverse impacts to protected species and habitats. Comments that we received from USFWS on April 2, 2008 indicated that they felt the West Antelope II DEIS was well written and effectively addressed BLM sensitive species, threatened, and endangered species and migratory bird issues.

USFWS is currently monitoring trust resources to see how they are affected by changing climate. The USFWS Endangered Species Program is working to develop interim guidance regarding relevant aspects of ESA implementation involving climate change with a focus on how to evaluate and include the best available scientific information on climate change information in the decision making process. BLM will continue to coordinate and consult with USFWS on listed species and will work to ensure that our projects do not adversely affect nor jeopardize threatened and endangered species.

In Wyoming, the Wyoming Department of Environmental Quality with oversight from the Office of Surface Mining Reclamation and Enforcement authorizes and issues permits to mine coal. BLM does not have the authority to deny nor approve the burning of coal. To support the large electrical demand of U.S. consumers, coal is burned to generate electricity. However, BLM does not approve, permit, nor regulate combusted fossil fuel emissions. The Clean Air Act requires the EPA to regulate air pollutants, and they are required to develop regulations, rules, and standards for industries that emit one or more pollutants in significant quantities.

One of the contributors linked to global warming is greenhouse gas emissions. In 2007, the Supreme Court ruled that EPA has the authority to regulate greenhouse gas emissions under the Clean Air Act, but the court did not specifically order the EPA to set mandatory limits. In April of 2008, 18 states filed a legal petition in federal court to compel EPA to regulate greenhouse gas emissions from cars and trucks. Congress is also proceeding forward with proposals to limit U.S. emissions linked to global warming. It is very likely that regulatory limits will continue to be enacted in regard to greenhouse gas emissions. Coal-fired power plants would have to comply with any new EPA standards, rules, or regulations for emission controls. Regulatory limits on emissions by coal-fired power plants have been and will likely continue to be enacted by EPA. We have revised the analysis regarding global climate change and GHG emissions. Please see Section 3.18.2 and 4.2.13.1.

Response to Comment Letter 10
U.S. Geological Survey

Comment Response 1: The information provided in your comment letter has been incorporated in the Final EIS.

Responses to Comment Letter 11
Powder River Basin Resource Council

Comment Response 1: The purpose of the EIS is to assess and disclose the impacts of competitively offering for lease certain coal reserves applied for by the Antelope Coal Company. The EIS also analyzes alternatives to this leasing action and discloses those impacts prior to a

decision. As noted in Section 1.2, leasing is recognized as a prerequisite to mining but it is not the enabling action that will allow mining. In their application, Antelope Coal Company has identified their need for coal.

The rate at which remaining reserves at the Antelope Mine would be mined and sold is based on forecasting coal demand into the future. Coal production has increased through 2007 both domestically and internationally. The FEIS contains additional discussion of the forecasting used to identify future coal production rates, both at the Antelope Mine and on a cumulative basis for the PRB. This forecasting is dependent on market demand. A major factor in this market has been, and is predicted to be, electric demand. The EIS discusses the uncertainty in future forecasting you have noted as a result of the uncertainty of potential regulation of CO₂ emissions resulting from carbon-based fuels being used to generate electric power.

As you point out, The United States is a net exporter of coal. Energy Information Administration information for 2001-2007 shows that both imports and exports have increased, with a net export of coal in 2007 of 23 million tons (2 percent of total domestic production). Ninety percent is exported to Canada and Europe. Most exports are of eastern coal which is higher in heat value, an advantage in export. The expectation (GLG News, 2008) is that PRB coal may be used to replace the eastern coal that is exported. Coal is sold in an open market which may include non-domestic buyers. However, the limited percentage of export and the heat value disadvantage of PRB coal for export would indicate that the likelihood of export is minimal.

Comment Response 2: Air pollution is controlled by state and federal air quality regulations and standards established under the federal Clean Air Act Amendments. State implementation plans are in place to ensure that proposed actions like coal mining comply with all associated air quality regulations and criteria. The Wyoming Ambient Air Quality Standards for the PM₁₀ annual and the SO_x annual and 24-hour levels are more stringent than the National Ambient Air Quality Standards and are enforced by the Wyoming Department of Environmental Quality (WDEQ).

As stated in Section 3.4.2.3 of the EIS, WDEQ/AQD has developed a Natural Events Action Plan for the coal mines of the Powder River Basin. The plan, based on EPA Natural Event Policy guidance, identifies potential control measures for protecting public health and minimizing exceedences of the PM₁₀ NAAQS.

All mines are required to conduct long-term air quality modeling to show that their proposed operations are in compliance with the National and Wyoming Ambient Air Quality Standards. Please see Section 3.4.2.3 to review air quality mitigation measures that WDEQ/AQD implemented in order to prevent exceedences of the National and Wyoming Ambient Air Quality Standards by surface coal mines.

According to recorded data collected from air quality monitors in the field, Antelope Mine is in compliance with the current ambient air quality standards for PM_{2.5} and NO₂. To date, there have been no reported events of public exposure to NO₂ from blasting activities at the Antelope Mine. NO₂ emissions have been monitored near the Antelope Mine since 2003. The maximum

annual NO₂ concentration measured at the Antelope site was 9.4 ug/m³ in 2005, as compared to the NAAQS of 100 ug/m³.

The WDEQ/Air Quality Division coal mining permit process requires air quality modeling of the primary air pollutants PM₁₀ and NO₂. If the West Antelope II LBA is leased, it is not anticipated to cause any exceedences of state or annual federal air quality standards. If exceedences do occur, they will be documented and analyzed.

Please see Section 3.17.9.1 concerning human health impact assessments. BLM does not have jurisdiction in regard to conducting human health assessments. BLM has contacted the Wyoming Department of Health/Environmental Health Section and has invited them to review and provide comment on the West Antelope II EIS. BLM has also contacted the Center for Disease Control and Prevention but have not received a response.

Comment Response 3: We have updated the analysis of global climate change and greenhouse emissions. Please see Section 3.18.2 and 4.2.13.1. We have included estimates of carbon dioxide that have resulted from use of the coal mined from the Wyoming PRB as wells as the Antelope Mine. The FEIS also estimates anthropogenic methane releases from mining at these mines. The EIS recognizes the current uncertainty regarding the possible regulation of greenhouse gas emissions, and includes available information about the status of regulatory initiatives. The EIS also discloses the relationship of the proposed leasing action to coal supply. Impacts of historic global warming are disclosed in the EIS including sea level changes, differential temperature change, and changes to vegetation and habitat.

Comment Response 4: Please see Chapter 4: Cumulative Environmental Consequences. It analyzes in great detail the numerous cumulative impacts associated with past, present, and reasonably foreseeable development in the Powder River Basin.

Comment Response 5: The Final EIS has been revised to include additional information regarding coal dust. Please see Section 3.15.4.1.

The coal mines are required to conduct long-term air quality modeling to show that the proposed operations will comply with the National and Wyoming Ambient Air Quality Standards. The EIS identifies measures that are required by WDEQ-AQD and are in place to control particulate emissions at the Antelope Mine. If the West Antelope II LBA tract is leased, measures specific to mining operations on the tract will be determined during the permitting process. The measures listed in Section 3.4.2.3 are representative of the types of control measures that are required at Power River Basin mines.

Air emissions, including nitrogen dioxide emissions, are regulated and monitored. As discussed in Section 3.4.3 of the EIS, the Antelope Mine mining permit includes conditions regarding procedures that the mine must follow when conducting blasting operations. These procedures are designed to control and limit emissions of nitrogen dioxide and public exposure to nitrogen dioxide. Blasting by surface coal mines is conducted in accordance with Chapter 6 of the WDEQ Rules and Regulations. The specific control measures for blasting operations on the Antelope Mine would be developed during the permitting process when mining operations are

authorized by WDEQ and OSM. Please refer to Section 3.4.3.3 which identifies the measures that are used to reduce NO₂ emissions during blasting.

Local and regional climatic conditions are addressed in Section 3.1.1 of the EIS. Additional information has been added to Section 3.4.1 regarding how local and regional climatic conditions can potentially contribute to air quality concerns.

Comment Response 6: If the owner of a water right has had their water source interrupted, discontinued, or diminished due to coal mining, SMCRA and Wyoming state law require that the surface coal mine operator provide the owner of the affected water right with water of equivalent quantity and quality.

For the analysis regarding the projected drawdown in the coal and overburden aquifers, please see Section 3.5.1.2.1. The EIS addresses the impacts to wells within the mine's anticipated five-foot drawdown. Table 3-10 describes the water wells that may possibly be subject to drawdown if the West Antelope II tract is leased and mined. As described in the EIS, there are 13 wells that may be impacted if the West Antelope II tract is leased and mined. Most of these wells are low yield stock wells. The replacement of these wells in other aquifers would likely have little impact upon the other aquifers.

Please refer to Section 4.2.4 and its subsections for detailed analyses regarding cumulative impacts to groundwater, including CBNG development. Please see Sections 3.17.5.1 and 4.2.12.7 for analyses of water use and supply for the Cities of Douglas and Gillette and the surrounding area. The EIS describes how the City of Gillette intends to augment their water supply.

Comment Response 7: The proposed revision to OSM's stream buffer zone rules would not modify the 100-foot buffer zone on either side of Antelope Creek. The enforcement of the buffer zone has been and would continue to be part of the WDEQ permit.

Please refer to Section 3.7 to review site-specific wetlands and restoration information. The U.S. Army Corps of Engineers (COE) requires mitigation of all impacted jurisdictional wetlands in accordance with Section 404 of the Clean Water Act. As the EIS stated, there would be no net loss of jurisdictional wetlands. They would be restored under the jurisdiction of the COE.

There are special required permitting procedures to assure that after mining, there will be no net loss of wetlands. If a lease is issued, a formal wetland inventory is completed and submitted to the COE for verification as part of the permitting process. COE reviews all surface coal mining and reclamation permits. They approve the plans for wetland restoration and the number of acres to be restored. The wetland mitigation plan approved by COE becomes part of the WDEQ mining permit. The WDEQ/LQD requires the restoration of some non-jurisdictional wetlands, depending on the values associated with the wetland. WDEQ requires restoration of playas if they have hydrologic significance. Reclaimed wetlands are monitored using the same procedures used to identify pre-mining jurisdictional wetlands.

The BLM does not authorize mining operations by issuing a lease and does not regulate mining operations after a lease is issued. As discussed in Section 1.3 of the EIS, WDEQ is authorized

by the Secretary of the Interior to regulate surface coal mining operations and surface effects of underground mining on federal and nonfederal lands within Wyoming.

Comment Response 8: As the EIS states, there would be no net loss of jurisdictional wetlands. Wetlands would be restored under the jurisdiction of the U.S. Army Corps of Engineers (COE). Please refer to the wetlands and restoration analysis in Section 3.7.

The EIS discusses Greater sage-grouse and other sensitive species in Appendix H. Among other important habitat components, sage-grouse require vast expanses of sagebrush-steppe communities with extensive mosaics of sagebrush of varying densities and heights. As stated in the EIS, there are no large expanses of contiguous sagebrush in the West Antelope II general analysis area. Wyoming big sagebrush uplands are found in about 14 percent of the general analysis area. Please see Section 3.9.2.1 for information regarding sagebrush and rangeland reclamation.

There are no known leks within the West Antelope II general analysis area. No leks are known to occur within three miles of the West Antelope II general analysis area. Annual monitoring studies from 1982-2006 have repeatedly documented that sage-grouse are rare in Antelope Mine's wildlife survey areas. Requirements to protect sage-grouse during mining operations are addressed as part of the existing mining and reclamation plan for each individual mine, including Antelope Mine. An approved raptor mitigation plan is also in place for Antelope Mine. If the proposed tract is leased and then permitted for mining, the wildlife monitoring and mitigation plans would be amended, as required by WDEQ-LQD and USFWS, to include this newly leased tract.

In 2007, Wyoming Governor Dave Freudenthal commissioned a Statewide Sage-Grouse Implementation Team. On March 17, 2008, the team preliminarily identified and mapped recommended sage-grouse core breeding areas in Wyoming in an effort to better understand what types of habitat grouse prefer and what areas should be protected. The West Antelope II general analysis area is not located within any of the mapped core breeding areas.

On May 27, 2008, the BLM Buffalo Field Office preliminarily identified sage-grouse interim management areas within their field office to protect sage-grouse habitat. The West Antelope II general analysis area is not located within any of the BLM proposed interim management sage-grouse habitat areas.

The EIS analyzes and thoroughly describes how proposed activities will impact habitats and species. Like all proposed projects at BLM, we are partnered with USFWS to fulfill our Section 7 consultation obligations and responsibilities. USFWS has determined that our analysis effectively addresses wildlife issues. The Wyoming Game and Fish Department also assessed that the EIS adequately addresses potential impacts to species. The wildlife analysis has been reviewed by professional wildlife biologists at the Wyoming Game and Fish Department, USFWS, USDA-Forest Service, and BLM.

Response to Comment Letter 12
Email from Powder River Basin Resource Council

Comment Response 1: The information provided in your comment has been considered in the preparation of the final EIS.

Responses to Comment Letter 13
U.S. Environmental Protection Agency

Comment Response 1: As explained in Chapter 4, the cumulative air quality modeling conducted for the Powder River Basin Coal Review indicated a potential for cumulative impacts to exceed the National Ambient Air Quality Standards for PM₁₀. However, the modeling does not project exceedences of any increments under the PSD regulations. As the EIS discusses, the modeling analysis does not separate PSD increment-consuming sources from those that do not consume increment. The PSD-increment comparison is provided for information purposes only and cannot be directly related to a regulatory interpretation of PSD increment consumption.

There have been no monitored exceedences of the Annual PM₁₀ standard in the Wyoming PRB. However, as discussed in Section 3.4.2.1, monitoring sites at some of the surface coal mines have shown some numerical exceedences of the 24-hour PM₁₀ standard since 2000. According to WDEQ/AQD, the circumstances associated with the monitored exceedences of the 24-hour PM₁₀ standard in the Powder River Basin prior to 2007 provide adequate reason to conclude that high wind events and blowing dust had caused exceedences of the ambient air quality standards that otherwise would not have occurred.

In response to the measured exceedences of the 24-hour PM₁₀ ambient air quality standards and in anticipation of conditions that would potentially lead to future exceedences, the WDEQ/AQD collaborated with the Wyoming Mining Association to develop a Natural Events Action Plan for the coal mines of the Powder River Basin. The plan was based on EPA Natural Event Policy guidance. A report describing the plan was submitted to EPA. Section 3.4.2.3 and Appendix F (F-3.1.1) in the EIS describe the plan, its proposed measures for implementation, and dust control measures considered to be Best Available Control Measures.

Exceedences of the 24-hour PM₁₀ standard for Antelope Mine are discussed in Section 3.4.2.1. Site-specific air quality modeling indicates the projected mine activities at the Antelope Mine will be in compliance with the PM₁₀ ambient air standards for the life of the mine at the permitted mining rate of 42 mmtpy.

Air quality mitigation measures related to surface coal mining are outside the jurisdiction of BLM. Under Chapter 6 Section 2 of the Wyoming Air Quality Standards and Regulations (WAQSR), coal mining is permitted by WDEQ/AQD, in addition to WDEQ/LQD and OSM. In order to be permitted, the mine must demonstrate that the proposed mining operations will comply with all applicable aspects of WAQSR. Air quality mitigation is also under the jurisdiction of the WDEQ/AQD. The mitigation measures that would be required to control air emissions would be developed at the time of permitting by WDEQ/AQD. Mitigation measures would be based on an analysis of a detailed site-specific mining and reclamation plan.

Comment Response 2: The model used by WDEQ is the Industrial Source Complex Long-Term (ISCLT) model, not FDM. This is an annual model that predicts compliance with the annual standard. ISCLT is used assuming that BACT, not BACM, is used. BACT measures are employed continuously while BACM are only employed during high wind events consistent with the NEAP requirements.

Air quality modeling indicates the projected mine activities at the Antelope Mine will be in compliance with the PM₁₀ ambient air standards for the life of the mine at the permitted mining rate of 42 mmtpy.

There have been no exceedences of the Annual PM₁₀ standard in the Wyoming PRB. However, as discussed in Section 3.4.2.1, monitoring sites at some of the surface coal mines have shown some numerical exceedences of the 24-hour PM₁₀ standard since 2000. Exceedences of the 24-hour PM₁₀ standard for Antelope Mine are discussed in Section 3.4.2.1. Site-specific air quality modeling indicates the projected mine activities at the Antelope Mine will be in compliance with the PM₁₀ ambient air standards for the life of the mine at the permitted mining rate of 42 mmtpy.

Comment Response 3: We have incorporated the information that you provided regarding NEAP in Section 3.4.2.3. Air quality mitigation measures related to surface coal mining are outside the jurisdiction of BLM. Air quality mitigation is under the jurisdiction of the WDEQ. Antelope Mine is in compliance with the NEAP as approved by EPA.

Comment Response 4: We have incorporated the information that you provided; Table 3-3 has been revised.

Comment Response 5: Table 3-4 represents the Antelope monitoring stations as compared to the NAAQS. The PM₁₀ NAAQS states that the 24-hour standard is not to be exceeded more than once per year on average over three years.” While Table 3-4 is actually more conservative than the standard, it is an accurate representation of monitoring data at the mine. Table 3-4 has been revised to include 2005-2007 monitoring data. Table 3-4a has also been added which represents the actual NAAQS comparison. Table 3-5 has been revised and updated as well.

Comment Response 6: We have revised the Final EIS to include the air quality modeling summary. Please see Appendix F. WDEQ requires all PRB mine operators to establish and operate a monitoring network acceptable to the agency. To ensure proper placement of monitors, WDEQ requires all mines to re-evaluate monitoring locations every five years as a condition of their state permit.

Comment Response 7: We have revised the Final EIS to include additional information regarding coal combustion and mercury emissions. Please see Section 4.2.13.2.

Comment Response 8: Blasting by surface coal mines is conducted in accordance with Chapter 6 of the WDEQ-LQD Coal Rules and Regulations. The specific control measures for blasting would be developed during the permitting process, when mining operations are authorized.

In January, 2008, Antelope Mine completed the voluntary installation of a 30 meter high weather monitoring station. The station measures temperature, relative humidity, wind speed, wind direction, solar radiation, vertical wind speeds, and barometric pressure. The Antelope Mine blasting operations have direct real time in-pit access to this weather data 24 hours a day.

Administrative controls are a component of the Antelope Mine operating procedures and outline that blasting operations will be delayed in the event unfavorable wind direction or dispersion conditions exist. At Antelope Mine, these controls are in place and are used daily in order to detect unfavorable weather conditions and cease blasting operations during those times.

The BLM does not authorize mining operations by issuing a lease and does not regulate mining operations after a lease is issued. As discussed in Section 1.3 of the EIS, WDEQ is authorized by the Secretary of the Interior to regulate surface coal mining operations on federal and non-federal lands within Wyoming.

Comment Response 9: We have expanded the analysis regarding climate change and greenhouse gas emissions. Please see Section 4.2.13.1 and 3.18.2. We have also added discussion of the court's requirement in Massachusetts v. EPA for EPA to develop a response to a determination under the CAA.

Comment Response 10: BLM cannot predict the coal markets nor the peak of impact from coal mining. Coal markets drive the rate of coal production. The EIS analysis assumes increases in coal production based on existing approved mining and reclamation permits and proposed changes in those permits. Assumed levels of coalbed natural gas production are based on the Wyoming and Montana oil and gas EISs, which are the best available estimates of the levels of coalbed natural gas and conventional oil and gas development for the reasonably foreseeable future. Other projects are considered based on their likelihood of completion. BLM is in the process of developing a database to use in tracking development activities in the Powder River Basin. Once completed, we plan to update the database annually to track PRB development.

The purpose of the EIS is to disclose the potential impacts of a specific proposed federal action so that a decision maker can make an informed decision. That decision considers the potential impacts of a proposed project when combined with other reasonably foreseeable development in the area. The West Antelope II EIS cumulative impact analysis includes projects that BLM has identified as reasonably foreseeable.

As indicated in Chapter 4 of the EIS, the cumulative impact analysis for the West Antelope II LBA is based on the Powder River Basin Coal Review. This was a regional technical study which assessed cumulative impacts associated with past, present, and reasonably foreseeable development in the Powder River Basin. The study's development projects included coal mine development, coal-related activities, and non-coal related activities. The development levels projected in the PRB Coal Review are based on projected coal demand and other energy demand. For more information on the reasonably foreseeable coal and energy development projections, please see the PRB Coal Review Task 2 report which is available on-line at: <http://www.wy.blm.gov/minerals/coal/prb/prbdocs.htm>.

Reclamation is a long term effort. Lands that are disturbed to recover coal must be reclaimed following mining in accordance with the requirements of state and federal law.

Comment Response 11: If the West Antelope II LBA tract is leased, restoration of jurisdictional wetlands is required and consultation with the U.S. Army Corps of Engineers (COE) would be completed during the permitting process. COE requires mitigation of all impacted jurisdictional wetlands in accordance with section 404 of the Clean Water Act. They approve the plans for wetland restoration and the number of acres to be restored. COE considers the type and function of each jurisdictional wetland that will be impacted and may require restoration of additional acres if the type and function of the restored wetlands will not completely replace the type and function of the original wetland. The wetland mitigation plan approved by COE then becomes part of the WDEQ-LQD mining permit. There are special required permitting procedures to assure that after mining, there would be no net loss of wetlands. WDEQ-LQD is the agency that permits mining operations and has authority to enforce mining regulations.

Comment Response 12: Additional information has been added to the FEIS regarding Greater sage-grouse. The EIS discusses Greater sage-grouse and other sensitive species in Appendix H. Among other important habitat components, sage-grouse require vast expanses of sagebrush-steppe communities with extensive mosaics of sagebrush of varying densities and heights. As stated in the EIS, there are no large expanses of contiguous sagebrush in the West Antelope II general analysis area. There are no known leks within the West Antelope II general analysis area. No leks are known to occur within three miles of the West Antelope II general analysis area. Annual monitoring studies from 1982-2006 have repeatedly documented that sage-grouse are rare in Antelope Mine's wildlife survey areas. Requirements to protect sage-grouse during mining operations are addressed as part of the existing mining and reclamation plan for each individual mine, including Antelope Mine. Requirements are stipulated in the mining and reclamation plan amendments if the tract is leased, and before the tract is mined.

In 2007, Wyoming Governor Dave Freudenthal commissioned a Statewide Sage-Grouse Implementation Team. On March 17, 2008, the team preliminarily identified and mapped recommended sage-grouse core breeding areas in Wyoming in an effort to better understand what types of habitat grouse prefer and what areas should be protected. The West Antelope II general analysis area is not located within any of the mapped core breeding areas.

On May 27, 2008, the BLM Buffalo Field Office preliminarily identified sage-grouse interim management areas within their field office to protect sage-grouse habitat. The West Antelope II general analysis area is not located within any of the currently proposed BLM interim management sage-grouse habitat areas.

The EIS analyzes and describes how proposed activities will impact habitats and species. Like all proposed projects at BLM, we are partnered with USFWS to fulfill our Section 7 consultation obligations and responsibilities. USFWS has determined that our analysis effectively addresses wildlife issues. The Wyoming Game and Fish Department also assessed that the EIS adequately addresses potential impacts to species. The wildlife analysis has been reviewed by professional

wildlife biologists at the Wyoming Game and Fish Department, USFWS, USDA-Forest Service, and BLM.

Response to Comment Letter 14
Wyoming Game and Fish Department

Comment Response 1: We have incorporated the information that you provided into the Final EIS.

Summary of the West Antelope II Draft EIS Public Hearing

Four statements were given as testimony at the West Antelope II Draft EIS Public Hearing held on March 24, 2008, in Douglas, Wyoming. The complete transcript is available for public review at the BLM Casper Field Office.

Shannon Anderson, speaking on behalf of the Powder River Basin Resource Council, described a number of concerns that the group has in regard to coal mining. Ms. Anderson's testimony highlighted the formal comment letter submitted by the Powder River Basin Council. Please refer to letter #11 and #12 in this appendix.

Kyle Wendtland spoke on behalf of Antelope Mine. Mr. Wendtland presented an overview of the mine's history, operations, and described how the mine benefits the local community.

Frank Eathorne delivered testimony as a Converse County private landowner. Mr. Eathorne described local impacts that coal mining has had on his property, specifically coal dust and fire, and also submitted a formal comment letter describing these concerns with inquiry into potential surfactant use. Please see comment letter #3.

Mr. Jim Willox spoke as Chairman of the Converse County Board of Commissioners. Mr. Willox also described his concerns with coal dust from the trains and wildfire, and how this is a health and safety issue for the residents of Converse County. Mr. Willox stated, "... coal dust mitigation needs to happen, or we continue to threaten the well-being and health of those in the vicinity ... we urge you to make that a condition of the permit or of the sale."

The Converse County Board of Commissioners' testimony parallels concerns that were also described in comment letter #3. Please see BLM's response to comment letter #3 which addresses coal dust. BLM also revised the analysis in the Final EIS to incorporate these comments and testimony. Please see Section 3.15.4.1--Coal Loss During Transport.