SWEETWATER COUNTY CONSERVATION DISTRICT

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January 10, 2008

VIA EMAIL
Ms. Mary Jo Rugwell
Field Office Manager
Kemmerer Field Office
Bureau of Land Management
312 U.S. Highway 189
Kemmerer, WY 83101

Re: Comments on Moxa Arch Area infill Gas Development Project (Moxa Arch) DRAFT Environmental Impact Statement (DEIS) by Coalition of Local Governments, whose members include Sweetwater County, Sweetwater County Conservation District, Lincoln County, Lincoln Conservation District, Uinta County, Uinta County Conservation District

Dear Mary Jo,

On behalf of Sweetwater County Conservation District, please find the comments prepared to address issues found in the DEIS. The District looks forward to discussing the issues raised in these comments.

Sincerely,

/s/ Mary Thoman
Mary Thoman
Sweetwater County Conservation District

The Wyoming Coalition of Local Governments, including Lincoln, Uinta, and Sweetwater Counties, and the Uinta, Lincoln, and Sweetwater County Conservation Districts (hereafter Coalition or CLG), submit the following comments on the Moxa Arch Area Infill Gas Development Project (Moxa Arch) DRAFT Environmental Impact Statement (DEIS). The Coalition members have participated as cooperating agencies from early days of this project. These comments, however, focus on changes in the alternatives and mitigation measures not previously discussed with the cooperating agencies.

I. CLG MEMBER RECOMMENDATIONS

CLG members respect rights of development that are enjoyed by the operators under the leases and surface use agreements with surface owners of the land. CLG members also support sound reclamation practices and mitigation, as appropriate.

Comment:

CLG recommends that the DEIS adopt operator supported onsite compensatory mitigation outside of the disturbed areas.[1] Onsite compensatory mitigation is preferable to offsite compensatory mitigation which often removes private land from the tax base and the economy. Greater environmental benefit is likely to result, if decadent and drought-damaged sage brush stands and other vegetation across the landscape are rejuvenated than if the operators focus all of their attention on reclaiming the disturbed areas, which are less than 4 percent of the entire project area. By focusing the mitigation plan on the landscape and vegetation throughout 96% of the project area, the operator measures would improve habitat for wildlife that leave the immediate construction site, thus providing an improved alternative habitat. Improved vegetation within the project area will also benefit soil and water resources and address impacts to livestock ranging.

Comment: CLG recommends that development and particularly reclamation be guided by performance objectives that would allow the and let operators decide best way to achieve them. The

[1] The term onsite compensatory mitigation refers to replacement habitat and resources to be developed within the project area but outside of the construction areas subject to surface disturbance for well pads and roads. BLM can require onsite mitigation. IM 2005-069 citing 30 U.S.C. §226(g) and 43 U.S.C. §1732(b).

Moxa Arch includes a large number of operators with very different levels of investment in the field. The approach of a one-size fits all mitigation rules is unlikely to work. The DEIS suffers from a multitude of prescriptive mitigation conditions, many of which are contradictory and lack factual or scientific documentation. *See* Appendices A and E. Other mitigation conditions, such as the 55 dBA noise level standard, are not realistic or sound. The DEIS repeatedly refers to reclamation failure but does not revise the reclamation standards significantly. If there are in fact problems with current reclamation guidelines, the DEIS should foster a process to determine what will work, rather than assign blame by implication to the operators.

Comment:

The DEIS should also explore reclamation procedures that focus first on site stabilization, whether that is with mulching and a mixed seed of desirable native and nonnative plants. Given the site potential, it is not surprising that native seeding without more has not worked well. In the cold desert climate, native vegetation will take several years to even establish and given years of drought and extreme drought, it is not surprising the reclamation has been less than perfect. It would appear that different approaches are called for rather than jeopardize the viability of an entire gas field.

The DEIS repeatedly refers to but does not document reclamation failures and the causes. Instead the DEIS adopts numerous prescriptive mitigation measures found in Appendices A and E, as well as Alternative B, which would require directional drilling from single well pads and limit development to a 10,921 acre surface disturbance cap within the project area over the life of the project. CLG members believe that an onsite compensatory mitigation plan and performance-based standards would achieve a better level of environmental benefits and address cost-effectiveness as well.

II. POLICY ISSUES THAT APPLY THROUGHOUT THE DEIS

A. Legal Posture of Lessees and DEIS

NEPA is only procedural statute, *Robertson v. Methow Valley Citizens Council,* 490 U.S. 332, 350-51 (1989). The scope of the agency action in the DEIS is guided by the obligations that BLM incurred when it issued the leases.

The Moxa Arch lessees have legal rights in leases and there are limits on terms and conditions to be imposed on development. *National Wildlife Federation, et al., 150 IBLA 385, 403 (1999) citing Union Oil of Calif. v. Morton*, 512 F.2d 743, 750 (9th Cir. 1975).

Comment: The DEIS must disclose and analyze the fact that most of the leases in the project area were issued with standard lease stipulations. A federal lease with standard stipulations grants the lessee the right to use the surface to drill and develop the lease and to select the best way to develop the gas field. Unless lease is no surface occupancy (NSO) or controlled surface use (CSU), BLM cannot limit access to the surface, such as the terms conditions found in the DEIS, including Alternative B.

Comment: The DEIS must address regulatory limits on dictating drilling sites to operators. BLM has limited authority veto drilling sites selected by the operator. 43 C.F.R. §3101.1-2.

Comment: The DEIS must disclose and analyze the limits of BLM jurisdiction to only public lands, which represent slightly more than half of the project area.

The Moxa Arch project area, with the exception of the northern corner, is located in the Checkerboard. BLM lacks jurisdiction to regulate development on the private and state lands, which make up slightly less than half of the land area. Field development is also defined by the operator agreements that govern the private land surface use and private mineral rights as well as the state land leases.

B. Energy Policy Considerations

Comment: DEIS must reflect energy policy set forth in federal law and Executive Orders.

Energy policy calls for maximizing revenue to United States Treasury and maximizing recovery of natural resources. The Mineral Leasing Act was intended to promote wise development of natural

resources and to obtain for the public reasonable financial returns on assets belonging to the public. The Secretary of the Interior is the statutory guardian of this public interest. He has a responsibility to insure that these resources are not physically wasted and that their extraction accords with prudent principles of conservation. . . The public does not benefit from resources that remain undeveloped, and the Secretary must administer the Act so as to provide some incentive for development. *California Co. v. Udall*, 296 F.2d 384, 388 (D.C. Cir. 1961); *See also Harvey v. Udall*, 384 F.2d 883 (10th Cir. 1967).

In the Mining and Minerals Policy Act of 1970 Congress states:

> The Congress declares that it is the continuing policy of the federal government in the national interest to foster and encourage private enterprise in (1) the development of economically sound and stable domestic mining, minerals, metal and mineral reclamation industries, (2) the orderly and economic development of domestic mineral resources, reserves, and reclamation of metals and minerals to help assure satisfaction of industrial, security and environmental needs, ... It shall be the responsibility of the Secretary of the Interior to carry out this policy when exercising his authority under such programs as may be authorized by law other than this Act.

30 U.S.C. §21a (1976).

The DEIS fails to address these fundamental principles when it analyzes the various alternatives. These policies require BLM to assess and disclose the extent to which the terms and conditions meet or fail to meet those objectives. For instance, the DEIS assumes that directional drilling will improve gas recovery. *See* Figure 4-1, 4-17. Directional drilling for natural gas especially in complex geological areas is not proven and is as much an art as a science. In most cases, it does not improve recovery and in the case of the Moxa Arch Field it may reduce the rate or total resource recovery. The DEIS needs to disclose and analyze the extent to which the alternatives will maximize natural gas recovery and meet the contractual obligations in the leases. This enables the public and the decisionmakers to evaluate the alternatives' respective economic and environmental

benefits and the proposed mitigation measures. Without this analysis, neither the public or the decisionmakers will have all of the relevant issues before them.

C. DEIS Inconsistencies Frustrate Review and Comparison of Alternatives

Comment: DEIS must correct inconsistencies throughout DEIS.

In general, the DEIS suffers from a multitude of inconsistencies with respect to material issues. The confusion and inconsistencies make it very difficult to understand the proposed action and alternatives, particularly Alternative B, and the mitigation measures.

Comment: Correct the DEIS so that terms and conditions are consistent throughout.

The DEIS uses inconsistent terms and standards that also frustrate review of the DEIS. For example, the DEIS uses at least three different noise levels as the condition for operations near a sage grouse lek. While none of these levels is properly analyzed, the reader has no idea which standard is actually going to be part of the mitigation terms and conditions.

Comment: Revise the DEIS to reflect technical limits as provided by the project proponent. If there is a scientific or technical dispute regarding the project, it is a significant issue that the DEIS must discuss and disclose. 40 C.F.R. §1508.27(b)(4).

The DEIS appears to suffer from the lack of communication between the project proponent and the BLM. If there had been such communication, then the DEIS would have a better discussion of natural gas recovery techniques and their limits in the Moxa Arch.

III. CHAPTER I

A. Purpose and Need 1-8.

Comment: The DEIS must add the policies found in the Mineral Leasing Act, the Mining and Minerals Policy Act, which are adopted in the Federal Land Policy and Management Act (FLPMA). 43 U.S.C. §1702(a)(12). It should also reflect the policies found in the 2001 Executive Orders regarding national energy policy, E.O. 13211, 13212, as amended by E.O. 13302 and the 2005 Energy Policy Act, Subtitle C, Leasing on Federal Lands..

Moxa Arch is also located in the Green River Basin, one of the Department of Energy priority areas.

B. Role of Local Communities

Comment: Add the local communities custom, culture, and economy to the list of issues. DEIS Ch. 1. The project should provide benefits in proportion to the impacts and land base.

IV. CHAPTER II ALTERNATIVES

Comment: Alternative B 2.3.3 2-12 needs to be entirely revised and expanded to fully disclose the impacts and implications. Revisions must be made throughout the DEIS, particularly Chapters 4 and 5.

1. Insufficiently Developed to Evaluate

Alternative B in the DEIS differs significantly from previous drafts reviewed by the cooperating agencies. The DEIS explanation of Alternative B is very brief and the lack of detail frustrates review. DEIS 2-12 to 2-13. The DEIS does not explain the scope of the surface disturbance cap, whether it applies only to public lands or to the entire project area. The DEIS does not explain the significant impacts or the objectives to which Alternative B responds. Thus it is impossible to respond to the issues that this alternative is intended to address.

It appears that Alternative B responds to comments from the Wyoming Game and Fish Department (WGFD) to protect habitat for sage grouse, prairie dogs, winter range for big game animals, and pygmy rabbits. There are other and better ways to mitigate habitat impacts such as what is proposed in the DEIS, especially Alternative B.

There was no discussion with other cooperators, which violates NEPA because a federal agency cannot rewrite an alternative without involving the cooperating agencies directly affected. *Intl. Snowmobilers Assn. v. Norton*, 340 F. Supp.2d 1249, 1262 (D. Wyo. 2005) (holding National Park Service revisions of an alternative without cooperating agencies violates NEPA). Alternative B discussion does not identify the key resource values that will be protected under the surface

disturbance cap and which would not be protected otherwise. Thus, the DEIS fails to explain the rationale for Alternative B.

It is unclear from the discussion in Chapter 2 if the surface disturbance cap applies to the entire project area or only to the public lands within the project area. If Alternative B applies to the entire project area, the cap will be quickly reached and drilling will boom and bust throughout the life of the project, when and if reclamation catches up with the cap. If Alternative B does not apply to the private and state lands (a correct outcome), then development will accelerate on the private and state lands. We can expect a disproportionate impact on private and state surface where BLM has no jurisdiction. The DEIS needs to discuss this as part of the discussion of Alternative B direct, indirect, and cumulative impacts.

The DEIS can explore an alternative outside BLM's jurisdiction. 40 C.F.R. §1502.14(c) (consider reasonable alternatives not within agency jurisdiction). The DEIS needs to disclose the factual and scientific basis for the acreage figure.

2. Surface Disturbance Cap Is 10,921 Acres over Life of Project or 25 Years

There is no similar precedent nor is there any basis to assume that a 2.3% surface disturbance cap is grounded in scientific data showing this limit is essential for protection of resources. Without any more explanation, the public cannot determine the basis for this number, how it will work, or how it might affect development in the respective counties. These are essential questions that need to be addressed.

The DEIs fails to describe how the surface disturbance cap will work. It does not appear, for example, to allow up to 10,921 acres of surface disturbance in any given year. The tables suggest that it allows a few thousand acres a year instead. Table 2-5. The DEIS does not describe how the total number of acres will be distributed over the life of the project.

Moreover, it does not disclose whether the surface disturbance cap applies to private and state land leases within the project area. Most of the Moxa Arch is located in the Wyoming Checkerboard and, as a result, slightly less than half of the land base is privately owned. Because Alternative B is described as a mitigation alternative, it would appear that the surface disturbance cap applies to

private, state, and public lands. Nevertheless, the public is left to wonder because the DEIS analysis fails to disclose this material fact.

The DEIS needs to add a Table documenting impacts of Alternative B to facilitate comparison among the other alternatives. Table 2-5 which pertains to Alternative C, shows total after interim reclamation for life of project. It does not, however, show the rolling surface disturbance on an annual basis as described in the text. DEIS 2-13. It is, therefore, impossible to understand what BLM is proposing or how it might actually work.

3. Drainage and Accounting Nightmares

Comment: Explain how Alternative B can be implemented in the mixed ownership pattern of the Checkerboard with most of the leases not containing timing stipulations.

If DEIS [2.5.4] eliminated the spatial and temporal phasing alternative due to problems with mixed landownership, issues of drainage, and lease stipulations, it would appear that Alternative B must be eliminated for the same reasons.

4. Legal Flaws of Alternative B

Comment: Alternative B exceeds BLM jurisdiction and DEIS must disclose this fact.

BLM cannot impose the surface disturbance cap proposed in Alternative B on private and state surface because BLM lacks jurisdiction. [**CITE].

a. BLM cannot limit development of leases

See Comment p.2. BLM did not reserve authority to limit lease development.

b. BLM cannot stipulate where wells can be drilled

BLM rules do not allow BLM to dictate where a lessee will drill, other than move the well 200 meters. 43 C.F.R. §3101.1-2. The leases for the most part do not have surface use limits, and thus the directional drilling requirement is fundamentally contrary to the lease terms.

5. Operators Required to Provide Baseline for Number of Wells Meeting the Surface Disturbance Cap after the Record of Decision Is Signed [DEIS 2-12]

Comment: The EIS must disclose and analyze the number of wells to be drilled under the surface disturbance cap and when those wells are drilled. This is necessary to compare Alternative B with the other alternatives, including the proposed action. Postponing such a key decision violates NEPA, because it is an important part of the alternative.

This conditions suggests that BLM is uncertain how the surface disturbance cap will work. The surface disturbance cap is an important element of Alternative B and thus it must be fully disclosed and analyzed in the EIS, not some post-decision document.

6. Assumptions in Alternative B Flawed [DEIS 2-12]

a. Option of above ground Pipelines

Comment: Consider allowing above-ground pipelines when technically appropriate to avoid disturbing established vegetation.

The DEIS assumes that burying pipelines will decrease surface disturbance, when in fact it increases surface disturbance. In many cases, especially in southwestern Wyoming, placing pipelines above ground, when it is technically feasible reduces visual impacts of a reclaimed linear path through the landscape. Providing for the option of above ground facilities would involve less surface disturbance as well as less visual impacts.

b. Limits on Co-location of pipelines

Comment: Recognize that it is often impossible to co-locate county roads with pipelines. DEIS cannot assume that this will be a mitigation measure.

It is often not possible to co-locate pipelines, especially natural gas pipelines in county road rights-of-way due to technical and legal problems. First, BLM did not discuss this with the respective counties. Second, the county right-of-way may not include the authority to place a pipeline and such location will constrain future rights to be exercised within the right-of-way. Finally, many of the roads feature parallel rights-of-way for electricity and telephone lines. The presence of a

transmission line precludes a natural gas pipeline within the same right-of-way. Thus the assumptions found in the DEIS discussion of Alternative B are incomplete or inaccurate. The figures developed for the comparison of this alternative need to be revised to reflect technical limitations.

7. Directional Drilling Assumptions Flawed 2-12

a. More expensive

Comment: Add to DEIS technical analysis regarding limits of directional drilling and fully address the scientific controversy relating to the efficacy of directional drilling in the Moxa Arch.

The DEIS omits information regarding the respective costs of vertical versus directional drilling. Instead, the DEIS assumes the same costs. This is incorrect and the DEIS needs to disclose the higher costs and analyze the impacts of such higher costs on development and production.

b. Longer duration, more expensive, and thus fewer wells

Comment: Revise DEIS to show higher costs, longer drilling times and the impacts on the number of wells if directional drilling is required.

It is well-established that directional drilling is more expensive, takes much longer to complete, and can be very difficult. Given the timing limits that the Alternative B would impose, the DEIS does not disclose the impacts of such timing restrictions on drilling operations. More importantly, there is no discussion of the technical feasibility of starting a directional well, if seasonal closure for crucial winter range or sage grouse breeding season interrupt.

c. Recovery Issues

Comment: Revise EIS to address scientific contradictions regarding the effects of directional drilling on recovery of natural gas.

There is insufficient experience of directional drilling in this field to support any assumptions of recovery. The DEIS statements that up to 85% of the gas would be recovered under directional drilling and lower recovery under vertical drilling is not supported by any actual data from this field. DEIS 4-17. If the assumption is based on the Jonah Field, then the DEIS needs to disclose and

discuss the fact that the Jonah Field differs materially from Moxa Arch. Even if feasible, the DEIS assumes 20% greater recovery when recovery is more likely to drop.

Comment: Revise Alternative B entirely and revise other portions of Chapters 4 and 5 as to economic and revenue assumptions.

The above questions and lack of detail regarding how Alternative B might actually work mean that the DEIS fails to provide sufficient information.

d. Loss of Money to U.S. Treasury

Comment: The DEIS needs to explain the basis for considering alternatives that would return less money to US treasury. If there is less gas produced, revenues to the U.S. Treasury will drop and this resource will likely be lost to further recovery. The DEIS needs to address this possibility as part of the various aspects of the alternatives being considered.

8. Disclose and Analyze Surface Disturbance Estimates in DEIS

Comment: The DEIS needs to display separate surface disturbance estimates for Alternative B. Mitigation measures must be addressed in the EIS, not in post decision documents. 40 C.F.R. §§150214.(f); 1502.16(h); BLM NEPA Handbook H-1790-1 H-1790-1 ¶V.B.1.d(3), p. V-5; ¶V.B.2.a.(4) & (5), p. V-8.

Comment: The DEIS needs to document the number of wells said to be drilled in light of comments regarding reclamation issues. If, in fact, reclamation is not proceeding in a timely or successful fashion, then the DEIS cannot assume successful reclamation within a few years.

Based on repeated references to reclamation failure, the DEIS needs to document its estimates of the number of wells over the life of the project. The tables suggest that Alternative B would drill more wells faster than the Proposed Action. But if reclamation success has been elusive, then the DEIS needs to explain how Alternative B with its surface disturbance cap will drill more wells. Instead, it would be more likely that drilling would halt due to failure to meet reclamation time lines during drought.

9. Fails to Address Private / State Land Versus Federal Land Discrepancy

Comment: The DEIS needs to address the lack of agency jurisdiction over drilling on private or state land. The DEIS also needs to disclose and discuss whether Alternative B assumes that BLM can deny rights-of-way to private and state lands. These implied assumptions are questionable and need to be disclosed and documented. BLM cannot deny access to private or state lands. *State of Utah ex rel. Cotter Corp. v. Andrus*, 486 F. Supp.2d 995, 1002 (D. Ut. 1979) (holding that lessees of state school sections are entitled to surface access for development).

If the operator were to use public roads, BLM also cannot deny access. As the DEIS notes much of the area is already roaded, so it is unclear to what extent the DEIS assumes that it can regulate drilling and access on private and state lands.

B. Proposed Action DEIS 2.3.1

1. Proposed Action: Changes from What Operators Proposed

Comment: If Proposed Action differs from what the operators proposed, the DEIS needs to explain the basis for making changes.

CLG members commented previously that the EIS should not change the proposed action because that is what the operators proposed. Because this is a project level action pursuant to valid leases, BLM has limited authority to revise the proposed action, unless the operators have all agreed.

Many of the changes appear to make the proposed action more like the other alternatives, which does not support the NEPA's requirement that the EIS consider a range of reasonable alternatives.

Comment: Revise tables to show changes in surface disturbance during life of project as sites are reclaimed.

In most fields, wells are plugged and well pads are reclaimed and interim reclamation will occur throughout the lief of the project. The tables do not depict this ongoing reclamation such that it is possible to determine whether the totals reflect an assumption of reclamation or assume none.

C. No action Alternative

Comment: Revise DEIS description because 'low development" is inaccurate. The 1997 ROD is a development alternative and with greater surface disturbance cannot be called low development.

Comment: If reclamation has failed, then DEIS must document extent of failure and explore the reasons.

D. Alternatives Eliminated DEIS 2.5.4; 2-16 2-17

Comment: If DEIS did not consider spatial and temporal phased development, DEIS must explain how surface disturbance cap, which is phased development by another name, should be considered.

E. Common to All 2.4, p. 2-15

Comment: DEIS needs to include revised reasonable and foreseeable development (RFD) so that the Kemmerer RMP RFD is not out of date.

The number of wells to be approved for Moxa Arch alone exceeds the RFD found in the RMP. There is insufficient analysis of how the RFD will link or be treated as separate from the Moxa Arch.

Comment: Incorporate transportation plan into the DEIS.

Like the baseline estimates of the number of wells to be drilled in Alternative B, any transportation plan or the basics of such plan, must be part of the EIS.

Transportation relating to the Moxa Arch has significant impacts, including impacts on county resources. Disclosure, analysis and possible ways to mitigate those impacts need to be part of the EIS. Coalition members look forward to coordinating on this important issue.

F. Reclamation Issues

1. Reclamation issues

Comment: DEIS needs to explore reclamation issues that are not addressed, including the role of drought and low site potential on failure of reclamation. DEIS must also explore revisions to the native seed only standard in light of the failure of native seed to get established.

Other experts have suggested that reclamation in the high cold desert requires extraordinary efforts, concluding irrigation, mulching, and seed mixes to stabilize the site. Mulching and a mix of non-native but desirable plants and native plants will give native plants longer time to establish.

The DEIS throughout refers to reclamation failure, implying in places that the operators failed and, in others, that it was due to drought. The DEIS needs to discuss reasons, such as low site potential, extended drought, seeding at a poor time, e.g. August, or sole reliance on native seed, when this often does not work in this climate and site.

CLG believes that objective should be site stabilization, which could include mix of desirable plant species likely to survive. Once the site is stabilized, it is possible for native vegetation to come in. Since reclamation will involve less than 5% of the entire project area, it makes more sense to stabilize with desirable plants than trying to get native seed to germinate, when it cannot or will not during continued drought.

Comment: Focus mitigation for habitat, vegetation, and soils on undisturbed areas where vegetation treatments can improve site characteristics. [Onsite compensatory mitigation]

Instead of detailed and prescriptive reclamation, *i.e*. Appendix E, CLG members recommend that BLM and the operator adopt vegetation and habitat improvement on undisturbed lands. This will improve habitat effectiveness and forage. There is also improved chance of success when working with rooted and established vegetation. There will be more immediate and area-wide benefits due to improving habitat where wildlife may use to avoid construction disruption.

V. Chapter III AFFECTED ENVIRONMENT

A. Air Quality DEIS 3.1

Comment: DEIS must state that the project area is an attainment area, that is all of the air quality standards are met, not just that it is "generally good."

Comment: Amend visibility discussion to acknowledge short term impacts from regional forest fires.

B. Noise DEIS 3.5 p. 3-32; Chapter 4.6 Cumulative Effects 4 55, Appendix A-9.

Comment: Delete numerical noise abatement standard and provide for avoiding noisy construction near lek sites during breeding and nesting season.

The DEIS uses widely different noise level limits 59, 86, 40 dBA. Appendix A uses 49 dBA at A-9 but this number is not mentioned in DEIS.

There is no evidence that this noise standard should be applied to wildlife sites in remote rural regions. Given the fact that this is a remote and rural area, the noise levels may not even register at sage grouse habitat if the IM guidelines are followed.

The EPA standard is not applicable to wildlife nor to the crucial winter range. DEIS improperly adopts the EPA standard.

The DEIS does not appear to understand the 55 dBA standard adopted by EPA or that it cannot be readily applied to a natural gas field. Thus imposing any dBA standard is problematic due to the very different characteristics pursuant to which the noise standard was developed and how it is measured and monitored.

The 55 dBA is the 24-hour and 7-days a week average of noise from primary sources, such as airplane activity at an airfield. Noise models weight night time operations very heavily, as well. The noise event averages are then converted to a noise contour.

The 55 dBA standard could not be enforced unless BLM were to require an entire noise monitoring program to be established at each well site. This is both impractical and technically meaningless given the substantial differences between a natural gas field covering more than 265,000 acres and an airfield that is much more limited in size.

Much of the construction work is done during daylight so the lack of night noise may make the application of the standard meaningless.

The DEIS does not assess the feasibility (or intrusiveness) of installing noise monitoring equipment at sage grouse leks or nesting sites, the need for personnel to conduct the noise monitoring, or the conversion of the noise data into noise contours and how such contours might be based.

C. Vegetation DEIS 3.6 p. 33

Comment: As noted above, the DEIS needs to discuss and analyze the reclamation issues.

If it is a matter of BLM failing to enforce reclamation, that too needs to be disclosed.

Comment: DEIS needs to distinguish between public lands and private and state lands. While impacts to all are properly within the scope of the DEIS, the differences should be disclosed as well.

Is the farmland is privately owned

Comment: Table 3-18 shows only vegetated sand dunes but elsewhere, DEIS notes sand dunes without vegetation.

Comment: Update Table 3-18 to show new information instead of using 12 year old vegetation data?

Comment: 3.6.1.1 omits any disturbance from oil and gas, does this mean no oil and gas development in sage brush communities. If yes, then many of the assumptions about adverse impacts on sage grouse need to be qualified.

Comment: Update vegetation discussion, 3.6.1 and address current vegetation conditions, pre-development conditions and site potential.

The vegetation discussion is very general and does not address current pre-development vegetation conditions or site potential. There is no discussion regarding conformance with rangeland health standards although the following discussion of riparian areas does address conformance to rangeland health standards.

1. 3.6.3 Riparian and Wetlands

Comment: Revise waters of the United States to conform to more recent Supreme Court decisions and EPA guidance.

Jurisdictional waters of the United States do not include waters lacking interstate nexus, e.g. dry ephemeral drainages. *Rapanos v. United States*, 126 S. Ct. 2208 (2006); Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States*, EPA (June 5, 2007). The Moxa FEIS was written under different legal definition and the DEIS cannot rely on what was done 10 years ago.

Comment: If DEIS includes riparian area proper functioning condition ratings, Table 3-20 then need vegetation conditions also.

2. 3.6.4 Noxious weeds p.3-40

Comment: Revise DEIS to state that noxious weeds are also transported by wind, wildlife, and birds. Sakai, *et al.*, *The Population Biology of Invasive Species*, ANNU. REV. ECOL. SYST. 2001. 32:305–32 at 312.

D. Wildlife

1. 3.8 ESA and Sensitive Species

Comment: Add prairie dog back to candidate species 3.8.1 3-54

2. 3.8.2 Sage grouse 3-57

Comment: Sage grouse is now a candidate species.

Comment: DEIS must include section addressing the scientific controversy regarding the impacts of oil and gas development on sage grouse behavior and use of habitat.

The analysis Work done by Renee Taylor and Larry Hayden-Wing criticize the conclusions, data and methodology of Holloran, M. The DEIS refers only to Holloran without addressing the controversy. NEPA requires an EIS to address scientific controversies. 40 C.F.R. §1508.27.

Comment: DEIS should consider as a mitigation measure the improvement and rejuvenation of sage brush stands outside of development.

E. Land Use 3.11 p. 3-90

1. Livestock Grazing 3.11.1 AUMs

Comment: Revise DEIS to reflect the actual number of AUMs likely to be lost through nonuse, displacement, etc.

The DEIS should be able to quantify impacts, because BLM knows who grazes, when and how much

Comment: Add a discussion to the DEIS regarding current rangeland conditions in the context of the site potential.

Comment: Amend DEIS to show that livestock grazing displacement includes reclamation when grazing will not be allowed.

Comment: Mitigation for impacts on livestock operations would include vegetation improvement projects or onsite compensatory mitigation discussed above.

2. Transportation 3.11.4 p. 95

Comment: Revise Map 3-15 to distinguish between BLM and county roads.

F. VRM 3.12 p. 3-97

Comment: Revise Map 3-16 to conform to currently applicable RMP. Buffers long highways and trail look wider than the prescribed ¼ mile. The project area is reasonably classified as VRM Class IV, except for ¼ mile along historic trail and highways.

VI. SOCIAL ECONOMIC

The following comments pertain to the assessment of the anticipated socioeconomic effects of the No Action and various Action alternatives.

1. The document contains inconsistencies in assumptions, data, analysis and discussion that detract from the socioeconomic assessment and the information provided to the public and to BLM's decision-maker on this action. Examples include:
   - Executive Summary, page ii indicates approximately 6 years to drill the remaining 670 wells (about 112 wells/year), but Table 2-2 on page 2-2 indicates 7 years and 97 wells per year, and Table 4-21 references 126 wells per year.
   - Table 4-15 (page 4-66) lists total production of 0.66 Tcf for the No Action, however, Table 4-25 (page 4-78) shows 0.83 Tcf.

- Bullet #7 on page 4-67 describes the direct and indirect job creation per $100 million in oil and gas production, which is consistent with the first full paragraph on page 4-74, but those same values are also associated with $110 million in production in Table 4-22 and the paragraph immediately following that table.
- The underlying price assumptions used to derive the estimated values of production in Table 4-25 are not indicated, but the assumed price for natural gas is clearly not the spot market price of $7.84/Mcf listed on page 4-72 in reference to the investment recoupment period for wells. If one accepts the estimated value of total production in Table 4-25, with an allowance for the value of condensate production, the assumed value is about $5.35/Mcf. The latter is likely to be more conservative as a long-term assumption and should be used throughout the analysis.
- The estimated Federal Mineral Royalties shown in Table 4-24 are inconsistent with the estimated values of total production in Table 4-25 and the shares of Federal mineral estate implied by the distribution of well pads/wells in Chapter 2. Again, if one accepts the estimated value of total production in Table 4-25, the estimated FMR in Table 4-24 are understated by a factor of **100** or more.
- Table 4-24 and the accompanying discussion does not describe the distribution of the state share of FMRs to University of Wyoming, state School Foundation program, Highway Fund, and other funds, and the limited amounts returned to the local counties and communities faced with coping with the social and economic effects of energy development.
- It is unclear from the table heading and accompanying narrative whether the projected ad valorem tax revenues shown in Table 4-24 are for the respective County governments, or whether they include anticipated revenues accruing to the local school districts and State School Foundation Fund.
- Section 4.11.3.6.3 includes narrative citing "Annual jobs created…..are estimated to total 22,993 during development…", although the value for Average Annual

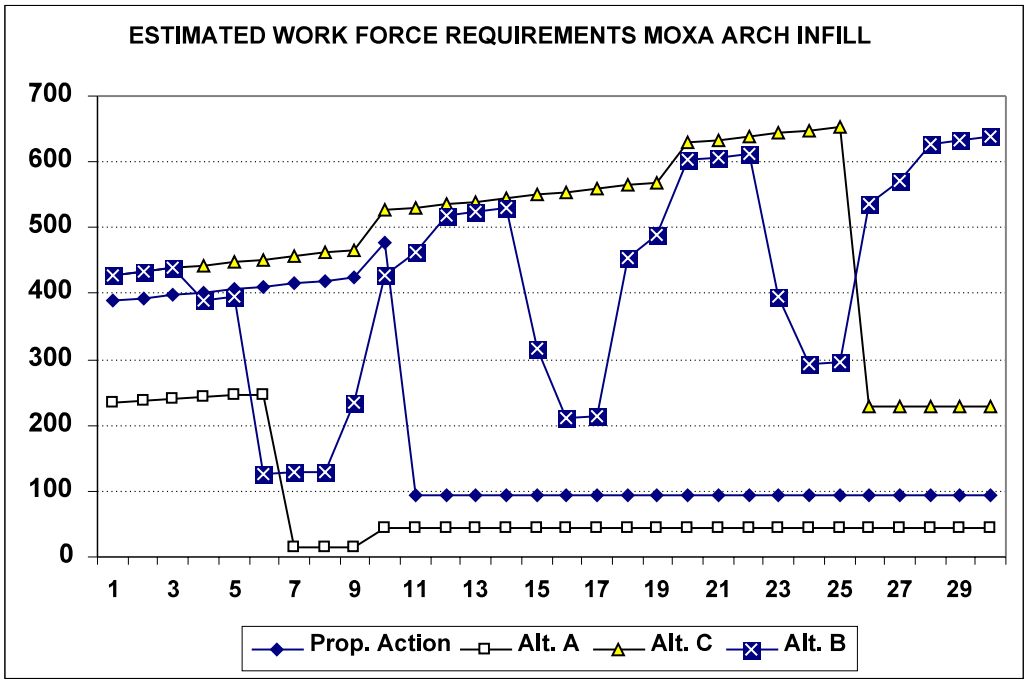
Employment for the Proposed Action in Table 4-25 is 2,298. This terminology is confusing as it is unclear whether the text is referencing the total employment over the entire development period or the average annual employment in a given year. A similar confusion occurs for Alternative C in 4.11.3.9.1.

- The institution of a surface disturbance cap in conjunction with Alternative B would likely result in a more sporadic pace of development, which negates the derivation and presentation of "average" annual employment impacts on a comparable basis to the No Action and Proposed Action alternatives.
- Table 4-25 uses the unit "billions" in reference to spending and local earnings. We believe "millions" is the correct unit.
- Table 2-6 contains a row listing the population impacts under the alternatives. The cell entries in the columns make reference to the "peak population increase". The values shown are in fact not the peak values described in section 4.11, but rather are the long-term average increases associated with long-term production. Population impacts during development would be considerably higher, as is noted in body of section 4.11.

2. The underlying structure of the socioeconomic assessment largely ignores important socioeconomic issues related to the Proposed Action and Alternatives B and C vis-à-vis Alternative A. As described in Chapter 2, the level of economic activity associated with the No Action pace of development has already been internalized in the current tight labor market, housing market, and demands on public facilities and services. That being so, it is the incremental changes associated with the other alternatives, and the dynamics associated with those changes, that should frame the impact analysis. For example, if one accepts the average annual employment of 1,557 associated with Alternative A (Table 4-25), then the impacts with the Proposed Action are those associated with the additional 741 jobs and the residency and demographic characteristics associated with the workers

who will fill those jobs. Those characteristics likely differ from the established patterns observed in the existing work force.

The analysis also overlooks the implications of the longer development horizon associated with the Proposed Action, and even more so with Alternatives B and C, and the implications of the transition from higher levels of employment during drilling to the lower long-term employment during production. The extended development period is sufficiently long to qualify as a long-term or permanent element of the local economy and set up completely different economic and demographic dynamics in a community which should be addressed. Furthermore, Alternative B is likely to result in a much more uneven or sporadic pace of development, with corresponding adverse effects on employment, demands for housing and public services, and other social and economic conditions, including diminished community stability. The following figure, based on the estimated direct on-site AJEs and a completely hypothetical scenario regarding the implications of a disturbance cap on development undert Alternative B, illustrates these differences.



3. The analysis of population impacts overlooks the temporary, unaccompanied non-resident workers who reside in the area on a long-term, ongoing basis and place demands on community facilities and services, as well as affecting local social conditions. For example, ignoring for the moment other issues associated with the employment estimates (discussed further in #4 below), the creation of 1,193 "local" jobs under the Proposed Action results in an estimated population impact of 1,933 individuals (page 4-77). However, the population impact discussion then ignores any population effects associated with the 1,105 secondary jobs (see Table 4-21). Due to the structure of an IMPLAN model calibrated to the three-county region, these jobs and the workers filling these jobs are endogenous to the region. The fact that a job may be filled by a worker whose permanent residence is elsewhere is immaterial from the perspective of housing, traffic, demands on public services, etc.

4. The discussion of direct labor requirements seeks to address the confusion that often surfaces in the context of natural gas and oil development, characterized in this document as the differences between the Head Counting and Employment/Expenditure methods. The discussion on pages 4-70 and 4-71 explains two major differences; on-site direct versus total including off-site and the short-term activity on a per well basis versus a 12-month average associated with a job. However, the analysis thereafter introduces new confusion based on assumptions regarding the residency status of workers, the relationship of workers to jobs, and direct versus secondary nature of jobs.

   First the discussion notes that an annual job equivalent (AJE) associated with the Employment/Expenditures (E/E) method represents 12 months of employment, though not necessarily full-time employment, by a single individual, or even in consecutive months [Section 4.11.3.1]. Later the discussion notes that double-counting, which can be an issue with the Head Counting method, should not be an issue with the E/E method because it estimates employment in terms of jobs, not workers. Using the E/E method the

analysis then estimates a total of 12.4 direct and secondary (indirect and induced) jobs per well in the region. This factor appears to be the basis for the total employment estimates in Table 4-21, although the terminology has shifted to "local" and "secondary" and the percentage splits between the two categories is inconsistent with that outlined in 4.11.3 and Table 4-20.

Added confusion occurs because footnote #3 to Table 4-20, which indicates the that the direct AJEs do not include the direct labor jobs, likely should be attributed to the Secondary AJE on the following line, and footnote #3 for Table 4-21 should delete the reference to national employment and the sentence regarding the location of secondary employment outside of the region. As noted above, this statement is contradictory to the underlying premise of a regional IMPLAN model.

For purposes of estimating population impacts, the analysis next applies the 60 percent worker to job adjustment for direct on-site workers under the Head Counting method to the estimated jobs in Table 4-21 labeled "Local Employment" which were derived using the E/E method. We believe this adjustment is inappropriate given the earlier statement regarding double-counting and average annual earnings in excess of $55,000 per job. Dismissing the secondary employment impacts as a factor in population growth is also inappropriate.

An important consequence of this confusion, as noted in item #3 above, is to understate the potential population impacts facing local communities. A corollary issue is that the impact assessment does not address the needs of non-resident workers for rental or other temporary housing.

5. We are unfamiliar with the work attributed to Jacquet and Kathol (2007) cited as the basis for the 60 percent ratio between workers and jobs for direct on-site jobs. Given the strenuous physical nature of many of these jobs, the long shifts associated with most oil field jobs, the fact that some "jobs" involve multiple workers, e.g., a single roughneck "job" employs several people when operating on a 24x7 basis, and the implications for

impact assessment and planning, the issue warrants further review. In the meantime, rather than apply the various adjustments presented in the assessment, the net affect of which is to downplay impacts and thereby portray what might be considered a "best case", agency guidance seems to suggest that the analysis present a worst case assessment.

6. The row entries listing Annual Production (average) in Table 4-16 seem irrelevant to the subject of that table and appear inconsistent with the production estimates in Table 4-15. Please clarify the information and its applicability.

7. The socioeconomic assessment addresses impacts very generally and in aggregate. The assessment is practically devoid of any discussion or assessment of the potential implications for the various communities or counties in the study area; the few references to sub-regional effects include the bulleted items on page 4-67 and the discussions of revenues on page 4-77. The lack of attention to potential differential effects across the region and over time is sufficiently striking as to suggest that section 3.10 could be eliminated from the EIS with little detrimental consequence to section 4.10.

8. The conclusion regarding the lack of economic impacts to grazing lessees (section 4.12) are incongruent with the impacts as outlined in the Table 4-26, particularly with respect to Alternative C. Given the seasonal nature of grazing, the reliance on public lands to leverage the forage raised on private meadows and pastures, the cost and relative lack of alternative pasture in the region, and the pressures on ranch budgets associated with drought and other factors, the long-term loss of 872 to 2,058 AUMs would result in reductions in operating income for lessees. Finally, lessees would likely need to devote additional time and incur additional management costs. The net effect of lower revenues and higher costs wld definitely result in economic impacts. On the margin, such impacts could dramatically affect one or more operators. While we appreciate that the analysis

can not make determinations about the effects on individual operators, the EIS needs to disclose the potential for such impacts rather than conclude that there would be no economic impacts.

9. Appendix A contains mitigation measures for the Socioeconomics resource, which to our knowledge reflect little coordination with local governments, may be of questionable effectiveness, potentially create or increase other impacts, and are not required i conjunction with other projects. For example, though Evanston may have adequate utility capacity to accommodate residential growth, encouraging housing development and worker residency in that community could increase traffic volumes and travel times for workers. Furthermore, such a residency patterns could pose management, staffing and cost implications for the oil field service firms based in the Rock Springs area.

In summary, the Coalition of Local Governments has concerns about both the substance and structure of the socioeconomic assessment and we believe that there is substantial potential for the public and decision-makers to be confused by the presentation of the assessment. We believe that the socioeconomic assessment does not comply with the spirit of CEQ's Regulations for Implementing the Procedural Provisions of NEPA, Paragraph # 1502.8, which requires that EISs be written in plain language so that decision makers and the public can readily understand them. We also believe that the analysis as presented in the document does not adequately disclose potential significant socioeconomic impacts on affected communities. Consequently, the Coalition of Local Governments requests that you address the preceding issues and apparent inconsistencies in the assessment prior to issuing an FSEIS for this project.

VII. Chapter 4 ANALYSIS OF DIRECT AND INDIRECT IMPACTS

A. Geology & Mineral Resources 4.3 4-13 to 4-19; 4.3.4 Minerals 4-17

Comment: Revise DEIS to discuss and analyze variations in recovery of gas among alternatives

If directional drilling affects recovery of natural gas, Alternatives B and C' need to discuss the impacts.

Comment: Revise DEIS to analyze differences in recovery between Alternative B and C.

4.3.4.3.3 The DEIS cannot assume same recovery as Alt. B and C, given the potentially large impacts that the surface disturbance cap will have on development. We also question the assumption that directional drilling will yield greater gas recovery. DEIS must also reflect considerations of market in light of the significantly higher drilling costs associated with a directional drilling program.

1. 4.4 Soils p. 20-21

Comment: Improve DEIS discussion of soils and acknowledge only estimates since there is no Level III soil survey of the project area.

Comment: Revise DEIS to distinguish between private and public lands. DEIS needs to explain differences, when BLM cannot regulate site of drilling and disturbance.

2. 4.6 Noise p. 4-29

Comment: See above comments on noise standard.

A one-time study concluding there is noise sensitivity is not sufficient to adopt the 55 dBA. The DEIS fails to disclose how the study was conducted and how it correlates to community noise standards that are used by the EPA.

B. Vegetation 4.7 p. 4-32

Comment: Revise DEIS to delete term significance. The amount of surface disturbance is relatively small by land area, the context of the project, and the duration of the project. There is only a few thousand acres difference among the alternatives.

DEIS 4.7.2 Cryptobiotic soil crusts 4-36

Comment: Chapter III of the DEIS states that there is no inventory of cryptobiotic soils. It cannot be described as a significant impact if it is assumed there are not a lot of soil crusts and BLM does not know.

C. Wildlife

1. 4.8.2 p. 4-39 raptors

Comment: Protection for migratory birds including raptors is defined by the Migratory Bird Treaty Act, which regulates potential loss of nests, eggs or killing of bird and does not protect habitat. 16 U.S.C. §§703, 704, 705.

Comment: Clarify which RMP is being incorporated.

The DEIS 4.8.2.4 Mitigation refers to Kemmerer RMP but this appears to be the draft RMP not the current plan. Under FLPMA, BLM must manage under the adopted land use plan, not a future revision. 43 U.S.C. §1732(a).

2. Big Game 4.8.3

Comment: DEIS needs to discuss and analyze the experience in existing gas fields that big game habituate to traffic and development.

CLG members have previously provided to the Kemmerer Field Office the full report and analysis done by Renee Taylor on the issue of impacts of human activities and the extent, if any, adverse effects. Taylor found big game numbers tended to leave a construction site during intense construction of the well pad and drilling the well. The game animals returned however having determined that energy activities are not threatening.

Comment: DEIS needs to state that habitat fragmentation is defined by Checkerboard and land ownership as much as by oil and gas development.

Comment: Clarify impacts on elk and moose in proportion to use. There is relatively small amount of habitat used by elk or moose, numbers are stable or increasing, so the assumption of high impacts needs to be revisited.

Comment: Revisit seasonal closures as mitigation [DEIS 4.8.3.4 Mitigation].

They are not warranted for big game and cannot be imposed on leases where there is no surface occupancy limitation. BLM cannot require seasonal closures based on RMP, or standard lease stipulations.

CLG members have long objected to road closures that apply to county roads in the Kemmerer Field Office. The number of county roads in Moxa Arch make this measure very difficult to enforce.

Comment: Revise DEIS to assess significance or lack of significance of lost habitat.

The surface disturbance or habitat loss is less than 5% of entire project area over 20-year period of time. More importantly, as shown in Riley Ridge and Nitchie Gulch elk, deer and antelope will habituate to development and return to the area. Thus any "lost habitat" is more accurately a temporary displacement of varying lengths of time.

Comment: DEIS needs to discuss the benefits vegetation improvements projects especially those not at the construction site but within the project area.

Vegetation improvement projects could improve plant species and palatability, health of brush and forbs, including sage brush, and thus stabilize the entire area.

Comment: Delete statement that wildlife habitat is lost because native species slow to recover.

Big game animals are drawn to palatable plant species in general. The "loss" of native species, if replaced by other palatable plants is not a loss of forage or habitat for big game animals.

Comment: Revise DEIS 4.9.1 to add sage grouse to candidate species discussion.

3. 4.9.2.1 Sage grouse 4-53

Comment: Revise DEIS to address scientific controversy regarding Holloran research.

The DEIS accepts without question the Holloran conclusions. The work is not peer reviewed or published. More importantly it has been the subject of significant and material criticism. The DEIS cannot accept one view of science without questioning the data and the basis for the conclusions.

Comment: Revise DEIS to adopt onsite compensatory mitigation of sage brush and other vegetation communities.

This recommendation is more likely to improve sage grouse habitat and avoids the complicated problem of looking of offsite habitat to purchase or lease. Given that 95% of the project area that is not disturbed, there is ample opportunity for onsite compensatory mitigation.

Comment: Revise DEIS to address the role of West Nile virus and other factors.

Sage grouse numbers are believed to be more directly affected by conversion of land from farms, ranches and open space to subdivisions, drought, West Nile virus, and decades of vegetation treatments to reduce sage brush stands. Sage grouse are still hunted in Wyoming.

Comment: Replace mitigation proposed in DEIS [4.9.2.4 Mitigation 4-59] with onsite compensatory vegetation improvement program.

D. Livestock 4.12.2 p. 4-84

Comment: Delete dust as a factor on forage palatability, because it is temporal and has limited if any impact.

Comment: Revise DEIS to include closure of allotments during reclamation and other vegetation treatments.

E. Transportation 4-89

Comment: CLG members support coordination with counties on transportation issues. To date we have not seen any such coordination.

Comment: Revise DEIS to extend coordination to other construction projects

Comment: Move Table 4-7 since found in context of fisheries

F. Raptors

Comment: Lease terms and current RMP should govern seasonal stipulations.

Comment: Delete references to impose seasonal occupancy stipulations for raptor protection. BLM can only impose if these are already in the lease.

G. Big Game

Comment: Revise discussion to recognize that game animals habituate to non-threatening human or disruptive activities.

H. Sage grouse

Comment: DEIS assumes adverse impacts notwithstanding sage grouse guidelines to mitigate impacts. DEIS needs to analyze effectiveness and reach a conclusion.

The DEIS appears to confuse the bird's departure with death and this is not accurate.

I. Social Economic

Comment: DEIS needs to recognize potential for boom bust development under surface disturbance cap.

Comment: Delete operator fees for social economic impacts.

The MLA royalty is intended to mitigate the impacts and it is up to the state to equitably distribute and address the impacts. While these are real impacts, they are also sufficiently removed from the project to not fall within the scope of NEPA mitigation. *Robertson*, (rejecting argument that Forest Service needed to mitigate air quality impacts due to increased residential development that might occur when ski area expanded).

J. Soils

Comment: DEIS needs to address site potential

Comment: DEIS needs to qualify or delete the statement that it takes 50 years to re-establish native vegetation.

Experience in Wyoming does not support that statement and it is misleading. If it refers to an outlying or worst case, the DEIS needs to disclose that fact.

The issue of native vegetation also supports the idea of developing onsite compensatory habitat where native vegetation is already established.

VIII. CHAPTER V 5-1 CUMULATIVE EFFECTS

Comment: Chapter 5 merely summarizes cumulative effects but does not analyze or reach conclusions. Revise DEIS to analyze impacts rather than merely listing.

A. Water Resources 5.3.4 p. 5-9

Comment: Resolve inconsistency where DEIS states the project will adds salinity to the Colorado River and 2 ¶¶s later states there will not be any discharges.

B. Noise 5.3.5

Comment: Delete this section and replace it with general qualification.

Noise impacts will be concentrated during the day, there are few residents in the project area, and the area is not rural and does not conduct sound the same way as an Interstate road does through an urban area.

C. Vegetation 5.3.6

Comment: Add wildlife to impacts on vegetation

Comment: Sentence in 3rd ¶ suggests reclamation problems are due to drought and low site potential. If true, then the DEIS needs to be fair and even-handed here rather than implying industry has failed to meet legal requirements.

Comment: While noxious weeds have increased DEIS should discuss better control and better coordination with local weed and pest control districts.

Comment: Revise DEIS to provide that wildlife also affect riparian and wetland areas.

D. Wildlife and Fisheries 5.3.7

Comment: Revise to actually assess or analyze the cumulative impacts.

There is insufficient or no discussion of impacts across alternatives. Moreover, there is no discussion of past trends and how they have changed or not in the past 10 years of the Moxa Arch development.

Comment: Revise DEIS to disclose varying levels of impacts on different wildlife species , *c.f.* DEIS p. 5-11

Comment: Revise DEIS to analyze the size of the project area versus amount of disturbance across the landscape.

Comment: Document assumption [DEIS 5.3.7.3] that lower numbers at a particular site is permanent loss of habitat.

Past experience throughout Wyoming does not show herd numbers drop; instead they leave the area for a time and then return. *See e.g.* Nitchie Gulch, Riley Ridge.

Comment: DEIS 5.3.8 add prairie dog to sensitive species list in light of internal investigation and decision to reconsider status of prairie dog.

E. Reclamation

Comment: Revise DEIS to document assumption that habitat function is lost for 20 years.

The statement does not correlate to game numbers or experience. There is a difference between habitat function and native plant species being fully re-established. The DEIS incorrectly assumes they are one and the same.

IX. APPENDICES

A. Appendix A

Comment: Revise DEIS to distinguish between mitigation measures that are in IM 2004-294 and the new ones. The Appendix includes a number of new measures that are not in the 2004 IM.

Comment: As noted above, DEIS needs to disclose the limits of BLM authority to expand lease stipulations when not in the current lease. Calling them conditions of approval does not cure the defect when such terms are part of the lease and fundamentally affect the lease occupancy rights.

Comment: Revise or drop most measures.

Most of the proposals found in this appendix are not backed by data that meet criteria in Data Quality Act and are not properly documented.

Comment: Revise Appendix A to delete the term stipulation.

Stipulation is a binding term in a mineral lease. BLM in developing the Gold Book and the IM has always used the term guidelines. The DEIS should conform.

Comment: Revise Appendix A to either be consistent with Wyoming Standard Stipulations or distinguish those that are new from what is actually found in the Wyoming Standard Stipulations.

Comment: Document the basis and quantifiable benefits of the best management practices (BMPs) App. A-5.

The BMPs [A-5] are discretionary and assume reduced impacts. It is not possible to determine the impacts intended to be addressed nor is there quantifiable benchmarks to measure mitigation.

Comment: Qualify the requirement to bury pipelines [A-6] which can raise technical issues; increase surface disturbance. In many cases above ground pipelines are less intrusive.

Comment: Delete requirement to locate wellhead below surface or secure OSHA approval.

In Utah the BLM requires at least two people at the well head. Sour gas is a major issue in this region and putting the wellhead below the surface exposes employees to potentially lethal gas.

There are better ways to protect sage grouse from raptors. Employee safety should override any other consideration.

Comment: As commented above, delete numerical noise standards and replace with science based approach.

The BLM needs to adopt better guidance. The approach taken in the DEIS is intrusive, expensive, and not designed for a natural gas field.

If the issue is noise near a lek then the question should be whether sage grouse mitigation guidance is sufficient. If the issue is winter range, then there needs to be evidence of noise levels that are harmful to elk.

Comment: Delete the proposed artificial berms.

The berms would be just as visible, cause greater surface disturbance, require a source of material, mixing of soil, and would encourage noxious weeds. In short the environmental impacts would far exceed any benefit to the viewshed. A berm would create a reclamation nightmare, due to increased risk of erosion.

Comment: DEIS must justify stream crossings under perennial streams [5.0 A-7].

Boring under perennial streams is likely to increase surface disturbance. The greater impacts on riparian areas that might outweigh benefits.

Comment: Revise interim and temporary reclamation to address objective of stabilization.

Reliance on sterile cover crop fails to fully address the issues. Putting in a sterile crop involves loss of moisture, reworking soil, greater problem with noxious weeds, will not reseed itself. We recommend instead cover crop be designed on site specific basis

It is possible to find plant cover that will spread without being invasive and which will not interfere with establishment of native species.

Comment: Revise DEIS Appendix to consistently use term "within 1st available period." [A-8, Table interim reclamation].

Appendix uses one year elsewhere so confusing. *See e.g.* A-9 1st available better than immediately and A-10 2nd inconsistency where required to immediately seed well pad Better to allow for best time to plant rather than just putting seeds into the ground because construction is done.

Comment: Any transportation plan needs to reflect county roads. [A-7].

Comment: Transportation plan should also address standards for improvement, coordinate with county etc., what occurs at the end of the project.

Comment: Revise A-7 water misters to ensure not used when there is wind and to meet DEQ water quality standards when put on the land.

Comment: Delete A-9 noise 49 dBA during nesting season.

DEIS fails to properly discuss the requirement, how it will be measured and enforced. 55 dBa is typically over a 24-hour time period, weighting sound at different points and converting same into a noise contour

Comment: A-10 #5 Delete or revise provision for supplemental wildlife & livestock mitigation for onsite and offsite habitat. This is not discussed elsewhere. DEIS must address the needs above and beyond what is already set out in Appendix A or if Appendix A were reduced to existing guidelines, whether compensatory habitat plan would better mitigate the impacts.

Comment: DEIS must address any compensatory mitigation plan, it cannot be a post-decision project when it is identified as part of the mitigation program. There must also be public comment. *See also* IM 2005-069.

Comment: If BLM committed to mitigation of ranch impacts, then these need to be in EIS.

Comment: Delete A-11 Social Economics that operators pay for housing impacts.

##1-5 royalties paid by operators are supposed to provide funding on the list. Wyoming state law prevents the funds coming back to the counties but the operators should not have to pay twice.

This does not belong in Appendix A.

Comment: Define A-12 visual intrusion and explain consistency with current handbook.

B. Appendix B

Comment: B-10 B6-2 sand dunes unstable.

C. Appendix E Reclamation

Comment: Resolve inconsistencies within the text and its relationship with Appendix A and the actual commitments made by the operators.

Appendix E does not correlate to Appendix A mitigation and imposes inconsistent and confusing obligations on part of operator. These are very important and need to be consistent. For instance, the DEIS 2.1, E-2 calls for initial reclamation with sterile cover crop contradicts the well pad interim reclamation. It is also inconsistent with 1st available season.

Comment: The Appendices should be revised entirely so mitigation conforms to reclamation into one plan.

Comment: The DEIS should not confuse stabilization with reclamation, call it site stabilization instead of initial reclamation. A sterile crop not needed and should not be required in mitigation App. A

Comment: The prescriptive, inconsistent and ultimately very costly approach to reclamation will result in disproportionate development on private and state land leases. The DEIS needs to deal with this likelihood as well and the possible drainage from federal leaseholds.

Comment: DEIS needs to discuss issue of reasonable foreseeable development and likelihood that operators will exceed the surface disturbance cap before the ROD is signed.

X. GLOSSARY

Comment: Conform definitions to statewide terms. There are differences for disruptive activities and Surface disturbing as just two examples.