

February 11, 2008

Caleb Hiner, Project Lead  
Bureau of Land Management  
Pinedale Field Office  
P.O. Box 768  
Pinedale, Wyoming 82941

Re: Revised Draft Supplemental Environmental Impact Statement (RDSEIS) for the Pinedale Anticline Oil and Gas Exploration and Development Project, Sublette County Wyoming

Dear Mr. Hiner:

Thank you for the opportunity to comment on this RDSEIS. As three of the project proponents for the above referenced project, Ultra Resources, Inc. (Ultra), Shell Exploration & Production Company (Shell), and Questar Market Resources (Questar), (collectively, the “Proponents”), have conducted a comprehensive review of the RDSEIS and submit the following comments and attachments in response to the Bureau of Land Management’s (BLM) December 2007 RDSEIS.

The Proponents’ comments are presented to clarify the BLM’s RDSEIS language regarding the Proponents’ voluntarily submitted original Proposed Action, which BLM has changed in the RDSEIS, thereby altering the Proponents’ intent and changing the content of the Proposed Action. The Draft Supplemental Environmental Impact Statement (DSEIS) issued in December 2006, while lacking a complete description of the Proposed Action, did capture in its language the Proponents’ intent of what comprises year-round access. In addition, the Proponents’ comments point out and rectify the misinterpretation of and changes to the Proponents’ April 2007 additional mitigation letter and the subsequent summer 2007 Reclamation and Wildlife Matrix Plans as offered by the Proponents to the BLM which have been included in this RDSEIS.

**I. Introduction**

The RDSEIS narrative includes a year-round access analysis. However, the Proponents are concerned that the RDSEIS does not clearly present an alternative that provides actual year-round access consistent with the mitigated year-round access package Proponents have offered.

**Proponents define year-round access as assurance that BLM will not apply seasonal restrictions to permit approvals that would normally limit actions. The intent is to minimize impacts to wildlife, habitat and the environment by allowing continuous operations on pads without interruption, keeping movement and human activity to a minimum and providing safe, effective and efficient development of the resource. The Proponents have requested year-round access in specified areas which includes simultaneous operations such as drilling, completions, construction, pipelines, production, etc. Proponents respectfully request that BLM insert and use this definition of year-round access in the text, glossary, and appendices of the Final SEIS (FSEIS) and Record of Decision (ROD).**

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P-1-1

Proponents identify recommendations for changes to the BLM Preferred Alternative (Alternative D), which more accurately state the Proponents' offered mitigated year-round access. The analysis in the RDSEIS is sufficient to support these changes.

The Proponents proposed in September 2005 that BLM analyze a more expansive management plan, which would provide a better balance between development, air quality, wildlife benefits and the environment for the Pinedale Anticline Project Area (PAPA) than the 2000 PAPA ROD. The collective field experience in the PAPA combined with better technology, methods of development, and a fuller understanding of the natural gas resource compelled the Proponents to advance the project proposal. The mitigation proposed at that time and in subsequent Proponent submittals was predicated on year-round access in specifically defined activity areas, which would allow the development of the estimated 20-25 TCF of recoverable reserves. At the same time, the proposal would balance the other resources in the PAPA and leave the vast majority of the PAPA undisturbed for the benefit of terrestrial wildlife and other resource values.

While allowing full-field development, the Proponents' proposal affords better environmental conservation, which will result in decreased overall effects on air quality, wildlife, habitats, and habitat fragmentation than what currently occurs under the 2000 PAPA ROD. In other words, Proponents' proposal is better for wildlife and the environment than the 2000 PAPA ROD for full-field development (RDSEIS Alternative E). In April 2007 and in the September 2007 letter, the Proponents offered additional mitigation for year-round access and offered revisions to the management plan of the Development Areas to DSEIS Alternative C that now appear to some degree in the RDSEIS Preferred Action (Alternative D). While not entirely accurate when compared to the Proponents' offered year-round mitigation package and development plan adjustments, Alternative D contains the general concepts of the offered mitigation. Therefore, the majority of the Proponents' comments will address Alternative D.

As with the DSEIS, this RDSEIS supplements the detailed analysis that was previously performed for the 2000 PAPA ROD and subsequent Decision Records (DRs) tiering from that ROD. Proponents recognize that the BLM is conducting this additional analysis in order to formulate a decision document that will allow BLM to better manage the public lands and minerals based on the most recent analysis available of impacts and benefits. Proponents also recognize that the Pinedale Anticline natural gas field's world-class natural gas resources must be developed in an efficient, responsible and sustainable manner. Proponents will continue to work with the BLM, the Wyoming Game and Fish Department (WGFD), the Wyoming Department of Environmental Quality (WDEQ) and other cooperating agencies to ensure that the FSEIS and ROD, when released, provide the most reasonable and environmentally-balanced approach to efficient and economic full-field development when compared to the authorization received under the 2000 PAPA ROD and subsequent DRs.

Proponents are concerned that the RDSEIS, unlike Alternative B in the initial DSEIS, could be read too narrowly and could possibly negate the concept of mitigated year-round access, effectively denying year-round access. The Proponents have prepared comments addressing these and other issues warranting correction, deletion and/or clarification in the FSEIS and ROD. Proponents reiterate their comments on the DSEIS that the procedural requirements of NEPA have been followed in good faith, and, consequently, the forthcoming FSEIS and ROD will be well-reasoned and based on full and appropriate disclosure of environmental impacts. The following

comments reflect the Proponents' collective suggestions for improving the final document by making it consistent not only with the intent of their original proposal, but also with the subsequent additional voluntary mitigation offers based on year-round access. Although the majority of the following comments are important to clarify the FSEIS and ROD, they do not significantly affect the RDSEIS' or DSEIS' assessment of potential impacts to the quality of the human environment or BLM's assessment of the likelihood or magnitude of such impacts.

Organization:

The Proponents' comments on issues of critical importance are contained in the Key Issues Comment section. Proponents have attached as Attachment A a matrix containing specific page numbers and issues for the important issues discussed in the Key Issues Comment section to assist BLM in reviewing the Proponents' comments. Attachment B contains Proponents' proposed changes to the Alternative D description in Chapter 2 that would provide the public with a clear and more accurate description of the mitigation that the Proponents have offered based on the year-round access as defined above. Attachment C contains critical air quality comments and clarifying language. Proponents' Attachment D provides a listing of options available for raptor and bald eagle stipulation relief. These options are based on accepted practices within other oil and gas developments on other BLM-managed lands in Wyoming, and the United States Fish and Wildlife Service (USFWS) voluntary Best Management Practices (BMPs) for raptor and bald eagle stipulation relief. Attachment E contains an errata document, which lists a number of less significant clarifications that require little or no explanation. Attachment F is the Proponents' September 12, 2007 letter to BLM that combines the April 5, 2007, Proponents' comment letter (except for the Appendix A – Errata Matrix) along with subsequent Proponents' submissions to BLM on Development Area (DA)-5, Wildlife Matrix and Reclamation Plan.

The FSEIS and subsequent ROD will be stand-alone documents that will incorporate decision points and requirements emanating from the 2000 PAPA ROD and subsequent DRs tiering from that ROD. Previous decision points and requirements not specifically migrating to the FSEIS and ROD will be considered to no longer be in effect. The Proponents' recommendations on which decision points and requirements should migrate over to the FSEIS and ROD were incorporated into Appendix B of their April 5, 2007 comment letter, and these are still applicable to the ROD, which will result from the RDSEIS.

## **II. Key Issues Comments**

Year-Round Access:

Proponents respectfully object to the BLM's changes in the language and the intent of their Proposed Action (Alternative B) for mitigated year-round access and request that the language be revised to reflect the original intent. In addition, the BLM should accurately include Proponents' offered mitigation for year-round access in the BLM Preferred Alternative (Alternative D). To do this and make it accurate, the BLM will need to clarify that it provides year-round access in Alternative D since year-round access is the basis of the Proponents' offered mitigation. Proponents' year-round access request with associated mitigation is an interwoven package that allows the components of each to work together, effectively and economically providing for a balanced approach to development and protection of natural resources in the PAPA.

In the September 16, 2005 Proponents' letter to Priscilla Mecham, then the Pinedale Field Manager, Proponents requested "[T]o implement the components of this proposal, Proponents request that BLM not apply seasonal restrictions to permit approvals that would normally limit actions." While much attention in the DSEIS and RDSEIS so far has been given to specific species (big game and sage grouse), without exceptions for all seasonal stipulations, by definition there can be no true year-round access within the Development Areas. The benefits to wildlife and air quality, accruing from the mitigation measures Proponents have offered and are committed to, are dependent upon year-round access and cannot be fully achieved with partial access. Exceptions from seasonal stipulations for all species must be granted and Proponents have developed their monitoring and mitigation based on that premise.

The Wildlife Matrix agreed upon between Proponents and the WGFD includes current sensitive raptor and mammal species and sensitive sagebrush-associated bird species as well as game species to track and "proactively react to emerging impact changes early enough to assure both effective mitigation responses and a fluid pace of development over the life of the project." (RDSEIS p. 10-5). To accomplish this, the Proponents offer to provide through the mitigation and monitoring fund "assurance that financial support is available for mitigation and monitoring for the life of the project." (Attachment F, p. 47).

The Proponents' air quality mitigation commitments require long-term rig contracts that cannot be executed with anything less than certainty of year-round access. The Proponents' broad resource protection mitigation commitments were not offered to BLM in support of only specific species, specific situations, or partial access in the Development Areas (DAs). These mitigation measures were purposefully developed to address protection for all species with seasonal stipulations and for year-round access within the specifically defined activity area within each DA. Stipulation relief is required only for the specific activity area within the DA within the Core Area for that year as outlined in the Proponents' annual and 10-year rolling plans. References to seasonal stipulation relief within the Core Area should be clarified in Alternative D descriptions by adding new language specifying that seasonal wildlife stipulation relief is only for the specific activity area during the year. This will assist in making it apparent to the public that the Proponents are requesting only a limited area for relief from seasonal wildlife restrictions in big game, greater sage grouse seasonal habitats, raptors and stipulations for sensitive species and sensitive habitats.

The application of certain sensitive species and sensitive habitat stipulations would substantially scatter and significantly slow development and reclamation, lessen predictability and diminish the benefits to wildlife and air quality that the Proposed Action was designed to enhance. These stipulations can and have been excepted in other oil and gas development projects on other BLM-administered lands in Wyoming as well as in the Pinedale Field Office area. These comments are based upon the Proponents' understanding of the most likely development sequence as discussed with WGFD and other Cooperating Agencies and as offered in the Proponents' April 5, 2007, comment letter to the BLM. The slowing and fragmenting of development and delay of reclamation, which results from failure to provide exceptions to all seasonal stipulations significantly impacts the Proponents' ability to efficiently and effectively develop the Core Area and to provide the benefits, which would accrue from the Proponents' offered mitigation. This is particularly true in DA-2, where slowing and fragmenting development will result in the

G-4 | P-1-4 | Proponents’ inability to initiate any development in DA-3 in a reasonable or timely manner because of the significantly increased time needed to develop the area of the New Fork River and the delay in moving activity northward beyond the required two miles from the river. Unless resolved, this will seriously affect the ability to conduct year-round operations in all DAs, delaying for many years or potentially precluding altogether the benefits of year-round development and associated Proponent-offered mitigation to other wildlife, habitat and environment including rig engine emissions commitments, liquids gathering system (LGS), earlier and interim reclamation and other environmental commitments. In addition, this creates a situation where the ability to accurately forecast development scenarios into the future is severely diminished, which, in turn, compromises the ability of the communities and the county to engage in reasonably accurate long-term planning.

Exceptions to big game and sage grouse seasonal stipulations have been discussed extensively, and the RDSEIS has focused almost exclusively on these species in context of year-round development because of the landscape nature of their distribution, their recreational and economic importance, and the attention they required during development planning. **However, the Proponents’ proposal has always been that exceptions to seasonal stipulations for all species must be assured in the ROD in order to achieve the benefits that the proposal provides for all species over the long term.**

G-5 | P-1-5 | **Proponents request that year-round access, which allows year-round development (construction, drilling, completions, pipeline and production), with exceptions for seasonal wildlife restrictions in big game, greater sage grouse seasonal habitats, raptors and stipulations for sensitive species and sensitive habitats, be allowed in the specified activity area within each Development Area to achieve the full benefit of Proponents’ comprehensive mitigation package. Without year-round access, the mitigation package cannot be fully implemented as proposed and the benefits will not be realized.**

G-6 | P-1-6 | **Where exceptions must be granted on an annual basis, the goal of implementing mitigated year-round access will guide BLM approvals of exception requests. These exceptions would allow mitigated year-round access equal to the Proponents’ proposed activity level benefiting air quality and wildlife as contemplated in the Proponents’ original proposal. The BLM would approve exceptions which provide for the least rig movement and most efficient pad development.**

G-7 | P-1-7 | Language in the introduction to the FSEIS and ROD, especially in the Wildlife and Habitat Mitigation Plan, should indicate that seasonal stipulation exceptions are the norm rather than the exception for specific activity areas in the DAs. Additionally, the language should emphasize mitigation measures included in the proposed mitigation matrix process will address all current and future impacts to species that have seasonal stipulations. The assurance of best results will be achieved through the annual meeting process and mitigation measures with funds committed to in the mitigation and monitoring fund offered by Proponents.

G-8 | P-1-8 | The RDSEIS attempts to explain the year-round development concept to the reader through a listing of the species-specific seasonal restrictions for which exceptions will be granted. This listing, however, is incomplete and does not include all species and seasons.

BLM maintains that waiving all raptor (Bald Eagle included) stipulations or addressing future stipulations is not possible. Proponents have proposed mitigation options used in other parts of the state in oil and gas developments on other BLM-administered lands to eliminate most of the issues and to allow year-round access. (See Attachment D). In addition, Proponents have agreed to the USFWS voluntary Best Management Practices (BMPs), included in Appendix 9C of the RDSEIS in the Alternative D – Wildlife and Habitat Mitigation Plan and specifically in Attachment D of this letter, which are applied over all ownership land patterns, not just private lands as erroneously described on p. 4-134 of the RDSEIS. The description of this voluntary agreement was truncated on p. 4-134 to the extent that it inaccurately portrays the agreement. Proponents request that the agreement be described fully in the FSEIS and ROD.

Appendix 4:

Proponents strongly request that Appendix 4 be deleted in its entirety. Appendix 4 presents new practices and restrictions for the PAPA that are available for application to Application for Permit to Drill (APDs) and right-of-ways during the site-specific review, where appropriate. Appendix 4 goes far beyond standard practices for APDs and rights-of-way. In addition to imposing wildlife stipulations that are incompatible with year-round access in an Appendix, Appendix 4 also presents other new restrictions and requirements relative to viewsheds and operating practices which would severely impact the ability of the Proponents to develop their leases. Instead, the Proponents strongly request that BLM continue to use the BLM’s Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, “The Gold Book,” as the standard for procedural operations.

Proponent Committed Mitigation Descriptions:

BLM describes in the RDSEIS the mitigation activities as impacts rather than benefits. BLM should recognize and highlight the benefits that certain components of the Proposed Action will have on the proposed project, including the innovative and costly Liquids Gathering System (LGS), directional drilling, Wildlife Matrix, mitigation and monitoring fund, etc. The components of the Proposed Action should be more clearly addressed in Chapter 2 and not confined to the Appendices of the RDSEIS. Many other major on-site mitigation measures such as interim and real-time reclamation, leaving lateral and linear migration corridors available, Bald Eagle and Raptor Best Management Practices (when accurately described), computer-assisted operations, etc. presented in Appendices should be more clearly presented to highlight the key elements of the Proponents’ proposal for purposes of impact analysis and for the benefit of the reader. In addition to addressing and discussing the many innovative and costly on-site mitigation efforts, the BLM needs to state in the FSEIS and the ROD that the application of directional drilling from pads and the LGS techniques clearly constitute avoidance, minimization and mitigation of development impacts because they reduce habitat fragmentation and human disturbance.

Proponents’ commitment to off-site mitigation is not adequately presented in Chapter 2 or Chapter 4. Proponents proposed to implement off-site mitigation if on-site actions are not adequate or if off-site measures are considered to be of significantly greater value. Please refer to Attachment F in this letter and include language to accurately describe the mitigation package to the reader.

G-15  
P-1-13 Proponents respectfully request that BLM include in the FSEIS and ROD all Proponent committed mitigation measures as submitted without editing the measures so that the language in the FSEIS and ROD will accurately reflect the offered mitigation commitments.

Wildlife Matrix Changes:

W-1  
P-1-14 The Wildlife Matrix, which sets thresholds for mitigation for wildlife species, was co-developed by the Proponents and the WGFD and submitted to the BLM on July 24, 2007, after initially offering this progressive mechanism in the Proponents’ April 5, 2007 comment letter. Per the July 24, 2007, WGFD submission, this matrix was submitted “as agreed to by WGFD and the Operators, and after review and consultation with the Governor and his Planning Office. Please include it as jointly agreed-upon input for inclusion in the FSEIS.” The Wildlife Matrix as agreed upon between the Proponents and WGFD appears in the RDSEIS in Appendix 10. On p. 4-161 of the RDSEIS, BLM says that it does not intend to adhere to the sequence outlined in the Proponent/State of Wyoming matrix agreement. Proponents did not offer this mitigation tool for editing or alteration by the BLM because the matrix was developed in concert with the WGFD which is the agency charged with managing the wildlife resources of this state. Because WGFD has primary responsibility for managing wildlife within Wyoming, BLM should defer to WGFD’s expertise and should accept the wildlife matrix as offered without modification.

Reduction of Rig Engine NOx Emissions:

Proponents respectfully object to BLM’s revision of the Proponents and WDEQ agreed-upon drill rig engine NOx emission plan. This plan was submitted to BLM verbatim by the WDEQ and Proponents and is based upon concurrence between Proponents and the agency of jurisdiction, the WDEQ. Attachment C provides language that the Proponents are submitting again for BLM to include in the FSEIS and ROD.

AQ-1  
P-1-15 Phase II mitigation under Alternative C in the RDSEIS requires that in addition to an 80% drill rig engine NOx emissions reduction, the Proponents will use “any and all available means” to ensure that visibility impacts will not exceed 1.0 deciview on any day. See Chapter 4, p. 4-82. Proponents have expressed many concerns with this requirement. The BLM added a similar requirement to the Proponents/WDEQ’s proposal which is included in some part in Alternative D. The new BLM language has been included in Chapter 4, p. 4-85: “Accordingly, the Operators, BLM, EPA and WDEQ-AQD would jointly agree to a mitigation plan that complies with the goal (0 days of visibility impairment over 1.0 dv at the Bridger Wilderness Area), using any and all practicable means with full consideration of all resources.” Under the sentence is the same list of components, although not in the same order, as those on p. 4-82. This is inconsistent with the approach the Proponents have discussed with the WDEQ-AQD.

AQ-2  
P-1-16 On two issues, this is not what was committed to by the Proponents with WDEQ concurrence: 1. WDEQ-AQD has jurisdiction over air quality in the State of Wyoming and Proponents do not support BLM ceding that authority to any other entity – BLM or EPA. In addition to the above-mentioned sentence, BLM has appointed EPA as one of the decision-makers throughout the air quality portion for Alternative D. Again, because WDEQ-AQD has jurisdiction, all such

AQ-2

references should be deleted. 2. Language on p. 4-85 RDSEIS puts in question year-round access and therefore jeopardizes Proponents' ability to make long-term commitments for emission reduction efforts. This language could result in the Proponents having to reduce activity levels or take other drastic measures if there are no technologically and economically feasible or reasonable means to further reduce rig engine NOx emissions, despite the very significant investment in drill rig engine NOx emissions reduction equipment and methods to achieve the 80% rig engine NOx reduction level.

P-1-16

Discussion of DAs in Alternative D and Proposed Changes:

G-16

P-1-17

The Proponents, after much operational analysis and discussions with WGFD and WDEQ on what would work best for their jurisdictional issues, proposed changes to the design of the DAs in DSEIS Alternative C. The BLM has used excerpts to create portions of the new Alternative D, the Preferred Alternative. The Proponents' proposed changes incorporated in Alternative D present a logical development and progression process through the DAs while offering more benefits to wildlife than is afforded in Alternatives A, C and E. Given the selection of specific wording by WGFD, WDEQ and the Proponents to describe the movement within and among the DAs, Proponents strongly request that the BLM include the changes to Alternative D found in Attachment B of this letter to assure mitigated year-round access.

Annual Planning Meeting:

AP-1

P-1-18

In the RDSEIS, BLM did not capture the Proponents' intent from their DSEIS comment letter with the Annual Planning Meeting process included. Proponents strongly request that BLM include the following in the FSEIS and ROD.

The Annual Planning Meeting is a key element to conduct year-round operations.

The purposes of the Annual Planning Meeting are: (1) to confirm activities and operational plan for the coming year ("Activity Year" is defined as the 12-month period following the Annual Meeting) and to approve planning for the year thereafter ("Planning Year" is defined as the 13<sup>th</sup> to 24<sup>th</sup> month following the Annual Planning Meeting); and (2) to review monitoring and mitigation related to development and delineation activities for the previous year ("Prior Year" is defined as the 12-month period before the Annual Planning Meeting) and to design future mitigations based on the above.

Outcomes of the Annual Planning Meeting will be the confirmation of the Activity Year as previously approved and approval of the Planning Year. The Planning Year components that will be approved during the Annual Planning Meeting are:

- specific activity areas within each DA and delineation area,
- rig locations and movement,
- pad, pipeline, and facilities construction and expansion, and
- pad reclamation.

The Proponents’ annual (Planning Year) and 10-year rolling plans for development and delineation would be reviewed and approved, and the need for monitoring and mitigation to offset impacts would be determined.

Participants in the Annual Planning Meetings would be senior administrators from BLM, WDEQ, WGFD and Proponents. WDEQ and WGFD participants will be appointed by State agency directors.

Prior to the Annual meeting, meetings as needed with BLM, state agencies and operators would take place to evaluate the operator recommendations and determine the needs for monitoring and mitigation as well as reclamation to offset impacts.

APDs will be submitted at that time or soon after based on the plans approved by the BLM Authorized Officer (AO) in the Annual Meeting.

The participants of the Annual Planning Meeting will meet from 30 to 60 days after the SEIS ROD is issued to begin the planning process, including discussion of transition plans and initial mitigation activities which would include habitat improvement on the flanks.

Exception Process. The BLM exception process as defined in the FSEIS and ROD will be implemented. During the Annual Planning Meeting the BLM decisions, based on the exception process, will be used to approve the Planning Year.

Resolution Process. Objections to the BLM AO decisions can be appealed to the Wyoming State Director of BLM.

Transition from PAPA ROD to the SEIS ROD:

RC-17 | G-17 | P-1-19 | Although within each description on the Development Areas the BLM notes that there is approximately a 24-month transition period, but there is no concise discussion in the RDSEIS. Proponents recommend that the BLM insert the language found in Attachment F, pp. 31-32 explaining the need for the transition period so that it is clear to the reader.

Reclamation:

RC-17 | P-1-20 | Throughout the document, the terms and definitions relative to “interim” and “final” reclamation are inconsistently applied in the various alternatives. There is a need to clarify definitions for interim and final reclamation for consistency purposes and future operational activities for reclamation throughout the document. Clear definition of “interim” versus “final” reclamation needs to be added to the Glossary in Chapter 7, and any reference to interim and final reclamation must be consistent with that definition. Interim and final reclamation objectives are defined as follows:

- Interim reclamation objective – to achieve healthy biologically active topsoil; control erosion; and restore habitat, visual and forage function on those portions of the disturbed

area not needed for the production operations for the life of the well or facilities or until final reclamation is initiated.

- Final reclamation objective – to achieve habitat, forage, and hydrologic function, replicating the functions that existed prior to disturbance, including original landform or creating a landform that approximates and blends in with the surrounding landform. Final reclamation involves restoring the natural vegetative community, hydrological systems, visual resources, agricultural values and wildlife habitats after the life of the well or facilities has ceased. Once final reclamation has met criteria set forth in the reclamation plan, any bond pertaining to the well or facility can be released.

RC-2 P-1-21 Additional discussions on reclamation need to be fortified, and in some cases, corrected. The Reclamation Plan in Appendix 8D cannot be applied to Alternative E as indicated in the RDSEIS because the Alternative E pads must be left open to allow the return of rigs year after year until all of the wells on the pad have been developed. The pads will be left unreclaimed much longer, even up to 12 years, than under Alternative D as it is not possible to implement interim reclamation. There is no provision for predictable development in Alternative E that would result in interim reclamation opportunities.

RC-3 P-1-22 Proponents request that Appendix 8D only be applied to Alternative D.

Alternative E:

AL-1 P-1-23 Alternative E does not develop the resource with the benefits provided by Proponents’ offered mitigations because the Proponents’ offered mitigations do not transfer to Alternative E. The Proponents’ offered mitigations require year-round access and Alternative E does not provide year-round access.

Elements of 2000 PAPA EIS and ROD:

G-18 P-1-24 The RDSEIS is silent on which components and requirements of the July 2000 PAPA ROD and other PAPA DRs will migrate to the FSEIS and subsequent ROD. It is Proponents’ understanding that the new ROD will be a stand-alone document superseding and supplanting the previous decision documents. This should be clarified, and those components from previous NEPA decision documents which migrate to the new ROD should be clearly articulated. Appendix B of Proponents’ April 2007 comment letter provides Proponents’ recommendations on which previous requirements should migrate to the FSEIS and ROD from the PAPA ROD and other DRs. (See Attachment F, pp. 44-45.)

**III. Conclusion**

The Proponents are willing and available to provide any technical or other assistance the BLM may request as the SEIS process continues. The Proponents have offered a uniquely balanced proposal with a substantial level of voluntary mitigation which measurably and significantly improves the development for this very important resource. The importance of the resource to the

United States is either completely overlooked or significantly understated in the RDSEIS. This clean-burning fuel will provide significant domestic energy supply for a country that increasingly needs to reinforce its supplies of fossil fuels in the short term while it strives to achieve a balance with other economic alternative sources of energy. Efficient development of this resource in the short-term is important to the country and important to mitigate impacts on the environment and wildlife.

Although the RDSEIS provides a well-reasoned and adequate analysis of the environmental impacts of natural gas development on the PAPA and complies with the requirements of NEPA, the Proponents ask that BLM consider implementing the suggestions raised in this comment letter, the Attachments and the comment letter previously submitted by Proponents on the DSEIS when preparing the FSEIS and ROD.

These comments on the RDSEIS are submitted pursuant to the provisions of 40 C.F.R. §§ 1503.1(a)(3) and 1506.6(d). The Proponents submitted extensive comments on BLM's previous draft supplemental environmental impact statement (DSEIS) issued in December 2006 by comment letter submitted on April 5, 2007. Those prior comments are incorporated herein by reference. Please consider both Proponents' comments on the DSEIS and these comments on the RDSEIS and include them in their entirety in the administrative record for this matter. *See County of Suffolk v. Secretary of Interior*, 562 F.2d 1368, 1384 & n.9 (2d Cir. 1977) (addressing scope of NEPA administrative record); *Silva v. Lynn*, 482 F.2d 1282, 1283 (1st Cir. 1973).

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**ATTACHMENT A**

December 2007 Revised Draft SEIS Key Issues Comment Matrix			
Section or chapter, page number, and subsection	Issue	Comment	Solution
Dear Reader, p. 1.	<i>“Public scoping was conducted in 2005 and 2006 after the Proponents requested exception from BLM’s seasonal restrictions (Condition of Approval or lease stipulation) for year-round development within certain areas of the PAPA that coincide with big game (mule deer and pronghorn) crucial winter habitats and greater sage-grouse seasonal habitats.”</i>	This is inaccurate. Proponents requested exception from all wildlife stipulations. “To implement the components of this proposal, Proponents request that BLM not apply seasonal restrictions to permit approvals that would normally limit actions.” (September 16, 2005, Proponents’ letter to Priscilla Mecham, then the Pinedale Field Manager). The concept of year-round development requires comprehensive exception from all wildlife seasonal stipulations within the areas approved for year-round development. This wording could negate the concept of year-round access. Without total wildlife exceptions the mule deer, pronghorn and sage grouse exceptions could be neutralized and negated by another species’ seasonal stipulation.	Proponents request that year-round access, which allows year-round development (construction, drilling, completions, pipeline and production), with exceptions for seasonal wildlife restrictions in big game, greater sage-grouse seasonal habitats, raptors and stipulations for sensitive species and sensitive habitats be allowed in the specified activity area within each Development Area to achieve the full benefit of Proponents’ comprehensive mitigation package. Without year-round access, the mitigation package cannot be fully implemented as proposed, and the benefits will not be realized.
Executive Summary, p. iii, similar sentence	<i>“In proposing year-round development (construction, drilling, completion, and production), the Proponents are requesting exception from BLM’s seasonal restrictions (Condition of Approval or lease stipulation) within certain areas of the PAPA that coincide with big game (mule deer and pronghorn) crucial winter habitats and greater sage grouse seasonal habitats.”</i>	Language in the Draft Supplemental Environmental Impact Statement (DSEIS) was more flexible than this: DSEIS p. 23 for Alternative B <i>“This (year-round development) would require temporary relaxation of stipulations where the CDA is active within big game crucial winter range and other sensitive wildlife habitats during the seasonally restricted periods.”</i>	Where exceptions must be granted on an annual basis, the goal of implementing mitigated year-round access will guide BLM approvals of exception requests. These exceptions would allow mitigated year-round access equal to the Proponents’ proposed activity level benefiting air quality and wildlife as contemplated in the Proponents’ original proposal. The BLM would approve exceptions which provide for the least rig movement and most efficient pad development.
Chapter 1, p. 1-4, similar sentence			
Chapter 1, Section 1.7 Proposed Action, p. 1-9, similar sentence			
Chapter 1, Section 1.8 Purpose and Need, p. 1-9, similar sentence			

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P-1-25

**December 2007 Revised Draft SEIS  
Key Issues Comment Matrix**

<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
<p>Chapter 2 Table 2.4-2 Alternatives Analyzed in Detail, p. 2-13</p> <p>Chapter 2 2.4.2.3 Alternative B, p. 2-31, similar sentence</p> <p>Chapter 2 p. 2-39, 3<sup>rd</sup> paragraph, second sentence, similar changes</p> <p>Chapter 2 2.4.3.1 Alternative D Core Area, p. 2-43</p> <p>Chapter 2 Table 2.4-2 Alternatives Analyzed in Detail, p. 2-13</p>	<p><i>“Year-round development with exception for seasonal restriction in big game (pronghorn and mule deer) and greater sage-grouse seasonal habitats would be allowed in the entire Alternative D Core Area.”</i></p> <p><i>“Alternatives B, C, and D include year-round development in certain areas within big game and greater sage grouse seasonal habitats. All guidelines relating to protection of raptor nesting and wintering habitats would apply under all Alternatives. All Alternatives include provisions for Adaptive</i></p>	<p><i>temporary relaxation of seasonal wildlife stipulations...to fully develop each existing and/or new well pad in one continuous time span for as long as necessary to drill and complete all wells on the pad.”</i></p> <p>Unless these guidelines are defined in a manner that are subject to exception or mitigation, they could negate or neutralize exceptions to mule deer, pronghorn and sage grouse, resulting in loss of year-round access.</p>	

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
<p>Chapter 2, p. 2-13, 1st and 5th sentences under Table 2.4-1, similar sentences limiting year-round access.</p> <p>Chapter 2, p. 2-14, similar language</p> <p>Chapter 2, p. 2-15, 5<sup>th</sup> paragraph, 2<sup>nd</sup> sentence, similar limitations.</p> <p>Chapter 2, p. 2-31, 1<sup>st</sup> sentence under 2.4.2.3 Alternative B, similar limitations</p> <p>Chapter 2, p. 2-33, 2 sentences in 2<sup>nd</sup> paragraph and 1<sup>st</sup> sentence in 5<sup>th</sup> paragraph. Similar limitations.</p> <p>Chapter 2, p. 2-39, 2<sup>nd</sup> sentence in 2<sup>nd</sup> paragraph. Similar limitations.</p>	<p><i>Management, varying levels of Proponent-committed mitigation as well as BLM required and suggested mitigation.”</i></p>		

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
<p>Chapter 2, 2.4.3.1 Alternative D Core Area, p. 2-43, 2<sup>nd</sup> paragraph, 2<sup>nd</sup> sentence. Similar limitations.</p> <p>Chapter 2, 2.4.3.3, p 2-47. Alt D Development Areas, Development in DA-1. Similar limitations.</p> <p>Chapter 2, p. 48 under Development Area 4, similar limitations.</p> <p>Chapter 4, p. 4-39, under 4.4.3.5 Alternative D, similar limitations.</p> <p>Chapter 4, p. 4-45, under 4.5.3.3 Alternative B, similar limitations</p> <p>Appendix 9A 9A-1 Wildlife and Habitat Mitigation Plan, ALT B, C -Scope, similar limitations</p>			
<p>Executive Summary, p. iv</p> <p>Chapter 1, p. 1-6, 2<sup>nd</sup></p>	<p><i>“It was not the intent of the PAPA ROD to limit wells but rather to limit well pads within defined Management Areas</i></p>	<p>Page 5 of July 2000 PAPA ROD: <i>“This ROD does not specify a well pad limitation on federal lands and minerals. Rather, BLM will track development within the project</i></p>	<p>Rewrite to reflect wording in 2000 PAPA ROD and delete references that if ‘any’ of the limits are reached, there would be additional analysis required.</p>

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paragraph, same first sentence G-20 P-1-26	<i>(MAs) that were developed to conserve sensitive resources. The PAPA ROD specifies that if any of the authorized limits to development are reached, additional environmental analysis would be required.</i>	area to ensure that development does not exceed the scope of the Pinedale Anticline EIS or create unanticipated impacts.” Unable to locate a statement in 2000 PAPA ROD that if any of the authorized limits to development are reached, additional environmental analysis would be required except for the air threshold.	
Executive Summary, p. vi – ix G-21 P-1-27	All subsections	The level of impact is dependent upon the Alternative and should be noted.	Add a statement noting that the level of impact is dependent upon the Alternative under each category. Examples are noted below, but other subsections in the Executive Summary not listed below may also need this statement.
Executive Summary, p. vi SE-1 P-1-28	Under “Socioeconomics” – states that all Alternatives will exert pressure on socioeconomics.	The paragraph implies that the impacts of the Alternatives are the same, but they are not.	This should be clarified even in the Executive Summary. Such as <i>“Differences in level and amount of impact on socioeconomics is inherent to the Alternative and dependent on the timing of development within a year and degree of concentrated development.”</i> Similar to language under “Land Use and Residential Areas”.
Executive Summary, p. vi T-1 P-1-29	Under “Transportation” – <i>“Each Alternative would require construction of additional roads to support increased wellfield traffic.”</i>	The amount of additional roads varies depending on the Alternative.	This should be clarified even in the Executive Summary. Such as <i>“Differences in the number of and miles of roads are inherent to the Alternative and on the degree of concentrated development.”</i>
Executive Summary, p. vii V-1 P-1-30	Under “Visual Resources” it states that all Alternatives affect it. <i>“...additional development is expected under all</i>	While true, the degree to which visual resources are temporarily and permanently affected is different in each Alternative.	This should be clarified even in the Executive Summary. Such as <i>“Differences in the degree of visual impact are inherent to the Alternative,</i>

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	<i>Alternatives.”</i>		<i>on the degree of concentrated development and the extent of implementation of the liquids gathering system.”</i>
Executive Summary, p. vii	Under “Air Quality”	As with each of these subsections, the level of impact is dependent upon the Alternative and should be noted.	This should be clarified even in the Executive Summary. Such as <i>“Differences in the degree of air impacts to visibility is inherent to the Alternative, on the degree of concentrated development and the extent of implementation of the liquids gathering system.”</i>
Chapter 1, Section 1.7 Proposed Action, p. 1-9	<i>“The Proponents have proposed a long-term plan for continued development of the PAPA. Their proposal includes up to 4,399 new producing wells that would be drilled from 250 new well pads and from expansion of existing well pads.”</i>	Proponents committed to not more than 600 pads.	Add to the end of the sentence <i>“... not exceeding a total of 600 pads.”</i>  4,399 new producing wells was for purposes of analysis only and is not a limit.
Chapter 1, Section 1.7 Proposed Action, p. 1-9	Incomplete description of Proposed Action components	Missing components are: earlier and interim reclamation, computer assisted operations, 10-year forecast and annual planning meeting, and components of Transportation, Reclamation, Wildlife and Habitat Mitigation plans in Appendices.	Add to the description the missing components of the Proposed Action.
Chapter 1, Section 1.8 Purpose and Need, p. 1-9	<i>“The purpose and need of the BLM is to act upon the Proponents proposal to revise the PAPA ROD to expand the level of development by drilling 4,399 new producing wells ....”</i>	Ultra, Shell and Questar have committed to no more than 600 pads being developed, and this should be added in the sentence.	Add in the sentence <i>“... on no more than 600 pads ....”</i>
Chapter 1, Section 1.8 Purpose and Need, p. 1-9	The Purpose and Need statement in this RDSEIS omits the reference to the Operators’	The introductory section as currently written addresses BLM’s “need” to act on the Proponents’ proposal. The CEQ regulations	This is an incorrect formulation of purpose and need. The portions of the purpose and need deleted from the

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	purpose and need in proposing the project.	(40 CFR § 1502.13) require the purpose and need statement to “briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.” For applicant-proposed projects, the purpose and need statement reflects what the applicant intends to accomplish by the proposed action. BLM NEPA Handbook, at V-4. (1988). The redrafted purpose and need statement fails to reflect the Operators’ purpose and need.	first draft SEIS should be included in the FSEIS.
Section 1.8, p. 109, para 1	<i>“It is also to consider appropriate well spacing in light of determinations of well spacing made by the ... (WOGCC).”</i>	The purpose of this statement is unclear.	Delete sentence.
Chapter 2, 2.3.2, p. 2-6, para 2	<i>“Therefore, for this analysis, all portions of well pads, roads, and pipelines are assumed to be disturbed and not reclaimed.”</i>	BLM decision on how to use acreage for analysis purposes. USQ prior comment letter on the DSEIS requested consistent treatment on this issue and recommended that “Areas such as pipeline corridors that are reclaimed immediately should be considered temporary surface disturbance for the purposes of this analysis and mitigation.”	Change in FSEIS.
Chapter 2 Table 2.4-1 p. 2-13	Transportation Plan	Alternative E doesn’t have a Transportation Plan for this analysis.	Delete “X” from Alternative E – Transportation Plan column
Chapter 2 Table 2.4-1 p. 2-13	This table reflects that BLM is analyzing the reclamation plan for Alternative D for Alternative E also.	Is that possible given the period of time the pads would remain open during Alternative E for development under seasonal stipulations?	Explain how the reclamation plan for Alternative D can fit Alternative E or delete any analysis of the Alternative D reclamation plan that occurs for Alternative E.

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Chapter 2, p. 2-13, para following Table	<i>“All guidelines relating to protection of raptor nesting and wintering habitats would apply under all Alternatives.”</i>		Delete Appendix 4.
Chapter 2, Table 2.4-2, Comparison of Alternatives in Detail, p. 2-16 to 2-18	Table does not contain any direct reference to eagles and raptors.	There are numerous errors in this Table and it is redundant to information in the Chapter.  Raptors and eagles should be in this comparative table as it was in the DSEIS, Appendix F comparative table. Are eagles and raptors assumed to be covered under Appendix 4, BLM’s Standard Practices and Restrictions for the Pinedale Anticline Project Area?	Delete the Table or go through and make the following clarifications and correct specific issues.  Put raptors and eagles in the comparative table and clearly state treatment under each alternative.
p. 2-17	<i>Proposed Total Wells Pads in PAPA</i>	This description is misleading. It must be clear that Proponents’ proposal includes a total of 535 new pads (not wells) will be constructed subsequent to the 2000 PAPA ROD.	Correct to say “ <i>Proposed Total New well pads in PAPA.</i> ”
	<i>Number of Pads in PAPA</i>	Proponents’ proposal is for no more than 600 total pads.	Correct to indicate a total of 600 pads are proposed.
	<i>Development Management – Alternative E</i>	Alternative E should reflect that there are only 8 MAs (MAs 1 through 8)	Correct to show MAs 1 through 8.
	<i>Delineation – Alternative E</i>	Delineation is allowed anywhere in adherence to seasonal stipulations.	Revise “Allowed by exception in other areas” to read “ <i>Allowed within seasonal stipulations by exception.</i> ”
	<i>Drilling Rig Movement</i>	Need to quantify the difference between the	For Alt A & E, change wording to:

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p. 2-18	<i>Adaptive Management</i>	alternatives according to the rest of the table.  Clearly state the difference in the alternatives.	“ <i>More rig moves to accommodate seasonal restrictions.</i> ” For Alt B, C, and D, change wording to: “ <i>Less rig moves as rigs stay on pad to the extent practical until pad is completed ....</i> ”  Alternative B and D provide for adaptive management through annual planning meetings and 10-year long-range planning.
	<i>BLM’s Standard Practices and Restrictions for the Pinedale Anticline Project Area.</i>	The table states that Appendix 4 would be applied to all alternatives. Because Appendix 4 goes far beyond standard Practices for oil and gas operations, the restrictions are inefficient, costly and generally not compatible with oil and gas operations. Moreover, the implementation of such onerous measures will outweigh any benefits that might accrue to wildlife. Proponents have requested that Appendix 4 be deleted.	Delete Appendix 4 and use BLM standard practices contained in the Gold Book.
	<i>Transportation Plan – Alternative E</i>	The Transportation Plan for Alternative E is not the same as Alternative D.	Correct to show that Transportation Plan for Alternative E is the same as Alternative A, Appendix 8A.
	<i>Federal Suspended and Term NSO Leases – Alternative D</i>	Lease suspensions and term NSO restrictions are for 5-year term. Review of need to continue will be evaluated at end of 5 years.	Clarify language.
	<i>Compensatory Mitigation – Alternative D</i>	Alternative D states “Expected \$36 Million Monitoring and Mitigation Fund.” The estimated \$36 million amount is based on a total estimate based on pace of development.	Use as example of disclosure for exceptions for all wildlife stipulations. Delete “\$36 Million.”

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<p style="text-align: center;">AQ-4 P-1-41</p>	<p style="text-align: center;"><i>Emissions Reductions – Alternative D</i></p>	<p>Re: Alternative D, given the language in Chapter 4, p. 4-161 (not strictly following the matrix sequence) and the language on reaching lower air emission, p. 4-85, the total amount of the fund could be substantially lower. The amount should not be included here.</p> <p>Statement reads “Reduction to 2005 NOx levels within 1 year and 80 percent additional within 42 months.”</p>	<p>This should be corrected according to Proponents’ commitment: “<i>Reduction to 2005 rig engine NOx emission levels within 1 year and 80 percent additional within 42 months on rig engine NOx emissions.</i>”</p>
<p style="text-align: center;">AM-1 P-1-42</p>	<p>Chapter 2, Section 2.4.2.1, Adaptive Management, p. 2-19</p>	<p>Introduction of adaptive management concept</p> <p>The revised draft SEIS notes that adaptive management will apply to each Alternative, but Alternatives A-C and E do not have adaptive management plans. Without specific goals, triggers, and timelines, it is difficult for BLM to predict the effects of adaptive management.</p>	<p>BLM should set forth adaptive management plans relating to each Alternative, and these plans should contain specific goals, timelines and triggers (or at least a working framework) of these elements.</p>
<p style="text-align: center;">RC-5 P-1-43</p>	<p>Ch 2, p. 2-41, 2.4.2.4 Alternative C</p>	<p>Cannot advance to the north until the southern initial development is complete and <b>final</b> reclamation measures have been initiated.</p> <p>Is it during production phase or once the well is plugged and abandoned? Wording needs to be changed to interim reclamation or final defined. Both need to be defined in Appendix or Reclamation plan.</p>	<p>Define “interim” and “final” reclamation for entire document, and check for consistent application therein. See Comment Letter for definition.</p>
<p style="text-align: center;">W-2 P-1-44</p>	<p>Chapter 2 2.4.3 Alternative D p. 2-43</p>	<p>“<i>Similar to Alternative C, Alternative D includes a core area (the Alternative D Core Area) and Development Areas 1 through 5. Alternative D is unique with respect to the following and includes: a 0.75-mile PDA buffer area outside of the 0.25-mile NSO for five</i></p> <p>This statement needs to clarify that the 0.75 PDA buffer area outside of the 0.25-mile NSO for five designated occupied greater sage-grouse leks is for DA 5 only.</p>	<p>Statement needs clarification that it is for only DA-5.</p>

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	<i>designated occupied greater sage-grouse leks.</i>		
Chapter 2, p. 2-43	<i>“emission reductions in NOx to 2005 levels within 1 year and an additional 80 percent reduction within 42 months;”</i>	The operators’ commitment is for <i>“Reduction to 2005 rig engine NOx emission levels within 1 year and 80 percent additional within 42 months on drill rig engine NOx emissions”</i>	Change sentence
Chapter 2, p. 2-43	Under Ultra, Shell and Questar mitigation measures	Incomplete list of mitigation measures	Add to the list: interim reclamation, reclamation, transportation and wildlife and habitat mitigation plans specifically for Alternative D
Chapter 2, p. 2-43	Under mitigation measures for Anschutz, BP (Stone/Newfield) and Yates	Add: <i>“federal suspended and term NSO leases.”</i> See p. 2-50 for validation.	Add language
Chapter 2 2.4.3.3 Alternative D Development Areas Development Area 1 p. 2-45	Explains what seasonal stipulations apply to DA1  Doesn’t say that Game & Fish will be consulted.  <i>Para 2: “within a contiguous 6 square mile area”</i>	Add raptors.  Add the agency.  This is an estimated size.	Add language on raptors and adjust paragraph.  Add language that WGFD will be consulted and adjust paragraph.  Should say <i>“approximately”</i> 6 square mile area.
p. 2-45 and 2-46	Under “Development in DA-1”	In September 12, 2007, letter, Proponents submitted a sentence allowing for drainage issues to be resolved.	Add the sentence: <i>“If application of the principles for access to DA-1 preclude operators from fulfilling their legal obligations to develop leases or to prevent drainage, BLM will allow limited access if such access is minimal and is conducted within existing seasonal stipulations.”</i>

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<p>p. 2-45, para. 4.</p>	<p><i>“Following an estimated 24-month transition period... Questar would begin concentrated year-round development in DA-1 proceeding from south to north.”</i></p> <p>Last para: <i>“22 wells on 9 pads”</i></p>	<p>This may be confusing and misleading.</p> <p>These were estimates only and also assumed a November 2007 ROD.</p>	<p>Use language from April 2007 Comment Letter.</p> <p>Delete well and pad numbers.</p>
<p>p. 2-47</p>	<p><i>“no additional pads for delineation would be allowed”</i></p>	<p>Does this mean no additional “new” pads?</p>	<p>Please clarify.</p>
<p>Chapter 2 2.4.3.4 Federal Suspended and Term NSO Leases p. 2-50</p>	<p><i>“For Alternative D, Ultra, Shell, Anschutz, BP, Stone/Newfield, and Yates have offered to conduct no additional activity on certain leases in the Flanks (outside of the Alternative D Core Area and PDA) for at least 5 years.”</i></p> <p><i>“A determination on the status of the lease (whether to continue suspension or to resume the lease conditions) would be made by the BLM AO.”</i></p> <p><i>“BLM can direct lease suspensions in the interest of conservation.”</i></p> <p><i>“Once offered by the leaseholder or Operator, and if</i></p>	<p>This statement needs to reflect that this offer is voluntary and that it is additional on-site mitigation.</p> <p>Wouldn't this decision be made in concert with operators and WGFD?</p> <p>Under what conditions? What procedure does BLM have to follow? Can BLM force operators to forego lease rights without undergoing some rigorous process?</p>	<p>See Attachment F for language.</p>

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	<i>selected in the ROD, the agreement [NSO restrictions] would become binding.”</i>			
LS-5 P-1-50 RC-6 P-1-51	Ch 4, p. 4-47, 4.5.3.5 Land Use - Alternative E	Reclamation goals for Alt E are similar to Alt D, yet as in Alt A, pads would be left open during seasonally restricted periods and returned to when seasonal restrictions end, thereby delaying reclamation.	Without a 10 year plan (not required in Alt E), operators will not be able to forecast which pads will be needed for the next two years. Economics and ability to gain wildlife stipulation relief will determine pad availability; therefore, more pads need to be left as potential options to conduct drilling and completion operations.	Delete requirement for reclamation on pads forecasted to be developed within two years.
RC-7 P-1-52	Ch 4, p. 4-59, 4.7.3.4 Visual Resources Alt C	Potential for not just interim reclamation but final reclamation	Full site reclamation (final) would not look much different than interim reclamation and certainly would not be the final reclamation for bond release.	Need to clarify definitions for interim and final reclamation and be consistent with terminology throughout the document.
V-2 P-1-53	Ch 4, p. 4-59, 4.7.3.4 Visual Resources Alt D	Measure 2- Viewshed Monitoring Program	With most of the pads to be drilled currently built, would this really do anything but monitor the visual aspect? There is not a lot of flexibility in changing the current view aside from placement of new pads. This is another requirement that will take additional resources.	Delete or reword to have assessments to have analysis on Sensitive View shed Areas and VRM II areas only.
V-3 P-1-54	Chapter 4, p. 4-60, 2 <sup>nd</sup> para.	<i>“However, there would be no permanent facilities allowed in the Buffer Area.”</i>	This is not practical.	Delete.
V-4 P-1-55	Chapter 4, Visual Resource Mitigation Measures, p. 4-61	Twelve Key Observation Points (KOPs) have been selected for potential future viewshed monitoring, analysis and visual resource mitigation.	What are criteria used to select these KOPs? What visual resource does BLM seek to protect?	The Visual Resource Mitigation Measures should be deleted, and BLM should not impose additional visual protection requirements or KOPs.
C-1 P-1-56	Chapter 4 4.8.3.1 Summary of Impacts Common to All Alternatives	<i>“Construction in archaeologically sensitive soils when the ground is frozen, or under other adverse environmental situations such</i>	Construction for pads, roads, and pipelines take place during non-frozen ground climatic conditions as operators proposed.	Delete.

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<p>p. 4-64</p> <p>Chapter 4 4.8.3.1 Summary of Impacts Common to All Alternatives p. 4-64</p> <p>4.12 Paleontological Resources p. 4-97</p>	<p><i>as muddy site conditions, results in a high likelihood of resource impacts.”</i></p> <p><i>“The BLM’s Standard Practices and Restrictions for the Pinedale Anticline Project Area as they relate to cultural resources would apply to all Alternatives (Appendix 4).”</i></p> <p><i>“The BLM’s Standard Practices and Restrictions for the Pinedale Anticline Project Area as they relate to paleontological resources and construction in frozen soils would apply to all Alternatives (Appendix 4).”</i></p>	<p>This is Appendix 4 p 4-15,16</p>	<p>Delete.</p> <p>Delete.</p>
<p>Chapter 4, Section 4.9.3.5, p. 4-83</p>	<p>Could be read to state that modeling of Alt. D Phase II Mitigation has been done</p>	<p>The second and sixth paragraphs of Section 4.9.3.5 could be read to state that Alternative D Phase II has been modeled and the result shows less than the 1.0 dv threshold at all analyzed sensitive areas. No such modeling has been done, and the intent appears to be that future modeling will be employed to determine the results of Phase II Mitigation</p>	<p>Modify these paragraphs to make clear that the Phase II Mitigation modeling will take place in the future.</p>
<p>Chapter 4 4.9.3.5 Alternative D p. 4-84</p>	<p><i>“Phase II mitigation would reduce projected visibility impairment from 2005 levels to 0 days of visibility impairment.”</i></p> <p>Table 4.9-3</p>	<p>This is not what Proponents offered as their mitigation.</p> <p>Mitigation in Table is not what Proponents offered.</p>	<p>Change wording to: <i>“Phase II mitigation would reduce projected visibility impairment from 2005 levels to a goal of 0 days of visibility impairment.”</i></p> <p>Change table.</p>

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Chapter 4, 4.14.3.6, p 4-109	<i>“Alternative E includes provision for interim reclamation so even though well pads would be left open during seasonally restricted periods, Operators would be required to conduct interim reclamation... if no development within 2 years”</i>	Reclamation comparisons between Alternative A and E are not clear.	Delete references to interim reclamation for Alt E.
Chapter 4 4.15 Soil Resources p. 4-112	<i>“The BLM’s Standard Practices and Restrictions for the Pinedale Anticline Project Area as they apply to soil resources would apply to all Alternatives (Appendix 4).”</i>	This is Appendix 4 p 4-4, 5, 6	Delete.
Chapter 4 4.16.3.1 Summary of Impacts Common to All Alternatives p. 4-116	<i>“The BLM’s Standard Practices and Restrictions for the Pinedale Anticline Project Area as they relate to vegetation resources and reclamation would apply to all Alternatives (Appendix 4). Individual Reclamation Plans are also specified under each Alternative.”</i>	This is Appendix 4 p 4-10, 11, 12	Delete.
Chapter 4, 4.16.3.6, p. 4-118	<i>Alt E again has interim reclamation “similar to that under Alt D.”</i>  <i>“Year-round development would not be allowed in seasonally restricted areas unless exceptions are granted by BLM.”</i>	Need to understand how Alternative E has interim reclamation (p. 4-124 same comment).  Recognize Questar year-round approval.	Delete references to interim reclamation for Alt E.  Revise to read <i>“Year-round development would not be allowed in other seasonally restricted areas unless exceptions are granted by BLM.”</i>

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Chapter 4 4.17 Grazing Resources p. 4-122	<i>“The BLM’s Standard Practices and Restrictions for the Pinedale Anticline Project Area as they relate to grazing resources would apply under all Alternatives (Appendix 4). Reclamation Plans are provided for each Alternative (Appendix 8).”</i>	This is Appendix 4, p. 14	Delete.
Chapter 4 4.17.3.6 Alternative E p. 4-124	<i>“Reclamation under Alternative E, including revegetation, would be similar to that under Alternative D (see Appendix 8D).”</i>	This is not accurate. Pads can stay open for up to 10 years without reclamation.	Re-word this paragraph to accurately portray reclamation under Alternative E.
Chapter 4 4.19 Threatened and Endangered Species and Special Status Species p. 4-134	Special Status Wildlife Species – eagles and raptors	The discussion on eagle and raptor BMPs is incomplete and misleading. The list of voluntary BMPs is incomplete, and the discussion would leave the reader to conclude that the USFWS imposed these BMPs on the operators when in fact the BMPs were developed by the operators with approval from the USWS. It is also portrayed as only being for private lands.	Include an accurate description of what the BMPs are for, provide the entire list of BMPs, and accurately portray the development of the BMPs
Chapter 4 4.20.3.5 Alternative D p. 4-161	<i>“Rather than apply these mitigations in strict sequence, the BLM would require review of annual monitoring program results during the Annual Planning Meeting and apply the recommended measures. The BLM fully recognizes the potential importance of on-site habitat enhancement efforts but</i>	<i>“ Rather than apply these mitigations in strict sequence”</i> changes the operators’ offer of mitigation. The BLM cannot do this without the operators’ consent. In addition, by lifting the sequential nature of the mitigation matrix, the likelihood that some annual team members will propose operational mitigation (spatial and pace) is increased.	Return to operators’ original matrix and implement sequentially. Delete the 3 paragraphs on the page discussing BLM changing the offered mitigation – Wildlife Matrix.

GR-1  
P-1-63  
RC-11  
P-1-64  
TE-1  
P-1-65  
M-3  
P-1-66

**December 2007 Revised Draft SEIS  
Key Issues Comment Matrix**

<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
	<p><i>also recognizes that such efforts may require more than 1 year to meet success criteria. Habitat enhancements (either on-site and/or off-site) and conservation easements are recognized as acceptable first attempt approaches to mitigation but do not necessarily mitigate the cause of the impact to the various wildlife species or groups in the matrix. The use of conservation easements would be effective in maintaining the status quo and may provide locations for off-site habitat enhancement.</i></p> <p><i>The BLM expects that there would be some delay between the detection of the impact and implementation of the mitigation measure. Further, there would be an additional delay in determining the effectiveness of the mitigation measure because additional monitoring would be necessary. Adjustments of spatial arrangement and/or pace of ongoing development would be implemented when it becomes apparent that previous mitigation efforts are not achieving the desired results. Any such adjustments would be</i></p>	<p>In addition this statement diminishes the role of habitat improvement in lieu of conservation easements.</p> <p>Wildlife Matrix contains thresholds that could trigger sequential mitigation efforts paid from the Mitigation and Monitoring Fund. The Fund may be used to avoid triggering thresholds. The sequence in the Wildlife Matrix is if the thresholds are triggered and do not control the sequence of funding of projects from the Mitigation and Monitoring Fund.</p>	

MF-2  
M-4  
P-1-66

**December 2007 Revised Draft SEIS  
Key Issues Comment Matrix**

<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
	<p><i>made taking into account the other resources. Adjustments of spatial arrangement and/or pace of ongoing development (number of drilling rigs operating at any one time), are designed to mitigate the cause of the impacts. The BLM estimates that modification of spatial arrangement of year-round development and access to the locations would be more effective in mitigating impacts than changing the pace of development.</i></p> <p><i>During at least the first 5 years after implementation of Alternative D, there would be no additional surface disturbance on the 49,903 acres of federal suspended and term NSO leases in the Flanks (outside of the Alternative D PDA). Therefore, there would be no development related traffic in these areas; however, production-related traffic from existing development would continue. The federal suspended and term NSO leases coincide with 16,954 acres of big game crucial winter range and 37,019 acres within 2-mile buffers of greater sage-grouse leks.</i></p>		

P-1-66

**December 2007 Revised Draft SEIS  
Key Issues Comment Matrix**

Section or chapter, page number, and subsection	Issue	Comment	Solution
	<p><i>In these areas, impacts to big game and greater sage-grouse would be reduced at least for the first 5 years and would continue until habitat function is again available in the Alternative D Core Area, as determined during the Annual Planning Meeting. Development could occur while adhering to seasonal restrictions in the Flanks in leases that are not federal suspended or term NSO leases. Additional development and production within 2 miles of any occupied lek would likely lead to lek inactivity and ultimate abandonment, similar to other Alternatives.”</i></p>		
<p>Chapter 4 4.20.3.6 Alternative E p. 4-162</p>	<p><i>“Similar to Alternative A, there is little opportunity for interim reclamation and timely final reclamation under this Alternative; however, unlike Alternative A or current practices, there is a requirement for interim reclamation on pads that have had no development for 2 years (Appendix 8D).”</i></p>	<p>This is misleading. Pads can stay open for up to 10 years without reclamation.</p>	<p>Use statements on p. 4-114, 4.15.3.6, Alternative E to accurately portray reclamation under Alternative E</p>
<p>Chapter 4, Section 4.20.3.6, p. 4-162</p>	<p>The second to last paragraph describes surface disturbance associated with the No Action Alternative, not Alternative E.</p>	<p>This paragraph should describe surface disturbance associated with Alternative E.</p>	<p>Correct in FSEIS.</p>

AL-1  
RC-12  
P-1-66  
P-1-67  
P-1-68

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Key Issues Comment Matrix**

RC-13  
P-1-69  
AL-2  
P-1-70  
W-5  
P-1-71  
G-42  
P-1-72

Section or chapter, page number, and subsection	Issue	Comment	Solution
Chapter 7	Glossary of terms in RDSEIS	Add definitions of “interim reclamation” and “final reclamation.”	Add definitions as defined in comment letter.
Appendix 3, p. 3-3 Review of Socioeconomic, Air Quality, and Wildlife based on various levels of drilling rigs - Wildlife	Regardless of the number of rigs per year, the same amount of surface disturbance would occur...	This is not true and depends rather on the Alternative being analyzed.  Less surface disturbance will occur under scenarios that allow coordination of development resources, planning and timing of activities, and efficiencies of scale and uniformity.	Correct statement to read, “ <i>Surface Disturbance will vary greatly depending on the Alternative chosen.</i> ”
Appendix 3, p. 3-3, para 6	<i>“Any increase in traffic, noise and associated human presence within seasonal wildlife habitats during otherwise seasonally restricted periods is likely to increase effects to wildlife. This expectation is based on observations of wildlife responses to wellfield development through 2006”</i>		Cite source or delete.
Appendix 4	Provides restrictions for operations.	Appendix 4 presents new practices and restrictions for the Pinedale Anticline project area that would be available for application to APDs and rights-of-way during the site-specific review, where appropriate. Appendix 4 goes far beyond standard practices for APDs and rights-of-way. In addition to imposing wildlife stipulations, which are incompatible with year-round access in an Appendix, Appendix 4 also presents other new restrictions relative to viewsheds and operating practices that would severely impact the ability of the Proponents to develop their leases.	Delete Appendix 4 in its entirety and use the BLM’s Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, “The Gold Book,” as the standard for procedural operations.

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Key Issues Comment Matrix**

T-4  
P-1-73  
G-43  
P-1-74  
RC-14  
P-1-75  
G-44  
P-1-76  
RC-15  
P-1-77  
RC-16  
P-1-78  
G-45  
P-1-79

Section or chapter, page number, and subsection	Issue	Comment	Solution
Appendix 5 – Alternative D Transportation Plan			This document should state that proponents have proposed this Transportation Plan in conjunction with their proposal for year-round development.
Appendix 7, p. 7-5 Development procedures for wellfield activities – Shell and Ultra Gathering System	States that a gathering system would be put in place by Shell and Ultra, but does not identify that this is only in Alternatives B, C, D.	Gathering system for Shell and Ultra will only be installed under Alternative B, C or D.	Clarify language as such.
Appendix 8C, p. 8C-1 Alternative C Reclamation Plan		Identified as a concern in DSEIS	See Attachment F with reclamation plan.
Appendix 8C, p. 8C-5 Alt C Reclamation Plan		Graph is hard to interpret.	Delete.
Appendix 8D	Applied to Alternative E.	This is an operator-committed measure, and it was not offered for Alternative E because the pads remain open substantially longer in Alternative E due to seasonal stipulations in place.	Delete as the reclamation plan for Alternative E.  This document should state that Proponents have proposed this Reclamation Plan in conjunction with their proposal for year-round development.
Appendix 9A, p. 9A-7 Wildlife and Habitat Mitigation Plan, ALT B, C -Restoration of Impacts	Beginning in 2008 ... 70% of the disturbed pad area will be reclaimed on pads containing pits...	Not as Proponents submitted.	Delete “Beginning in 2008.” Use Proponents’ Operator-Committed document in Attachment F.
Appendix 13, Individual Management Area Objectives and Restrictions/Limitations for Alternative E, p. 13-1, Objectives		The objectives in Appendix 13 cannot be met due to the staggered development of Alternative E.	Delete Appendix 13 including its Table.

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## ATTACHMENT B

### Changes to Alternative D Language in Chapter 2, RDSEIS

The Proponents' changes to Alternative D clarify and restate the logical development and progression process through the DAs based on the Proponents' April 2007 comment letter while offering more benefits to wildlife than is afforded in Alternatives A, C and E. Proponents offer additional clarification on year-round access based on comments in the text of this comment letter. Proponents did not comment on text that pertained to Anschutz' development activities so that text has been eliminated from this Attachment.

#### **2.4.3 Alternative D**

Alternative D is similar to Alternatives B and C with respect to the following and includes:

- all project components described for Components Common to All Alternatives, Alternative B and Alternative C (Table 2.4-11);
- the Development Procedures for Wellfield Activities (Appendix 7) and Pipeline Design and Construction Procedures (Appendix 6);
- air quality impact analysis based on a peak of 48 drillings rigs operating in the PAPA, leveling off to 45 rigs after 2010 (Table 2.4-12);
- installation of a liquids gathering system in the central and southern portions of the PAPA (Table 2.4-11) with portions of the system operational within 2 years of a ROD;
- 250 additional well pads totaling 600 well pads for LOP (Table 2.4-11); and
- additional initial disturbance of 12,885.6 acres and LOP disturbance of 4,012.5 acres.

Similar to Alternative C, Alternative D includes a core area (the Alternative D Core Area) and Development Areas 1 through 5. Alternative D is unique with respect to the following and includes:

- expansion of DA-1 and DA-2 (and therefore the core area) to include leases currently held by Anschutz;
- expansion of the DA-5 core area as proposed in the Proponents' comments on the Draft SEIS;
- a PDA surrounding the Alternative D Core Area except for the Anschutz added area;
- allowance for delineation beyond that allowed in Alternative C;
- exception for seasonal wildlife restrictions in DA-5; and
- a 0.75-mile PDA buffer area outside of the 0.25-mile NSO for five designated occupied greater sage-grouse leks within DA-5 only.

Ultra, Shell, and Questar have committed to mitigation measures which are included as part of Alternative D. They are described in Appendix 11 and summarized below:

- concentrated development (simultaneous construction, drilling, completion, and production);
- directional drilling from multi-well pads;
- liquids gathering systems;
- computer-assisted operations;
- total emission reductions to 2005 levels within 1 year and an additional 80 percent rig engine NOx emission reduction within 42 months after the ROD;
- wildlife monitoring and mitigation matrix with objectives and sequential outcomes (Appendix 10);
- annual planning and 10-year rolling plan;
- federal suspended and term NSO leases (49,903 acres); and
- mitigation and monitoring fund.

Anschutz, BP (Stone/Newfield), and Yates have committed to the following mitigation measures which are included as part of Alternative D as follows:

- concentrated development (simultaneous drilling and completions);
- lease suspensions and no surface occupancy; and
- directional drilling from multi-well pads.

### Development

Development includes simultaneous drilling, completion, construction, pipelines, and production in areas where the resource has already been proven.

### Delineation Activity

Delineation is required ahead of development to determine reserve potential (supporting the Corporate Reserves Evaluation process as necessary for each Proponent), to define appropriate drilling spacing (including the number of wells per pad), and to define the extent and depth of economic reserves. Delineation includes construction, drilling, completion, pipelines, and production and will occur within DAs 1 through 5 and within adjacent PDAs. Delineation within the PDAs would be conducted in conformity with seasonal stipulations for wildlife. PDAs may be developed from surface locations within the Core Area or in the PDA. It is anticipated that there will be areas within the PDA that will require full development (as a result of successful delineation).

In areas where delineation is successful, that portion of the PDA would become part of the Development Area so as to allow continued well development concurrent with the adjacent Development Area and to reduce the likelihood of requiring additional habitat and wildlife disturbance

by returning later to develop the area. The need for year-round development would be reviewed during the Annual Planning Meeting and when approved by the BLM AO, would be allowed under the same requirements as the Development Area.

Additional delineation may be necessary depending upon access limitations and associated effects on timing of delineation drilling and depending on actual drilling time required for delineation drilling. Also, delineation drilling results may warrant drilling additional delineation wells outside the PDA beyond the 5-year NSO and lease suspension period. The need for additional delineation after the 5-year period would be reviewed during the Annual Planning Meeting and would be approved by the BLM AO.

### Lease Obligations

If application of the principles for access to the Development Areas preclude operators from fulfilling their legal obligations to develop leases or to prevent drainage, BLM will allow limited access if such access is minimal and is conducted within existing seasonal stipulations.

#### **2.4.3.1 Alternative D Core Area**

The Alternative D Core Area includes 45,415 acres or 23 percent of the PAPA as shown on Map 2.4-6. This is an expansion of the Alternative C Core Area by 14.4 percent. Based on comments received on the Draft SEIS (BLM, 2006a), the Alternative C Core Area boundary has been expanded to the east, along the DA-1 and DA-2 eastern edges to form the Alternative D Core Area. Under Alternative D, DA-1 and DA-2 include 14,872 acres and 9,222 acres, respectively, to allow for year-round development within leases currently held by Anschutz, all within mule deer crucial winter range.

The Alternative D Core Area has been narrowed and elongated in DA-5 to continue the Alternative D Core Area south of the Alternative C Core Area and now includes 6,230 acres. The alterations to DA-1, DA-3 and DA-5 were made in exchange for lease suspensions on the flanks, all/mostly within greater sage-grouse nesting and brood rearing habitat and big game crucial winter range.

Year-round access, which allows year-round development (construction, drilling, completions, pipeline and production), with exceptions for seasonal wildlife restrictions in big game, greater sage-grouse seasonal habitats, raptors and stipulations for sensitive species and sensitive habitats would be allowed in the specified activity area within each Development Area to achieve the full benefit of Proponents' comprehensive mitigation package. Without year-round access, the mitigation package cannot be fully implemented as proposed and the benefits will not be realized.

Where exceptions must be granted on an annual basis, the goal of implementing mitigated year-round access will guide BLM approvals of exception requests. These exceptions would allow mitigated year-round access equal to the Proponents' proposed activity level benefiting air quality and wildlife as contemplated in the Proponents' original proposal. The BLM would approve exceptions which provide for the least rig movement and most efficient pad development.

#### **2.4.3.2 Alternative D Potential Development Area**

Alternative D contains 24,875 acres adjacent to the Alternative D Core Area which would be potentially open for year-round development. This area is referred to as the Potential Development Area or PDA. The PDA adjacent to DA-1 (PDA-1 - 5,370 acres) and DA-2 (PDA-2 - 3,845 acres) is

generally a 0.5-mile buffer around the Alternative D Core Area. On a portion of the east side of DA-1 and DA-2, there is no PDA because the DAs were expanded to allow for year-round development within leases currently held by Anschutz. PDA-3 (3,625 acres) and PDA-4 (4,532 acres) include a 0.5-mile buffer surrounding the Alternative D Core Area. PDA-5 includes 7,503 acres and is greater than the 0.5-mile buffer that surrounds other portions of the Alternative D Core Area.

Year-round development would not initially be allowed within the PDA. The need for year-round development within the PDA would be determined by the success of delineation drilling. Requests for expansion of year-round development into the PDA would be reviewed in the Annual Planning Meeting and approved by the BLM AO with the intention of reducing the likelihood of a second development pass through caused by adherence to seasonal wildlife restrictions. In other words, if delineation showed success, that PDA area would be developed in concert with the DA area being developed. For the purpose of the analysis contained in Chapter 4, it is assumed that year-round development would occur in the PDA.

### **2.4.3.3 Alternative D Development Areas**

#### Development Area 1

**Development in DA-1.** Under Alternative D, DA-1 includes 14,872 acres and has the potential for expansion within PDA-1 (5,370 acres). DA-1 is the northern-most DA, and includes mostly contiguous leaseholds currently held by Questar as well as acreage under lease to Ultra, Shell, and Anschutz. Federal lands in DA-1 are entirely within big game crucial winter ranges and overlap portions of 2-mile buffers associated with occupied greater sage-grouse leks. The east-west boundaries of DA-1 have the potential to be expanded to include all or a portion of the adjacent PDA, thereby expanding the Alternative D Core Area.

Year-round access, which allows year-round development (construction, drilling, completions, pipeline and production), with exceptions for seasonal wildlife restrictions in big game, greater sage-grouse seasonal habitats, raptors and stipulations for sensitive species and sensitive habitats would be allowed in the specified activity area within DA-1 to achieve the full benefit of Proponents' comprehensive mitigation package. Without year-round access, the mitigation package cannot be fully implemented as proposed and the benefits will not be realized.

Where exceptions must be granted on an annual basis, the goal of implementing mitigated year-round access will guide BLM approvals of exception requests. These exceptions would allow mitigated year-round access equal to the Proponents' proposed activity level benefiting air quality and wildlife as contemplated in the Proponents' original proposal. The BLM would approve exceptions which provide for the least rig movement and most efficient pad development.

Following an estimated 24-month transition period after issuance of a ROD, Questar would begin concentrated year-round development in DA-1 proceeding from south to north. Questar's development in DA-1 would be within a contiguous approximately 6 square mile area. A decision regarding the movement and shape of the approximately 6-square mile area would be made by the BLM AO.

The approximately 6 square mile area would generally be no more than 2 miles in north-south extent except when the approximately 6 square miles cannot be maintained due to narrowing of DA-1 in the east-west direction or if sections have been fully developed. Recommendations for the shape and location of the approximately 6 square mile area for each subsequent year after signing of the ROD

would be reviewed during the Annual Planning Meeting and determinations would require the approval of the BLM AO.

**Delineation in DA-1.** Delineation drilling in the Stewart Point area (see Map 2.4-7) requiring new pads and roads would be conducted during the first 2 years following the ROD, while adhering to seasonal restrictions for wildlife. Beyond the 2 years following the ROD, delineation within the Stewart Point area that requires new pads or roads (both inside the Alternative D Core Area and PDA) would only take place either 1 mile or 18 months ahead of the approximately 6 square mile area of development. Due to the shortened delineation period in the Stewart Point portion of DA-1, it is possible that some future delineation activity may be needed there beyond the two years following a ROD. If it is determined that an extended delineation period is necessary in the Stewart Point portion of DA-1, it would be recommended during the Annual Planning Meeting and would require approval from the BLM AO. Delineation within the Mesa portion of DA-1 would be completed within seasonal wildlife stipulations (if outside the approximately 6 square mile area) and within an expected 5 years of the ROD.

### Development Area 2

**Development in DA-2.** DA-2 includes 9,222 acres and has the potential for expansion within PDA-2. DA-2 is located north of the New Fork River in the central portion of the PAPA, is mostly within big game crucial winter ranges and overlaps portions of 2-mile buffers associated with several greater sage-grouse leks. The east-west boundaries of DA-2 are defined by the Alternative D Core Area. Year-round development (exceptions to seasonal restrictions for big game, greater sage-grouse, raptors and stipulations for sensitive species and sensitive habitats) would be allowed within DA-2 immediately following issuance of the ROD. After a 24-month transition period, concentrated development would begin in DA-2. Development would be concentrated by forming two groups of drilling rigs; one at the southern boundary of DA-2 in the area immediately adjacent to the New Fork River and one at the northern boundary of DA-2 just to the south of DA-1. Development in DA-2 would progress with the drilling rig groups moving toward the center of DA-2 from both the north and south ends of DA-2.

Year-round access, which allows year-round development (construction, drilling, completions, pipeline and production), with exceptions for seasonal wildlife restrictions in big game, greater sage-grouse seasonal habitats, raptors and stipulations for sensitive species and sensitive habitats would be allowed in the specified activity area within DA-2 to achieve the full benefit of Proponents' comprehensive mitigation package. Without year-round access, the mitigation package cannot be fully implemented as proposed and the benefits will not be realized.

Where exceptions must be granted on an annual basis, the goal of implementing mitigated year-round access will guide BLM approvals of exception requests. These exceptions would allow mitigated year-round access equal to the Proponents' proposed activity level benefiting air quality and wildlife as contemplated in the Proponents' original proposal. The BLM would approve exceptions which provide for the least rig movement and most efficient pad development.

**Delineation in DA-2.** Delineation would be allowed in DA-2 with exception to seasonal restrictions for big game, greater sage-grouse, raptors and stipulations for sensitive species and sensitive habitats; however, seasonal restrictions would apply for delineation in PDA-2. Year-round development in PDA-2 would be subject to recommendation during the Annual Planning Meeting and would require approval from the BLM AO.

### Development Area 3

**Development in DA-3.** DA-3 includes 7,127 acres and has the potential for expansion into PDA-3 (3,625 acres). DA-3 is located south of the New Fork River in the central portion of the PAPA and is mostly within big game crucial winter ranges. The initial east-to-west movement of development in DA-3 is intended to provide maximum amounts of undisturbed pronghorn crucial winter range and movements.

As development diminishes in DA-2, development could increase proportionately in DA-3. Development in DA-3 with concentrated drilling rigs would progress from south to north and would occur in Range 109 W. until DA-2 drilling and completions are finished. The degree of concentration of drilling rigs in DA-3 would be reviewed during the Annual Planning Meeting and revisions in movement and locations would require approval from the BLM AO.

As development diminishes in DA-2, development could expand to the north end of DA-3 along the range line between Range 108 W. and Range 109 W. and would move to the west occupying Shell and Ultra's leases. The development would continue westward to the DA-3 western boundary and could move into PDA-3 based on recommendations during the Annual Planning Meeting; however, it would require approval from the BLM AO.

After drilling and completions are finished in Range 109 W., eastward development into Range 108 W. would continue to the DA-3 eastern boundary and could occur into PDA-3 if recommended during the Annual Planning Meeting and approved by the BLM AO.

Year-round access, which allows year-round development (construction, drilling, completions, pipeline and production), with exceptions for seasonal wildlife restrictions in big game, greater sage-grouse seasonal habitats, raptors and stipulations for sensitive species and sensitive habitats would be allowed in the specified activity area within DA-3 to achieve the full benefit of Proponents' comprehensive mitigation package. Without year-round access, the mitigation package cannot be fully implemented as proposed and the benefits will not be realized.

Where exceptions must be granted on an annual basis, the goal of implementing mitigated year-round access will guide BLM approvals of exception requests. These exceptions would allow mitigated year-round access equal to the Proponents' proposed activity level benefiting air quality and wildlife as contemplated in the Proponents' original proposal. The BLM would approve exceptions which provide for the least rig movement and most efficient pad development.

**Delineation in DA-3.** Delineation would be allowed in DA-3 within the Alternative D Core Area with exception to seasonal restrictions for big game, raptors and stipulations for sensitive species and sensitive habitats; however, breeding, nesting and early brood rearing restrictions for greater sage-grouse would apply. The delineation activity within these parameters may be expanded to PDA-3 based on review and recommendations during the Annual Planning Meeting and approval of the BLM AO.

Delineation would occur in two phases. During the 24-month transition period, delineation could occur anywhere within DA-3. Phase 1 delineation would begin no later than 24 months upon issuance of the ROD and would occur on a north-south line in the western-most portion of Range 108 W. It would extend from the south boundary of DA-3 to the north boundary of DA-3 generally occurring within a

1.5 mile-wide area (east-west) at any time. Delineation would then proceed to the east along north to south line toward the east boundary of DA-3 and potentially within PDA-3 based on recommendations by the Operators during the Annual Planning Meeting. Delineation in PDA-3 with exception to seasonal wildlife restrictions would require approval of the BLM AO.

Phase 2 delineation would begin when Phase 1 delineation is complete or 18 months prior to when development begins in the southern end of DA-3 (Range 109 W.), whichever occurs sooner. Phase 2 delineation would precede development and would occur on a north-south line in the eastern-most portion of Range 109 W. It would extend from the south boundary of DA-3 to the north boundary of DA-3 generally occurring within a 1.5-mile area (east-west) at any time proceeding toward the west boundary of DA-3 and potentially within the adjacent PDA based on review during the Annual Planning Meeting and with the approval of the BLM AO. Year-round development within the PDA would only occur if recommended during the Annual Planning Meeting and approved by the BLM AO.

Notwithstanding the above descriptions of Phase 1 and Phase 2 delineation in DA-3, it is the intent that activities under Phase 1 and Phase 2 would not overlap or be conducted at the same time. If the activities under Phase 1 delineation cease prior to completion of Phase 1 delineation, and Phase 2 delineation begins, the activities under Phase 1 would be allowed to resume once Phase 2 delineation is complete.

#### Development Area 4

**Development in DA-4.** DA-4 includes 7,964 acres and has the potential for expansion within PDA-4 (4,532 acres). DA-4 is located in the southern portion of the PAPA and coincides with a portion of big game crucial winter range and is within 2 miles of several greater sage-grouse leks. Year-round development would be allowed within all areas of DA-4 with exception to seasonal restrictions for big game, greater sage-grouse, raptors, and stipulations for sensitive species and sensitive habitats.

Year-round access, which allows year-round development (construction, drilling, completions, pipeline and production), with exceptions for seasonal wildlife restrictions in big game, greater sage-grouse seasonal habitats, raptors and stipulations for sensitive species and sensitive habitats would be allowed in the specified activity area within DA-4 to achieve the full benefit of Proponents' comprehensive mitigation package. Without year-round access, the mitigation package cannot be fully implemented as proposed and the benefits will not be realized.

Where exceptions must be granted on an annual basis, the goal of implementing mitigated year-round access will guide BLM approvals of exception requests. These exceptions would allow mitigated year-round access equal to the Proponents' proposed activity level benefiting air quality and wildlife as contemplated in the Proponents' original proposal. The BLM would approve exceptions which provide for the least rig movement and most efficient pad development.

**Delineation in DA-4.** Year-round delineation would be allowed in all areas of DA-4 after issuance of the ROD.

Delineation within PDA-4 would occur within seasonal stipulations based upon delineation success, and with review during the Annual Planning Meeting, year-round development could occur in PDA-4 with approval of the BLM AO.

### Development Area 5

**Development in DA-5.** DA-5 is the southern-most DA and all of it is within 2 miles of one or more greater sage-grouse leks in the Yellow Point Lek Complex. Under Alternative D, the Alternative C DA-5 has been narrowed and elongated to avoid having the Alternative D Core Area (where there would be year-round development) within 1 mile of the Shelter Cabin Reservoir, The Rocks, South Rocks, Alkali Draw, and Sand Draw Reservoir greater sage-grouse leks (see Map 2.4-8).

There would be exception to seasonal restrictions for greater sage-grouse seasonal habitats, raptors and stipulations for sensitive species and sensitive habitats however, development would not be allowed within a 0.25-mile buffer of occupied greater sage-grouse leks.

Seasonal stipulations related to Greater Sage-grouse would not apply in any of DA-5 except as noted below. Within DA-5, no additional pads would be allowed where one or more already exist in a quarter-quarter section and only one pad in a quarter-quarter section would be allowed where none currently exist unless reviewed during the Annual Planning Meeting and approved by the BLM AO. Ultra, Shell, BP, Yates, and Newfield (Stone) have committed to the following:

- 1) to operate in the DA-5 Core year-round while development is needed and operate in the DA-5 PDAs with Greater Sage grouse seasonal stipulations continuing to apply while development is needed.
- 2) to mitigation within DA-5 that creates a Core that avoids key Greater Sage grouse active leks by 1 mile. Those key active leks are Shelter Cabin, Rocks, South Rocks, Akali Draw, and Sand Draw. The 1 mile buffer includes the standard ¼ mile No Surface Occupancy (NSO) and an additional ¾ mile PDA. The ¼ mile NSO will continue to apply to all active leks. The 1 mile buffer will apply only to the active leks listed in this section.
- 3) to mitigation that as the DA-5 PDAs are developed, the development will take place within the area between the ¼ mile NSO and the 1 mile boundary on only one active lek at a time.
- 4) Operators' previous mitigation components offered for DA-5 in the April 6, 2007 letter would still apply (performance objectives, monitoring, reclamation plan, mitigation, flank suspensions, annual planning/review team, etc.). As stated in the letter, "(T)his proposal is made with the understanding that additional Proponent committed mitigation measures made by Ultra, Shell and Questar will not apply to BP/Stone and Yates." Therefore the Liquids Gathering Systems (LGS) is not part of the mitigation for the DA-5 proposal for BP/Stone and Yates.

Year-round access, which allows year-round development (construction, drilling, completions, pipeline and production), with exceptions for seasonal wildlife restrictions in big game, greater sage-grouse seasonal habitats (as outlined above), raptors and stipulations for sensitive species and sensitive habitats would be allowed in the specified activity area within DA-5 to achieve the full benefit of Proponents' comprehensive mitigation package. Without year-round access, the mitigation package cannot be fully implemented as proposed and the benefits will not be realized.

Where exceptions must be granted on an annual basis, the goal of implementing mitigated year-round access will guide BLM approvals of exception requests. These exceptions would allow mitigated year-round access equal to the Proponents' proposed activity level benefiting air quality and wildlife as contemplated in the Proponents' original proposal. The BLM would approve exceptions which provide for the least rig movement and most efficient pad development.

**Delineation in DA-5.** Delineation would be allowed in all areas of DA-5 after issuance of the ROD with exception to seasonal restrictions in greater sage-grouse, raptors and stipulations for sensitive species and sensitive habitats.

Delineation in PDA-5 would occur within seasonal restrictions for greater sage-grouse seasonal habitats; however, if delineation is successful, recommendations for year-round development in PDA-5 would be made during the Annual Planning Meeting and would require approval from the BLM AO.

#### **2.4.3.4 Federal Suspended and Term NSO Leases**

For Alternative D, Ultra, Shell, Anschutz, BP, Stone/Newfield, and Yates have offered to conduct no additional activity on certain leases in the Flanks (outside of the Alternative D Core Area and PDA) for at least 5 years. This would collectively include 49,903 acres inside the PAPA of which 16,954 acres are within big game crucial winter range and 37,019 acres are within 2-mile buffers of greater sage grouse leks (see Map 2.4-9). An additional 3,825 acres in the vicinity of the PAPA but outside of the PAPA boundary would also have no additional activity on certain leases for 5 years after the ROD. To accomplish this, leases without current production would be suspended. Leases that are producing cannot be suspended but would not have additional activity because of the Proponents' commitment to do no additional development in these term NSO leases for 5 years. After the primary term of 5 years, the need for federal suspended and term NSO leases would be reviewed during the Annual Planning Meeting. A determination on the status of the lease (whether to continue suspension or to resume the lease conditions) would be made by the BLM AO.

The owner with operating rights can request a lease suspension. If justified, the BLM can approve lease suspensions. BLM can direct lease suspensions in the interest of conservation. The BLM cannot impose NSO restrictions (if not already a lease stipulation) after the lease has been issued; however, the leaseholder can offer and agree to not use all or portions of the lease. Once offered by the leaseholder or Operator, and if selected in the ROD, the agreement would become binding. For the purpose of this analysis, it is assumed that all of the federal leases offered would be suspended and term NSO leases would be accepted for a minimum of 5 years and reviewed thereafter annually during the Annual Planning Meeting.

#### **2.4.3.5 Monitoring and Mitigation Fund**

For Alternative D, Ultra, Shell, and Questar have voluntarily proposed the creation of the Pinedale Anticline Mitigation and Monitoring Fund to mitigate potential impacts identified in the Draft SEIS (BLM, 2006a). The fund would be in addition to the on-site mitigation the Proponents would implement under their proposal which include but are not limited to the following:

- directional drilling,
- consolidated pad construction and development,
- consolidated completion activity,

- rig engine NOx emissions reduction,
- existing air monitoring agreements with WDEQ,
- liquids gathering system,
- computer assisted operations,
- lease suspensions and NSO in the flank areas,
- current mule deer, pronghorn, and greater sage-grouse research, and
- current habitat and vegetation inventory.

The fund would be used for both on-site and off-site mitigation in compliance with BLM policy on off-site compensatory mitigation found in WO IM 2005-069 (BLM, 2005d). The fund could be used to support wildlife mitigation such as basic habitat enhancements for improvement of habitat function both on-site and off-site and to identify and protect key migration routes and wildlife habitat. The fund may also be used for monitoring impacts of the development and the effectiveness of the mitigation. Mitigation and monitoring could occur on federal, state, or private lands. Mitigation activities on federal land would undergo the appropriate level of environmental review prior to implementation.

## ATTACHMENT C

### Clarification of Air Quality Commitments

AQ-8  
P-1-81 | Proponents respectfully object to BLM’s revision of the Proponents/WDEQ agreed-upon drill rig engine NOx emission plan. This plan was submitted to BLM verbatim by the WDEQ and Proponents and is based upon concurrence between Proponents and the agency of jurisdiction, the WDEQ.

The Proponents have proposed in conjunction with its year-round development proposal that drill rig engine NOx emissions be reduced to 2005 levels within one year of a ROD and then an additional 80% over the next forty-two months after BLM issues the ROD. These emission reductions demonstrate compliance with all federal and state air quality requirements and reduce visibility concerns. This offer accelerates benefits to air quality by a year and a half versus Alternative C air quality requirements in the DSEIS and RDSEIS.

AQ-9  
P-1-82 | Please see Attachment F of this letter for previously submitted comments on the “any and all available means” language. See text in this comment letter of comments to similar BLM language on Alternative D.

The Proponents commit to the following additional air mitigation measures to be incorporated into Alternative D and which can be undertaken without creating unacceptable air quality impacts.

1. “To provide more predictability during the development phase, Proponents will annually develop a ten-year rolling forecast or development plan for submission to BLM and WDEQ Air Quality Division (AQD). The forecast or development plan should report the anticipated activity levels and projected air emissions from all significant emitting units including compression for each year during the upcoming ten-year period. This annual forecast should continue through the end of the development period. Proponents will meet annually with BLM and AQD to review monitoring data and evaluate alternate ways to achieve the visibility impact reduction goal specified in paragraph 4, beyond the 80% rig engine NOx emission reductions specified in paragraph 3.
2. No later than one year after signing of the ROD, Proponents will adopt air emission strategies reducing predicted visibility impacts to 2005 predicted levels which are modeled to result in no more than 45 days greater than 1.0 deciview of visibility impairment. This would provide an almost immediate reduction of predicted visibility impacts from current development.
3. Proponents will accelerate the use of advanced technologies to reduce drill rig engine NOx emissions to reduce predicted visibility impacts to the 80% drill rig engine NOx emissions reduction scenario as described in the DSEIS and RDSEIS, which is modeled to result in no more than 10 days greater than 1.0 deciview of visibility impairment. Such reductions shall occur no later than 42 months following signing of the ROD instead of the five-year period proposed under the DSEIS and RDSEIS. To ensure that such drill rig emission levels are enforceable, Proponents understand WDEQ-AQD would establish permitting requirements for all rig engines operating in PAPA.
4. During annual planning sessions as specified in paragraph 1, Proponents, AQD and BLM will collaboratively identify methods to reduce air emissions beyond the 80% drill rig

engine NOx emissions goal. No later than the fifth annual planning session following signing of the ROD, Proponents will submit to the collaborative group an evaluation of alternatives and recommend a plan that addresses all sources from project activities and whose aim is to meet a predicted visibility impact objective of no more than zero days greater than 1.0 deciview of visibility impairment. The Proponents' evaluation will identify the expected reduction in predicted visibility impairment which can be achieved by each alternative as well as an implementation schedule. No later than the sixth annual planning session following signing of the ROD, the collaborative group, with input from Game and Fish will select and Proponents will begin to implement a plan which minimizes any adverse wildlife or other impacts, is technically and economically practicable, and is as close as is reasonably possible to the goal of zero days greater than 1.0 deciview of predicted visibility impairment. The collaborative group will also specify a schedule for completely implementing the plan.

5. All operators will comply with AQD permitting regulations to establish emission limitations for production equipment and compression facilities and will voluntarily institute any other emission reduction measures that have been proposed as part of the alternate method selected by the collaborative group.
6. The mitigation and monitoring fund would be used to pay for the following additional activities, to be carried out by AQD:
  - a. Supplement AQD's existing Jonah Interagency Office (JIO) field inspection staff by adding an inspector dedicated to monitoring compliance in the PAPA for a period of five years at a cost not to exceed \$400,000 for the five-year period.
  - b. AQD will conduct a formal "network assessment" of the adequacy of the existing ambient monitoring network in southwest Wyoming. Based on the results of the "network assessment," Proponents will provide a funding contribution to AQD not to exceed \$1,250,000 over a five-year period to establish and/or operate monitors recommended by the network assessment for pollutants of interest from the PAPA project. AQD will, to the extent practicable, use monitor data collected by any new and all existing local monitors in performing future air quality modeling. AQD and the Proponents will cooperate to collect ambient ammonia data for use in modeling, including modeling to evaluate the adequacy of alternate emission reduction options required under paragraph 4.
  - c. Supplement AQD's existing capability to analyze and report on ambient monitoring data by funding an analyst (1) in AQD's monitoring group for a period of two years at a cost not to exceed \$160,000 for the two-year period, and providing \$200,000 as a contribution to the expected costs of \$400,000 to allow AQD to upgrade its ambient air quality data management systems. AQD would agree to use such staff and funds to improve its ability to analyze data to more effectively disseminate those data to the general public and to use ambient monitor data in future air quality modeling associated with the project.
7. A DSEIS and RDSEIS ozone air quality analysis was conducted under NEPA for the purposes of allowing BLM to evaluate and disclose potential environmental impacts from the project. AQD has embarked on further evaluation of ozone formation in the Upper Green River Basin, including the PAPA, through a field study and modeling project to understand previously monitored elevated ozone events and gather additional information. It should be noted that to date, there is no finding of an ozone air quality standard violation

at the monitoring sites adjacent to the PAPA. The results of the field study and modeling project will form the basis for AQD to develop strategies to manage ozone formation in the Upper Green River Basin to ensure that the area remains in compliance with current and future Wyoming Ambient Air Quality Standards for ozone.”

Proponents also recommend that future modeling incorporate available measured data. Please see Appendix E comments on modeling, regulations and jurisdictions on air quality. Except for the page numbers, the comments are still pertinent to the RDSEIS.

While greenhouse gases are not currently regulated by WDEQ and EPA, components of the Proponents’ proposed mitigation result in reduced greenhouse gas emissions. For example, the LGS will result in reduced truck trips, thus less carbon dioxide emissions will result from reduced diesel combustion in truck engines. Also, in lieu of combusting flash gas as a waste from the condensate storage tanks as currently required by WDEQ for control of these emissions, carbon dioxide and methane emissions will not be generated at the well site because flash gas will be recovered as a resource at the LGS facility. Furthermore, evolving Best Available Control Technology (BACT) requirements from WDEQ for oil and gas facilities in the Jonah / Pinedale fields result in reduced greenhouse gas emissions by requiring more control of VOC emissions which also includes methane.

## ATTACHMENT D

### Listing of Options Available for Raptor and Bald Eagle Stipulation Relief

Proponents' Attachment D provides a listing of viable options available for raptor and bald eagle stipulation relief. These options are based on widely accepted and utilized practices within other oil and gas developments on other BLM-managed lands in Wyoming, and the Proponents' agreed-to voluntary Best Management Practices (BMPs) for raptor and bald eagle stipulation relief with the United States Fish and Wildlife Service (USFWS). These options contained in this attachment are in addition to the mitigation measures (as it applies to eagles and raptors) contained in RDSEIS Appendix 10 "Wildlife Monitoring Matrix" pp. 10-1 through 10-6.

It is understood from BLM that waiving all raptor (Bald Eagle included) stipulations or addressing future stipulations is not possible. The following options were proposed to eliminate most of the issues and allow year-round access. Many of the proposed options are taken from other Wyoming BLM field offices' documented past practices.

1. Change the one mile buffers for Ferruginous Hawks to a more suitable area of use following the Ferruginous Hawk territories indicated on the 2006 TRC Raptor map. These areas are directly used for feeding/foraging/nesting Ferruginous Hawks while still allowing protection to nesting birds.
2. Tighten the Bald Eagle winter forage buffer to areas that are actually used, following the 100 year flood zone along the New Fork River. This would exclude unused sage uplands where locations are and have been suggested to be built versus those in the lower lands by the river.
3. Proponents can move onto a pad outside of raptor, Ferruginous Hawk and Bald Eagle seasonal stipulations without doing surveys and stay on that pad until development activities are complete even if birds move into the area.
4. Proponents can move onto a pad during raptor, Ferruginous Hawk and Bald Eagle stipulations if they have performed surveys for birds and there are no birds using the area. Once on a pad, Proponents can stay on that pad until development activities are complete even if birds move into the area.
5. BLM needs to factor in its decisions that Proponents can reach approximately ½ mile with directional drilling.
6. Allow that exceptions may be granted if field surveys reveal a lack of use within the last 3 years and it is determined through site specific environmental analysis that specific actions would not interfere with critical habitat function or compromise animal condition within the project vicinity.

The development activity plans will be established annually via consultation with the BLM, WDEQ and WY Game and Fish as part of the annual planning process using the guiding principles as a basis. The annual plan will be part of a ten-year plan rolled forward each year. During the annual meetings, the participants will determine plans and mitigation utilizing the voluntarily agreed upon raptor/Bald Eagle best management practices (BMPs) for oil and gas development. The actual BMP document is included in

this attachment however (for sake of brevity only Shell's copy is included, Ultra's and Questar's are identical).

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## Attachment

**Best Management Practices (BMPs) for Bald Eagle Use Areas  
Along the New Fork River in Wyoming**

Developed by Ultra Resources, Inc., Shell Rocky Mountain Production, Questar Market  
Resources and Jonah Gas Gathering  
with assistance from the U.S. Fish and Wildlife Service's  
Cheyenne Field Office

The following is a list of BMPs from which operators may choose any or all applications to apply as voluntary protective measures, where possible and/or applicable to oil and gas activities along the New Fork River corridor south of Pinedale, Wyoming. Operators are not limited to the BMPs listed below; should new ideas and/or techniques become available we encourage the consideration of these techniques in coordination with the U.S. Fish and Wildlife Service's Cheyenne Field Office (Service). If an operator is unsure of whether or not to apply any or all of the below measures in any given situation it is recommended that they contact the Service and/or the Bureau of Land Management (BLM) for guidance.

Bald eagles are currently protected under the Endangered Species Act of 1973 (ESA), as amended, 16 U.S.C. 1531 *et seq.*, Migratory Bird Treaty Act (MBTA), 16 U.S.C. 703 and the Bald and Golden Eagle Protection Act (BGEPA), 16 U.S.C. 668. Currently, the bald eagle is being considered for delisting under the ESA. If delisted under the ESA, bald eagles would remain protected by the MBTA and BGEPA. Therefore, certain human-caused impacts to bald eagles would still be prohibited by law under the MBTA and BGEPA. Until the decision to delist is finalized, bald eagles continue to receive protection as a threatened species under the ESA.

Under the MBTA and the BGEPA, companies are obligated to protect migratory birds, including bald and golden eagles and other raptors. The MBTA, enacted in 1918, prohibits the taking of any migratory birds, their parts, nests, or eggs, except as permitted by regulations, and does not require intent to be proven. Section 703 of the Act states, "Unless and except as permitted by regulations ... it shall be unlawful at any time, by any means or in any manner, to ... take, capture, kill, attempt to take, capture, or kill, or possess ... any migratory bird, any part, nest, or eggs of any such bird..." The BGEPA, prohibits knowingly taking, or taking with wanton disregard for the consequences of an activity, any bald or golden eagles or their body parts, nests, or eggs, which includes collection, molestation, disturbance, or killing. A violation of the ESA, MBTA and/or the BGEPA may result in fines and/or imprisonment. Penalties increase substantially for additional offenses and a second violation of the ESA is a felony.

The 2006 *Draft National Bald Eagle Management Guidelines* (National Guidelines) developed by the U.S. Fish and Wildlife Service defines "disturb" as "to agitate or bother a bald or golden eagle to the degree that interferes with or interrupts normal breeding, feeding or sheltering habits or causing injury, death, or nest abandonment." In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment. The voluntary BMPs have incorporated many of the stipulations found within the National Guidelines. These National

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Attachment

Guidelines recommend that those states, which have current management plans, regulations or guidance for land owners and managers, continue development and use of such plans to benefit bald eagles. Shell should also understand that until the National Guidelines are finalized, there may be additional changes to the document.

Pursuant to the ESA, all federal agencies (e.g. BLM and Forest Service) are required to initiate section 7 consultation with the Service when actions they authorize, fund, or permit may affect bald eagles or other listed species. In this case, the federal agency is required to analyze the action on federal lands as well as any action on non-federal lands that is interrelated and interdependent to the action on federal lands. An interrelated and interdependent action is an action that would not occur, be feasible, or would occur to a lesser extent without the associated action on federal land (i.e. use of BLM access road to private land). In the event that an action, on non-federal land and interrelated and interdependent to an action on federal land, is not included in section 7 consultation, the private land owners and/or operators may request to be included in consultation with the federal agency when their lands are associated with an action on federal lands.

In no way does the inclusion of private lands in section 7 consultation allow access or authority to private lands by any federal agency to private lands. This inclusion may benefit the private land owner and/or operator by exempting their actions from violations regarding "take" of listed species under section 9 of the ESA.

By utilizing the following voluntary BMPs and seeking technical assistance from the BLM and the Service, Shell will demonstrate proactive wildlife stewardship in their efforts to minimize or avoid adverse effects to bald eagles and other raptors. However, use of the BMPs does not absolve individuals from liability pursuant to the ESA, MBTA and BGEPA.

1. Conduct appropriate raptor surveys before commencement of ground disturbing activities and within 1 mile of proposed disturbance to determine status of known nests and roosts and to identify new nests and roosts.
2. Monitor and prohibit any activities that may adversely impact bald eagles and other raptor species.
3. Restrict activities within 0.5 mile of active raptor nests (1 mile of active bald eagle and ferruginous hawk nests) from the period of early courtship through the fledging of chicks (generally from February 1 to August 15). With assistance from the Service, modifications to protective buffers may be considered when topography, vegetation and other variables serve as natural barriers.
4. Restrict activities within 1 mile of known bald eagle winter roosts from November 1 to April 1, when activity has been verified. With assistance from the Service, modifications to protective buffers may be considered when topography, vegetation and other variables serve as natural barriers.

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5. In coordination with the Service, noise reduction barriers may be used to minimize disturbance when activities are proposed within an established protective buffer.
6. Prohibit activities that produce extremely loud noises within 1 mile of active bald eagle nests, unless greater tolerance to the activity (or similar activity) has been demonstrated by the particular pair of bald eagles.
7. Build all power lines to standards identified in Avian Power Line Interaction Committee and utilize industry-accepted standards to prevent raptors from being electrocuted on towers and poles.
8. To preclude bald eagles or other raptors from nesting on human-made structures such as cell phone towers and condensate tanks and to avoid impeding operation or maintenance activities, install anti-perching devices on structures to discourage use by raptors. Additionally, in coordination with the Service and based on appropriate ecosystem management, construct artificial nesting platforms to encourage raptors to nest away from human activity.
9. As necessary, notify the appropriate authorities (Wyoming Department of Transportation on Highways and Wyoming Game and Fish Department or the BLM on rural and county roads) of the presence of roadside carrion and ask that they remove the carrion as soon as possible. Carcasses may be covered in the interim to discourage scavenging by bald eagles and other raptors, but only authorized personnel may touch or remove the carcasses.
10. When possible, include the Service in on-site reviews or for future project sites.
11. Strive to work with private landowners to identify voluntary opportunities to conserve and or improve natural resources in the affected area to promote a positive land ethic. Maintain adequate buffers from riparian habitats where possible (outside edge of trees as area of effect). Protective buffers should be site specific depending on vegetation and topography. They should be developed in coordination with qualified biologists, the Service and/or the BLM. Strive to conserve potential nesting, roosting and foraging habitat whenever possible by retaining mature trees and old growth stands wherever possible, particularly within 0.5 mile of water.

The following BMPs have been identified by the companies, as indicated above, to minimize disturbance to bald eagles and other raptors when their activities are proposed within recommended protective buffers for bald eagles. However, the Service reminds the companies that we do not support activities within recommended protective buffers as this may result in adverse effects to bald eagles and/or other raptors. The below BMPs, when implemented within a recommended protective buffer, should be used with caution. Should "take" of a bald eagle or other raptor occur, the Company may be liable under the ESA, MBTA and/or the BGEPA.

1. During night operations and only when worker's safety is not reduced, direct lighting toward the pad to avoid light disturbance to surrounding areas.

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2. Reduce unnecessary traffic and encourage travel times to be during daylight hours between 9am and 3pm.
3. In areas within 1 mile of active nests where there is line of sight from active nests to the activity, pipeline installation equipment shall be shielded from the affected area with camouflage netting.
4. Avoid potentially disruptive activities or permanent above ground structures in the bald eagles' direct flight path between their nest and roost sites and important foraging areas.

**Point of Contact List**

U.S. Fish and Wildlife Service, Cheyenne Field Office

Field Supervisor, Brian T. Kelly	307-772-2374
Fish and Wildlife Biologist, Kathleen Erwin	307-772-2374
Fish and Wildlife Biologist, Alex Schubert	307-772-2374
Fish and Wildlife Biologist, Pat Deibert	307-772-2374

USFWS Migratory Bird Office, Denver 303-236-8169

Bureau of Land Management, Pinedale Field Office

Field Manager, Dennis Stenger	307-367-5300
Wildlife Biologist, Lisa Solberg	307-367-5340
Wildlife Biologist, Pauline Schuette	307-367-5317

Wyoming Game and Fish Department

Terrestrial Habitat Coordinator 307-367-4352

Wyoming Department of Transportation

Maintenance, Gary Schriver	307-367-2888
Supervisor, Jim Monturo	307-352-3000

**Glossary of Terms**

**Action area** – all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action.

**Communal roost sites** – Areas where bald eagles gather and perch overnight and sometimes during the day to protect themselves from inclement weather. Communal roost sites are usually in large trees (live or dead) that are relatively sheltered from wind and are generally in close proximity to foraging areas. These roosts may also serve a social purpose for pair bonding and communication between bald eagles. Many roost sites are used year after year.

**Disturbance** – In the context of BGEPA, is to agitate or bother a bald eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, causing injury, death, or nest abandonment. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time

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when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and cause injury, death or nest abandonment.

**Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 *et seq.*** – Section 7 of the ESA outlines procedures for interagency cooperation to conserve Federally listed species and designated critical habitat. It requires Federal agencies to further the conservation of listed species and to consult with the Fish and Wildlife Service to ensure their actions (permitting, funding, authorizing) do not jeopardize the continued existence of listed species or destroy or modify designated critical habitat .

**Fledge** – To leave the nest and begin flying. For bald eagles, this normally occurs at 10-12 weeks of age.

**Fledgling** – A juvenile bald eagle that has taken the first flight from the nest but is not yet independent. The juvenile bird may remain dependant on the natal nest for a short time after fledging.

**Foraging area** – An area where bald eagles feed, typically near open water such as rivers, lakes, reservoirs, and bays where fish and waterfowl are abundant, or in areas with little or no water (i.e., rangelands, barren land, tundra, suburban areas, etc.) where other prey species (e.g., rabbit, rodents, deer) or carrion (such as at landfills) are abundant.

**Landscape buffer** – A natural or human-made landscape feature that screens bald eagles from human activity (e.g., strip of trees, hill, cliff, berm, sound wall).

**Likely to Adversely Affect** – Finding when a biological assessment/analysis determines that an adverse effect to a listed species may occur as a direct or indirect result of a proposed action or its interrelated or interdependent actions and where the effect is not discountable, insignificant or beneficial. (see not likely to adversely affect below)

**Nest** – A structure built, maintained, or used by bald eagles for the purpose of reproduction. An **active nest** is a nest that is attended (built, maintained or used) by a pair of bald eagles during a given nesting season, whether or not eggs are laid. An **alternate nest** is a nest that is not used for breeding by eagles during a given nesting season. (In Wyoming we recommend protection of alternate nests as wells)

**Nest abandonment** – Nest abandonment occurs when adult eagles desert or stop attending to a nest and do not subsequently return and successfully raise young in that nest for the duration of a breeding season. A nest can be abandoned due to alterations around the site that occurred prior to the nesting season, if such alterations agitate or bother the eagle to a degree that causes the eagles to either (1) not use the nest for breeding purposes, or (2) not occupy the nest at all that season. For eagles that migrate during the non-nesting season, nest abandonment can occur at any point between the time the eagles return to the nesting site for the breeding season and the time when all progeny from the breeding season have dispersed. If the eagles remain in the area

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throughout the non-breeding season, nest abandonment can occur at any point after the eagles initiate behaviors that indicate they will use the nest for breeding purposes until such time that all progeny of the breeding season have dispersed.

**Not likely to Adversely Affect** – Finding when the biological assessment/analysis determines that the effects on listed species are expected to be discountable, insignificant or completely beneficial.

**Project footprint** – The area of land (and water) that will be permanently altered for a development project, including access roads.

**Similar scope** – In the vicinity of a bald eagle nest, an existing activity is of similar scope to a potential new activity where the types of impacts to bald eagles are similar in nature, and the impacts of the existing activity are of the same or greater magnitude than the impacts of the potential new activity. Examples: (1) An existing single-story home 200 feet from a nest is similar in scope to an additional single-story home 200 feet from the nest; (2) An existing multistory, multi-family dwelling 150 feet from a nest has impacts of a greater magnitude than a potential new single-family home 200 feet from the nest; (3) One existing single-family home 200 feet from the nest has impacts of a lesser magnitude than three single-family homes 200 feet from the nest. The existing activities in examples (1) and (2) are of similar scope, while the existing activity in example (3) is not.

**Take** – To harm, harass, pursue, hunt, shoot, wound, kill, trap, capture or collect or attempt to engage in such conduct a listed species. Further defined as modifying or degrading habitat that results in death or injury by significantly impairing breeding, feeding or sheltering.

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**Vegetative buffer** – An area surrounding a bald eagle nest that is wholly or largely covered by forest, vegetation, or other natural ecological characteristics, and separates the nest from human activities.

## ATTACHMENT E

December 2007 Revised Draft SEIS Errata Comment Matrix				
Section or chapter, page number, and subsection	Issue	Comment	Solution	
<div style="display: flex; justify-content: space-between; width: 100%;"> <span>G-45</span> <span>P-1-85</span> </div>	Dear Reader, p. 2, Para 2	<i>“year-round development would mostly occur in three Consolidate Development Areas.”</i>	Inaccurate language.	Operators proposed <i>“Concentrated Development Areas.”</i>
<div style="display: flex; justify-content: space-between; width: 100%;"> <span>G-46</span> <span>P-1-86</span> </div>	Abstract, p i., Para 1	<i>“proposal emphasizes consolidated development”</i>	Inaccurate language.	Operators proposed <i>“concentrated”</i> development.
<div style="display: flex; justify-content: space-between; width: 100%;"> <span>G-47</span> <span>P-1-87</span> </div>	Executive Summary, p. v	<i>“Year-round development would be allowed within the Alternative C Core Area centered on the Anticline Crest and would be mostly concentrated within three Concentrated Development Areas at any one time.”</i>	This sentence is part of the description of Alternative B.	Correct by deleting “C” and replacing with “ <b>B</b> ”.
<div style="display: flex; justify-content: space-between; width: 100%;"> <span>G-48</span> <span>P-1-88</span> </div>	Executive Summary, p. v	Under “Alternative B” – uses term “ <i>Proponents</i> ” in 2 sentences.	<i>“Proponents”</i> cannot be used in these sentences as defined on p. iii, second paragraph of the Executive Summary. Those offers are only from Ultra, Shell and Questar.	Make change in sentences.
<div style="display: flex; justify-content: space-between; width: 100%;"> <span>G-49</span> <span>P-1-89</span> </div>	Executive Summary, p. vi, Para 1	Says Alternative C in next to last sentence.	The reference should be to Alternative D.	Change C to “ <b>D</b> ”.
<div style="display: flex; justify-content: space-between; width: 100%;"> <span>T-5</span> <span>P-1-90</span> </div>	Executive Summary, p. vi	Liquids gathering systems would <i>“eliminate approximately 90% of truck traffic (3,820 vehicles per day in the production-only phase) ....</i>	There are several statements throughout the RDSEIS referring to the decrease in truck traffic as a result of liquids gathering system (LGS). Each statement, however, specifically references the “production-only phase.” This could be misconstrued to mean that the benefit of decreased traffic is only realized at the production-only phase, when in reality, the benefits start accruing as soon as the LGS is put into service and increase throughout development and the production-	It should be clearly stated that truck traffic will decrease by 90% as soon as the LGS is put into service, and the volume of traffic eliminated from the PAPA will increase each year throughout development. During the production-only phase the only heavy truck traffic will be that required for maintenance and repairs.

**December 2007 Revised Draft SEIS  
Errata Comment Matrix**

Section or chapter, page number, and subsection	Issue	Comment	Solution
		only phase.	
Executive Summary p. vii	<p>Under “Recreation” – <i>“Decreased hunting opportunities are expected in the PAPA with decreased abundance of big game and upland game birds as density of wellfield development increases.”</i></p> <p><i>“Increase in population overall and specifically to the Town of Pinedale make it more difficult for people to visit the PAPA and surrounding areas because motel rooms are full at different of they year, possibly causing potential visitors to choose other locations for recreation.”</i></p>	<p>This is speculative and pre-supposes an outcome currently under intensive research.</p> <p>This statement and the entire Recreation section (reduces hunting, lessens it as a place to recreate, not enough motel space) fails to take into consideration that under Alternatives B, C and D only 6.5% of the PAPA is initially disturbed over the 60-year life of the project (temporary disturbance included along with no reclaimed areas in the 12,885.6 acres of initial disturbance by natural gas development) and that reclamation is expedited and reduces that percentage to 2% of life-of-project disturbance. It also fails to recognize that under proponent’s proposal, 93% of the PAPA will be devoid of development at any one time, leaving that 93% available for wildlife and/or recreation.</p> <p>Typo</p>	<p>Delete or re-word to include the research component in this statement thereby making it a more accurate portrayal of impacts.</p> <p>Change “they” to <i>“the.”</i></p>
Executive Summary, p. vii	Under “Cultural and Historic Resources” – <i>“...however, disturbance associated with</i>	Doesn’t the programmatic agreement for the Lander Trail address this issue?	Delete this portion of the sentence.

— R-1 —

P-1-91

— G-50 —

— C-5 —  
P-1-92

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AQ-10 P-1-93  
 GE-1 P-1-94  
 RC-17 P-1-95  
 VG-1 P-1-96  
 TE-4 P-1-97  
 P-1-92  
 P-1-99

Section or chapter, page number, and subsection	Issue	Comment	Solution
	<i>linear facilities may decrease the visual integrity within the Lander Trail SRMZ.”</i>		
Executive Summary, p. vii	Under “Air Quality” – “ <i>Air quality impacts to visibility at regional Class I airsheds ....</i> ”	This statement is not accurate.	Add “ <i>Air quality models predict air quality impacts to visibility at regional ....</i> ”
Executive Summary, p. vii	Under “Geology and Geologic Hazards” – “ <i>Continued development under all action Alternatives would lead to eventual depletion of the natural gas resource.</i> ”	Not true, there are always some unrecoverable natural gas reserves. Alternatives B, C, D, and E natural gas reserve estimates are for “recoverable resource,” which is about 40 – 45% of actual on 10-acre density, would be approximately 58% on 5-acre density.	Delete sentence.
Executive Summary p. viii	Under “Vegetation Resources” – “ <i>Unsuccessful revegetation with increased presence of noxious weeds (Canada thistle, perennial pepperweed) is expected on unreclaimed bare ground. However, the Alternative D Reclamation Plan (Appendix 8D) would ensure faster and more results-oriented return of vegetation and functional habitat than the other Alternatives, for both interim and final reclamation.</i> ”	This is inaccurate on several fronts. The reclamation plans under Alternatives B and C are designed to promote interim reclamation so that there is minimal bare ground. It is not clear at this point whether the reclamation plan under Alternative D will in fact return vegetation and functional habitat faster than the other alternatives.	Reword stressing interim reclamation.
Executive Summary, p. viii	Under “Vegetation Resources” – “ <i>Removal of existing native vegetation would be considerable under all of the Alternatives.</i> ”	“ <i>Considerable</i> ” is an overstatement of the impact. 6.5% of the PAPA is the initial disturbance while only 2% is disturbed over the life-of-project in Alternatives B, C and D (4,012.5 acres) by natural gas development. That is minimal, not ‘ <i>considerable</i> ’.	Delete “ <i>would be considerable</i> ” and use “ <i>would occur.</i> ” Add a statement that the degree of disturbance is dependent upon the Alternative.
Executive Summary, p. viii – ix	Under discussions on bald eagles and raptors	“ <i>within 1 mile of New Fork River riparian zone</i> ” would occur only within exceptions.	Highlight these comments as providing public notice that exceptions

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			can be granted as disturbance is occurring 'within' 1 mile of the river.
Executive Summary p. ix	<p><i>“Big game would continue to be adversely affected by wellfield development that causes direct loss of crucial winter range, other seasonally-used habitats, and decreased habitat function near roads and well pads due to human activity. Similarly, decreased habitat function is expected at greater sage-grouse leks by surface disturbance and potential human presence within 2 miles of nesting and brood-rearing habitats. Fragmentation and direct loss of native habitats by surface disturbance is expected to adversely affect migratory birds, particularly in habitats used by sagebrush-obligate species. Decreased raptor nesting habitat effectiveness is likely within 1 mile of New Fork River riparian zone. Decreased reproductive success in spring-spawning native salmonid species is possible from increased sedimentation in aquatic habitats and loss of forest-dominated riparian and shrub vegetation by each Alternative.”</i></p>	This is speculative and pre-supposes an outcome currently under intensive research.	Delete or re-word to include the research component in this statement.

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Executive Summary, p. ix	Under “Mitigation Measures” – “ <i>All Alternatives that contemplate year-round development contain an offer by the Proponents to provide off-site compensatory mitigation.</i> ”  “ <i>Further, additional mitigation opportunities that could be applied to all Alternatives have been identified and included in Chapter 4.</i> ”	“ <i>Proponents</i> ” cannot be used in this sentence as defined on p. iii, second paragraph of the Executive Summary. The offer is only from Ultra, Shell and Questar for off-site compensatory mitigation.  The additional mitigation opportunities in Chapter 4 have not been analyzed in the RDSEIS.	Amend sentence to say that Ultra, Shell and Questar offered the off-site compensatory mitigation.  Delete sentence.
Chapter 1, p. 1-4, 4 <sup>th</sup> paragraph	“ <i>Analysis thresholds associated with air quality....</i> ”	There was only one air-related threshold, for NOx, not “ <i>thresholds.</i> ”	Correct in the FSEIS by substituting “ <i>threshold</i> ” for “ <i>thresholds.</i> ”
Chapter 1, p. 1-7, para. 4-5.	Language from the Pinedale RMP referencing lease stipulations and exceptions to seasonal stipulations.	It is important to note that many of the exception requests are not exceptions from lease stipulations. Many Pinedale leases date back beyond the imposition of wildlife stipulations. Exceptions requested in those cases are simply to grant relief from the PAPA ROD and/or APD restrictions.	The FSEIS must differentiate between Lease stipulations and APD stipulations and acknowledge there are unstipulated leases.
Chapter 1, p. 1-8	Under “ASU Year-Round...” – “ <i>... within big game crucial winter ranges.</i> ”	The exception was broader than only big game crucial winter ranges. Granted in the Decision Record: “ <i>Seasonal restrictions limiting actions within big game winter range, sage-grouse nesting and brood-rearing habitat, and sage-grouse winter concentration areas to not apply to this Demonstration Project.</i> ”	Correct sentence to include sage-grouse nesting and brood-rearing habitat, and sage-grouse winter concentration areas.
Chapter 1, Section 1.7 Proposed Action, p. 1-9	“ <i>Two gas sales pipelines ....</i> ”	Three are proposed, not two.	Correct the sentence using “ <i>Three</i> ”

M-5  
 P-1-99  
 AQ-8  
 P-1-100  
 LS-5  
 P-1-101  
 W-7  
 P-1-102  
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Section or chapter, page number, and subsection	Issue	Comment	Solution
Ch. 1, sec. 1.10, pp. 1-10-1-11	Conformance with Existing RMPs	The RDSEIS does not mention the revisions to the Pinedale or Kemmerer RMP.	FSEIS should note that the Pinedale and Kemmerer BLM Field Offices are in the process of revising the Pinedale and Kemmerer RMPs. This section should disclose the ongoing revision effort.
Chapter 2, p. 2-2 2.2.2, Summary of Issues	<i>Bullet Point 7 “Industrialization on public and private lands has become a single resource use of land, not multiple use.”</i>	<p>“Industrialization” has a negative connotation. If this is not a direct quote, it may provide a stronger bias than what the response was.</p> <p>Is this BLM’s opinion that it has become a “single resource use of land” or was this what was submitted to BLM by the public?</p>	<p>Since it is not a direct quote, suggest changing the word to “<b>Development.</b>”</p> <p>If not, delete. Cite source.</p>
Chapter 2, p. 2-4	<i>“Since approval of the PAPA ROD (BLM, 2000b), better definition of the resource places the Pinedale Anticline Field as the third largest natural gas field in the nation (WOGCC, 2007).”</i>	The US Department of Energy lists the field as the second largest (RDSEIS p. 3-10 (EIA)).	Resolve contradiction between US Energy and WOGCC listings.
Chapter 2, Table 2.3-4, p. 2-6	Numbers in chart are different than same chart in DSEIS.	Need to provide commentary as to why there is a difference in chart numbers.	Add sentence clarifying difference.
2.3.4, p 2-11 Central Delivery Points	This section refers to Central Delivery Points	This term was changed to Central Gathering Facilities in the previous DSEIS.	Correct to “ <i>Central Gathering Facilities.</i> ”
Chapter 2, Transportation Requirements, p. 2-21	Table 2.4-3 shows a clear distinction on traffic amounts between the Alternatives. Doesn’t factor in how long development traffic lasts or how long production traffic lasts for any alternative.	The differences between the Alternatives are due to year-round access, consolidated development, liquids gathering system, and computer assisted operations. They also are different due to number of years of development traffic and number of years with and without LGS. The numbers in the columns of heavy/light have been may be switched.	Given the substantial difference and causes in traffic loading among the Alternatives, this portion should not be considered as a common component and should be addressed separately under each Alternative especially as the text notes that there are differing transportation plans for the various Alternatives.

G-52  
P-1-104  
G-53  
P-1-105  
G-54  
P-1-106  
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P-1-107  
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P-1-108  
T-6/AL-4  
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<div style="display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="margin-bottom: 10px;">G-57</div> <div style="margin-bottom: 10px;">P-1-109</div> </div> <p>Table 2.4-4</p>	Doesn't show that one worker can watch many more wells with multi-well pads.	Adjust workers based on average wells per pad for each scenario (driving time and amount of facilities vary).	Need to verify and correct.  Correct table.
<div style="display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="margin-bottom: 10px;">G-58</div> <div style="margin-bottom: 10px;">P-1-110</div> </div> <p>Chapter 2, 2.4.2.1 Pipeline Corridors pipeline sections, p. 2-22 thru 2-26</p>	Descriptions and tables: Table 2.4-6 does not include R7 pipeline.		Check against 9/19/07 ancillary facilities from Proponents submitted responses to BLM. Make any needed changes, if any.  Change "R6" to " <b>R7</b> ."
<div style="display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="margin-bottom: 10px;">G-59</div> <div style="margin-bottom: 10px;">P-1-111</div> </div> <p>Chapter 2, 2.4.2.1 Ancillary Facilities Table 2.4-7</p>	Table includes additional compression of 31,000 hp at Gobbler's Knob. Total additional should be 65,000 hp.		Change to " <b>65,000 hp</b> ".
<div style="display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="margin-bottom: 10px;">G-60</div> <div style="margin-bottom: 10px;">P-1-112</div> </div> <p>Chapter 2, 2.4.2.2 Alternative A (No Action Alternative) p. 2-26 thru 2-31</p>	Numbers in the text and tables (2.4-8, 2.4-10)	Many of these numbers are different than the DSEIS.	Provide clarifying sentence on difference from appearance in DSEIS.
<div style="display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="margin-bottom: 10px;">G-61</div> <div style="margin-bottom: 10px;">P-1-112</div> </div> <p>Table 2.4-8, p. 2-29</p>	Misleading comparison for different resource recoveries.	Need to show disturbance per gas recovered (acres/TCF) for all scenarios.	Add another column or row in table.
<div style="display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="margin-bottom: 10px;">G-62/W-8</div> <div style="margin-bottom: 10px;">P-1-112</div> </div> <p>p. 2-30 Wells and Drilling Rigs</p>	<i>"More drilling rigs would be operating in the summer than in the winter under the No Action Alternative because seasonal restrictions would apply in big game (pronghorn and mule deer) and greater sage-grouse seasonal habitats."</i>	Add that Questar has an exception for winter drilling in its 2004 EA.	Add the following to the end of that sentence:  <i>"... except on Questar's leasehold where winter drilling is allowed with six rigs on three pads each year in mule deer and sage grouse seasonal habitats (BLM 2004a and BLM 2005a)."</i>

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Section or chapter, page number, and subsection	Issue	Comment	Solution
Chapter 2, Alternative A, Well Pads, p. 2-30, para. 3.	“...additional development would be halted in the MA until additional environmental analyses are complete or until a well on a pad is no longer producing gas...”	This statement is misleading. Under Alternative A, No Action, once the MA limit for producing pads is reached, no additional well pads would be approved. However, development would most likely continue on that pad and on other pads in the MA through expansions.	This statement should be corrected. It should be made clear that the limit on the number of pads does not limit the number of wells.
Chapter 2, 2.4.2.3 Ancillary Facilities	States “QGM is proposing to install an additional 15,500 hp of compression”	Additional compression should be 65,000 for a total of 85,000 as submitted by Proponents to BLM.	Change to “65,000 hp.”
Chapter 2, Table 2.4-11, p. 2-34  p. 2-35, Wells & Rigs	Numbers in chart are different than same chart in DSEIS.  “Proponents are proposing...most wells in any one year would be about 305”	Need to provide commentary as to why there is a difference in chart numbers.  This was an estimate not a proposal.	Add sentence clarifying difference.  Replace “proposing” with “estimating.”
Chapter 2, Alternative B, Wells and Drilling Rigs, p. 2-35, para. 2	“The proponents are <b>proposing</b> that the most wells drilled in any one year would be about 305.”	Alternative B is Proponents’ proposal, and this statement might be construed that there would never be more than 305 wells drilled in any one year.	Correct statement to read that “ <i>The Proponents anticipate that under the September 2005 proposal the most wells drilled in any one year would be about 305.</i> ”
Chapter 2, p. 2-42	“The estimates used under Alternative C, including the number of wells to be drilled, the number of drilling rigs required, the volume of associated traffic and the size of the required workforce, are the same as those described for Alternative B.”	This statement is inaccurate as year-round development occurs in only 4 of the 5 DAs (with DA5 and the flanks requiring the same development plan as the No Action) or on 36,638 acres (actually less than that [27,834 acres] since DA1 can only be developed approximately 3840 acres at one time). More pads (and subsequent impacts) would be required to be used in DA5 and the flanks in Alternative C than in Alternative B.	Delete sentence or make accurate
Chapter 2 2.4.4 Alternative E p. 2-53	“The 700 well pad limit would apply to all lands in the PAPA, regardless of surface or mineral ownership.”		Number of pads on non-BLM leases is not within BLM’s jurisdiction.

G-63  
P-1-113  
G-64  
P-1-114  
G-65  
P-1-115  
G-66  
P-1-116  
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P-1-117  
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P-1-118

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
p 2-56			
Ch 2, 2-53, 2.4.4 Alternative E	Additional well pads can be developed as well pads are reclaimed to <b>full bond release status</b>	Note that this would be after the life of the well; when the well is plugged and abandoned and full reclamation meets bond release requirements.	Bond release criteria needs to be identified as definition
Chapter 2 2.4.4 Alternative E p. 2-53	<p><i>“Alternative E is unique with respect to the following and includes:</i></p> <ul style="list-style-type: none"> <li>• <i>year-round development allowed by exception and existing decisions only (otherwise seasonal restrictions apply);”</i></li> </ul> <p>and then later on in the next paragraph: <i>“Year-round development would not be allowed in the Alternative E Core Area under Alternative E.”</i></p> <p>Later on p. 2-58 under Year Round Development it says: <i>“Under Alternative E, year-round development would not be allowed in big game (pronghorn and mule deer) and greater sage-grouse seasonal habitats except as allowed by BLM’s 2004 Decision Record (BLM, 2004a). This allowed limited year round development within Questar’s leaseholds through winter 2013-2014. Approved</i></p>	These three statements are inconsistent.	Correct inconsistencies.

P-1-118  
 G-69  
 P-1-119  
 G-70  
 P-1-120

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	<p><i>components in the Decision Record are provided in Appendix 1.</i></p> <p><i>“The PAPA ROD provided for an “average” number of well pads/square mile within MAs. Under Alternative E, this provision is replaced with a maximum number of active well pads per section. Well pad limits within MAs were provided for in the PAPA ROD but have been replaced in Alternative E with limitations on locations with production activity, active drilling, and unreclaimed disturbance.”</i></p>	<p>First sentence says that the PAPA ROD provided an “average,” second sentence uses “limit.” Seems contradictory.</p>	
<p>Chapter 2 Table 2.4-17 Comparison of Impacts for All Alternatives</p> <p>p. 2-61</p> <p>p. 2-61</p> <p>p. 2-61</p> <p>p. 2-62</p>	<p>“Housing”</p> <p>Local Demands</p> <p>Traffic/Road Maintenance</p> <p>Existing Land Use Categories</p>	<p>Workforce would be “steady” for 40 years under Alternative E, providing stabilization.</p> <p>Demand “gradually decreasing”</p> <p>How does LGS traffic reduction not equal less accidents and road maintenance?</p> <p>No Action “predominant industrial landscape.”</p>	<p>Explain how erratic activity within stipulations provides stable or steady workforce.</p> <p>Need to show annual boom/bust with stipulations.</p> <p>Show differences between alternatives.</p> <p>Delete.</p>

G-70

P-1-120

SE-1

P-1-121

SE-2

T-7

G-71

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
p. 2-62	Under “Recreational Resources”	Alternatives B and D, state that disturbance is more due to increased acreage over No Action, with no comment to benefit of decreased fragmentation through consolidated development.	Delete statement and add a revised statement that accurately represents the Alternatives.
Ch 2, p. 2-62 & p. 2-65, 2.4.5.1 Table 2.4-17	Existing Land Use – AC of disturbance for Alt A – 4123.1, Alt B, C, D – 12,885.6, Alt E – 10427.0, Then noted on pg 2-65 pad perimeter of Alt A=total pad perimeter 253.3 miles, 249 new pads, edge length 495.3 miles, Alt B, C, D= 370.3 miles, 250 new pads, edge length 1,106.4 miles, Alt E= 418.9 miles, 415 new pads, edge length 815.7 miles	<p>How can Alternative E have 165 more new pads than Alternatives B, C, D, and still retain 290.7 less miles of edge length? Alternative E should have the highest edge length due to additional number of individual pads verses existing pads with smaller expansions.</p> <p>BLM is assuming that the well pads developed under Alternative E would average 13.8 acres (compared to 17.7 for Alternative D), p. 4-147. In reality, most of the Alternative E well pads would probably be larger than Alternative D well pads because each year Proponents would expand and each year you would have to leave considerable distance from producing wells.</p> <p>Neither Alternative A nor Alternative E has any restriction on size of pad. Alternative A assumes a pad average of 8.3 acres. In reality, even if Proponents reached MA limit of pads, Proponents would likely expand existing pads and keep drilling. Thus, surface disturbance comparisons throughout the document are inaccurate.</p>	Add table of available undisturbed acres remaining in the PAPA under each alternative. In addition, there are three different scenarios which occur on the landscape: the area of no/little use, which is a pad; area of edge between pad and native landscape, which is used to some degree; and the native landscape, which is used to its full potential. These thee items should be represented in some form to give a more realistic dictation or picture of the 5 alternatives. Pg 4-160 identifies “ <u>fragmentation</u> and edge length” though it is not evaluated.

R-2  
P-1-121  
AL-5/V/G-2  
P-1-122

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
Chapter 2 Table 2..4-17 Comparison of Impacts for All Alternatives p. 2-62	Under “Visual Resources, Visual Resource Management Classes”	This is based solely on initial surface disturbance, not on LOP or reduction in tanks due to LGS for Alternatives B, C and D.	Delete statement and add a revised statement that accurately represents the Alternatives.
Chapter 2 Table 2..4-17 Comparison of Impacts for All Alternatives p. 2-62	Under “Lander Trail”	This is based solely on initial surface disturbance, not on LOP or reduction in tanks due to LGS for Alternatives B, C and D.	Delete statement and add a revised statement that accurately represents the Alternatives.
Chapter 2 Table 2..4-17 Comparison of Impacts for All Alternatives p. 2-64	Under “Vegetation Resources”	This is based solely on initial surface disturbance and does not acknowledge benefit on Alternatives B and D of interim and earlier reclamation.	Delete statement and add a revised statement that accurately represents the Alternatives.
Ch 2, 2-65, 2.4.5.1 Table 2.4-17	Pronghorn, mule deer represent same database of numbers habitat function near roads and well pads.		If represented separately, calculate represented acres for each species, as opposed to lumping together.
Ch 2, 2-65, 2.4.5.1 Table 2.4-17	Flood Plains –Alt B, C, D – 486.8 AC of disturbance	It is unclear where this number comes from – seems high because Shell is proposing 3 additional pads at approx 27 acres + existing approx 25 areas = 52 acres. It is not clear where the other 434 acres comes from.	Clarify.
Chapter 2 Table 2.4-17 Comparison of Impacts for All Alternatives p. 2-65 and 2-66	Under each category on the pages.	Based solely on initial surface disturbance and does not acknowledge benefit on Alternatives B and D of interim and earlier reclamation nor consolidated patches or lease suspensions and NSOs.	Delete statements and add revised statements that accurately represent the Alternatives.

W-9/AL-9  
V-4/AL-6  
C-6/AL-7  
VG-3/AL-8  
G-72/AL-10  
G-73/AL-11  
P-1-123  
P-1-124  
P-1-125  
P-1-126  
P-1-127  
P-1-128

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Chapter 3, p. 3-19	<i>“Recent studies of housing affordability suggest that it may be prohibitively expensive for wage earners, including workers employed in the PAPA, to move to Southwest Wyoming (Sublette SE, 2007).”</i>	Subjective statement. Comparative to prices in the early 1990’s in other parts of the country.	Delete sentence, or add comment that there are other forces working in this market.
Chapter 3, 3.5.7.3 Law Enforcement p. 3-25	<i>“An emergency medical service/fire response building that will house a paramedic response truck is under construction.”</i>  Table 3.5-18	The writers did not mention that the center is funded by industry.  Showing raw numbers rather than percentage of population is misleading in a rapidly increasing population.	Add who is funding the center to the statement.  Add percentage of population column.
Chapter 3, 3.5.8 County and Local Government Revenues p. 3-32	No mention is made of State funding to assist mineral impacted communities (2006 and 2007) or of State programs that the communities could access for infrastructure development (some available since 2003).	Substantial funding is available and has been provided to the 3 counties in the analysis.	Provide information to give reader a true picture of financial resources to communities and counties.
Chapter 3, 3.6.1.1, Traffic Volume, p.3-35	<i>“Average daily traffic to well pads with liquid gathering pipelines is half the traffic to pads without.”</i>	The LGS should be considered, based on this tracking, as mitigation – not as a disturbance as it is in most of the document.	The language should be used where appropriate to include LGS as mitigation for Alternatives B, C and D.
Table 3.6-4, p 3-36	Average producing wells accessed column	How can the average number of producing wells accessed for a pad with LGS be 2?	Confirm source and correct as needed.
Chapter 3, 3.6.2, p. 3-38	Pipeline Corridors...	BLM needs to add a R7 project instead of the R6 pipeline and Condensate Loop.	Add <b>R7</b> project and delete R6 to FSEIS.
Chapter 3, 3.9.2 Visual Resources, p. 3-50	BLM designates areas according to visual class.	What are criteria for designating each class? What visual values are being protected under	The RDSEIS includes objectives of each visual class. BLM should include

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		each?	the criteria for designating an area under each class.
p 3-51 Development in PAPA, Para 3.	<i>“ visual resource degradation in this area can impact tourism, residents, and overall economic conditions”.</i>	p. 3-7 stated that 96% of Sublette assessed value is from gas industry, so it is an exaggeration to say visual impacts could “impact overall economic conditions”.	Delete
Chapter 3 Map 3.10-1 p. 3-58	Map shows 3 mile Lander Trail buffer extending beyond Hwy 351 to the south of the trail.	The buffer extends to Hwy 351 in the PAPA ROD.	The map should be corrected in the FSEIS by eliminating the shading south of highway 351.
Chapter 3, 3.8.1.1, Recreational Activities, p. 3-46	<i>“The USFWS collects state-level data on fishing, hunting, and wildlife-viewing every 5 years. The most recent surveys, in 1996, 2001 and 2006, were used to estimate the rate of change in recreation demand for Wyoming (Table 3.8-3). Days spent hunting and fishing in Wyoming have decreased over the past decade, while wildlife viewing activities have increased.”</i>	The decrease in hunting as shown by the USFWS 5-year surveys is a national trend based on aging population (no analysis of population age and trends in DSEIS or in the 3 county area considered) of hunters and non-recruitment of new hunters and is not peculiar to Wyoming or Sublette County.	Revise FSEIS to more accurately portray the possible reasons for the changes in these figures.
Chapter 3, p. 3-68 AQ Deposition	<i>The USFS has indicated that the current green line values (3.0 kg/ha-year) are set too high and do not adequately protect ecosystems from nitrogen and sulfur deposition. (Svalberg, 2006 personal communication)</i>	This is the personal opinion of someone in the USFS and not a regulatory, legal, or scientifically recognized screening threshold.	Delete statement.
Chapter 3.2 Noise p. 3-75	<i>“Flaring (one component of completion operations) tended to be the loudest noise event.”</i>	While this may be true, no mention was made of flareless completions ongoing in the PAPA.	Add statement about flareless completions.
Chapter 3, Section 3.15.1.4, p. 3-83	This section states in one paragraph that water supply wells for drilling are between 200-1000 feet and in another	These figures are inconsistent.	Confirm correct range of well depths and make consistent in FSEIS.

P-1-134  
V-6  
P-1-135  
C-7  
P-1-136  
R-3  
P-1-137  
AQ-9  
P-1-138  
N-1  
P-1-139  
GW-1  
P-1-140

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	paragraph that they are between 300-1000 feet deep.		
Chapter 3, p. 3-84, Groundwater Monitoring, para 3.	WDEQ-WQD required Operators to analyze samples from all water supply wells for BTEX and TPH.	WDEQ-WQD required operators to sample all wells that had been connected to a tank, tank truck or reserve pit.	Correct statement
Chapter 3, p. 3-85 Groundwater Monitoring, first para.	WDEQ has since required that check valves be installed on supply wellheads. All water supply wells have been outfitted with locks to prevent unauthorized access.	Operators initiated locking of well heads and installation of check valves/backflow prevention....WDEQ has not required these to date...just a good practice	Correct statement
Chapter 3, p. 3-85 Groundwater Monitoring	Paragraphs indicated that several water supply wells have been contaminated as determined by the monitoring program.	No current status of the contaminated wells noted by BLM. Three wells have been remediated and are currently being monitored. The fourth well has initiated cleanup in accordance with the WDEQ Voluntary Remediation Program	Add paragraph stating status.
Chapter 3, Section 3.21.1.1 Federally Listed, Proposed and Candidate Species, pp. 3-110-111	Identification of federally listed, proposed or candidate species	Section 3.21.1.1 and the balance of the document needs to reflect the USFWS's recent Federal Register publication of its determination that the pygmy rabbit "may be warranted" and the ongoing species review.	BLM should mention USFWS's determination that pygmy rabbit listing "may be warranted" and that species review is ongoing.
Ch3, 3-111, 3.21 Bald Eagles	2005 winter ground survey – 54 Eagles (10 in NFR area), 2006 – 8 along NFR, 2007 – 16 in PAPA		Add total Bald Eagle sighted for each year, put numbers in same terms – i.e. NFR corridor or PAPA.
Chapter 3, 3.22, Wildlife and Aquatic Resources, p. 3-118	No mention in this entire section of research and studies that are ongoing	There are several research and monitoring projects that are commissioned and funded by the operators that have been ongoing for several years: <ul style="list-style-type: none"> <li>• TRC Wildlife Monitoring. This monitoring has been ongoing since the PAPA ROD was implemented in 2000. TRC monitors all wildlife</li> </ul>	Include reference to this research and data that has been accumulated on behalf of the Proponents since the PAPA ROD was signed. Note that results have been provided annually to BLM and WGFD.

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GW-2  
GW-3  
GW-4  
TE-5  
TE-6  
W-10/MO-1  
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		<p>under the parameters set in the PAPA ROD. The monitoring is fully funded by the majority of the Pinedale Anticline operators.</p> <ul style="list-style-type: none"> <li>• Mule Deer Study. This research and modeling, which began in 1999 by Ultra has been continued since 2001 by Questar.</li> <li>• Pronghorn Research. This research project was commissioned by Shell/Ultra in 2005 and is in its third year.</li> <li>• Sage Grouse Study. This study was implemented by Ultra/Shell/Questar in 2005 and is in its third year.</li> </ul> <p>This research and data is submitted to the BLM, WGFD and operators each year by the contractor. It is an important resource as well and provides a valuable historical overview of wildlife on the Pinedale Anticline. It should be included here.</p>	
<p>Chapter 3 3.22.1.1 Pronghorn p. 3-122</p>	<p><i>“Pronghorn appeared to abandon habitat in parcels with patch sizes at or about 600 acres (Berger et al., 2006). Similar observations during 2006 were not reported (Berger et al., 2007). During winter 2006, some radio-collared pronghorns utilized portions of the Jonah Field, apparently indicating some habituation to disturbances, while other study animals completely avoided wellfield disturbances. In the</i></p>	<p>While this statement presents positive results in the second year of study for pronghorns, it still utilizes the 600 acre fragmentation figure. As Proponents pointed out in their previous comments and as determined in the second annual report, the figure was preliminary and had no scientific basis and had not received the concurrence of the WGFD.</p>	<p>There is no reason to perpetuate an unsubstantiated figure. This should be re-written deleting reference to the 600-acre fragmentation figure.</p>

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
	<i>PAPA, pronghorns wintered extensively on crucial winter ranges previously defined by WGFD, though study animals did not avoid wellfield disturbances within the PAPA as some did within the Jonah Field (Berger et al.,2007)."</i>		
Chapter 3 3.22.1.1 Mule Deer p. 3-125	<i>"Wildlife population growth depends not only on birth and death rates, but also on immigration and emigration of animals into and out of the population. Results of the Sublette Mule Deer Study (Phase II) have shown a consistently declining wintering mule deer population on Mesa crucial winter ranges (Sawyer et al., 2005a). Deer density decreased from 77 deer per square mile in winter 2001-2002 to 41 per square mile in 2004-2005. The density in 2005-2006 was similar to that in the previous winter (Sawyer et al., 2006). No such trend was observed on crucial winter ranges used as a control in the study (Pinedale Front Complex) that were unaffected by natural gas development. Although the wintering mule deer population on the Pinedale Mesa has declined each year from 2001 to</i>	<p>The mule deer population on the Mesa is not "consistently declining". The last published study showed a slight increase in both population and usage.</p> <p>The fact that mule deer carcasses have not been found by the WGFD strongly suggests that the decline may not be mortality but may indeed be emigration to other habitats. The fact that the control area was not consistent over the span of the study makes it very difficult to exclude emigration over mortality.</p> <p>It should be noted that deer counts on the Pinedale Front Complex (Control) were suspended after 3 study years because the deer in that group were very mobile, and each year the area they utilized for wintering expanded. Thus the statement "[n]o such trend was observed on crucial winter ranges used as control in the study" is unverifiable and misleading.</p>	This section should be re-written to add the most recent year of published data which shows the stabilization to slight increase in populations coinciding with the installation of the Liquid Gathering System and addition of 6 rigs in the winter. In addition it should be noted that unless and until mule deer carcasses have been found in proportional numbers to the reported decline emigration of mule deer is a real possibility.

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	<p><i>2005, available information indicates deer are not using alternative habitats, since emigration to other winter ranges is extremely limited. Fewer deer each year may indicate increased mortality of deer that formerly utilized the Mesa, along with declining recruitment of additional deer on the winter range since 2001-2002.”</i></p>		
<p>Chapter 3 3.22.1.2 Upland Game Birds p. 3-132 &amp; 3-134</p>	<p><i>“Available information does not indicate that any of the producing oil or gas wells within 2 miles of any lek were drilled during periods of lek attendance. However, once drilled, completed, and productive, wells require regular visits by wellfield workers for maintenance and product transport. Vehicular traffic associated with producing wells must continue throughout the year (Section 3.6.1.1 Transportation), regardless of the status of greater-sage grouse leks. Thus, the number of producing oil and gas wells within a 2-mile radius of greater sage-grouse leks represents a relative amount of wellfield disturbance due to a variety of</i></p>	<p>This statement does not reflect the results of the second annual report on sage grouse by WWC. The second annual report, which was not available at the time of the printing, notes that sage grouse are using habitats near development where there is a Liquids Gather System. This is significant and combined with the last two years results on the mule deer study.</p>	<p>Request that BLM use the most recent data from the sage grouse report.</p>

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	<p><i>activities, mostly vehicular traffic, during all seasons including greater sage-grouse breeding, nesting, and juvenile rearing periods in the species' annual cycle."</i></p> <p><b>And from P. 3-134</b></p> <p><i>The data imply that the relative amounts of wellfield disturbance due to traffic and other actions related to wellfield production during all seasons within 2 miles of greater sage-grouse leks is related to declining male attendance at leks.</i></p> <p><i>Many common raptor species are known to nest, migrate, and seasonally reside, in the vicinity of the PAPA. These include golden eagle, red-tailed hawk, ferruginous hawk, great horned owl, bald eagle, Swainson's hawk, northern harrier, prairie falcon, American kestrel, merlin, osprey, and short-eared owl. These raptors and all other migratory birds are protected under the Migratory Bird Treaty Act in which taking, killing, or possessing migratory birds is unlawful.</i></p> <p><i>Although the common raven occurs in the PAPA, is a potential predator and/or scavenger, and classified as a</i></p>		

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	<p><i>raptor by some, it is in the same family as jays, magpies, and crows (Corvidae) and not discussed further. Nesting records of golden eagles, ferruginous hawks, short-eared owls, and other raptors, including American kestrel, osprey, great horned owl, northern harrier, prairie falcon, red-tailed hawk, and Swainson’s hawk, have been made on or in the immediate vicinity of the PAPA since 2001, and their status in relation to wellfield development has been investigated (Ecosystem Research Group, 2006).”</i></p>		
<p>Chapter 4 4.1.2 Spatial analysis of Future Surface Disturbance p. 4-5 and 4-6</p>	<p>Tables 4.1-2 and 4.1-3</p>	<p>Both tables have different numbers from the DSEIS.</p>	<p>Provide in text reason for different numbers from DSEIS.</p>
<p>Chapter 4 4.3.2.1 Natural Gas Development in the PAPA p. 4-10</p>	<p><i>“In particular, residents are concerned that their communities may experience any or all of the following events:”</i></p>	<p>Global statements that “residents” are concerned about anything should include a source.</p>	<p>Cite source or delete.</p>
<p>p. 4-13 4.3.2.1, para 1. Workforce Estimates</p>	<p>converts worker-days to annual direct workforce estimates by assuming that drilling activity occurs “365 days per year.”</p>	<p>Assuming year-round drilling when calculating the workforce results in an underestimation of the number of workers, hotels, services needed under seasonal stipulations.</p>	<p>Correct workforce numbers to show differences in personnel between alternatives with and without year-round drilling.</p>

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
Ch 4 Table 4.3-11 p. 4-20	None of these Tax Revenue tables by Alternative gives total numbers or total to WY.	Need to give summary of tax revenue to State by Alternatives (tables aren't totaled).	Add total tax column to WY for Tables 4.3-11, 4.3-16, 4.3-23.
Chapter 4 p. 4-21	<i>"The No Action Alternative has the potential to create a "boom-bust" situation in the local economy because of the continuation of intense drilling through 2011, followed by the rapid exit of PAPA development workers in 2012."</i>	There is no discussion of the boom-bust situation occurring within a year that would continue under the No Action Alternative and Alternative E.	Include discussion of this impact. Current data from communities and county should be used to project future continuation of seasonal boom-bust.
Chapter 4 4.3.4 Socioeconomic Additional Mitigation Opportunities p. 4-32	<i>"The PAPA DEIS (BLM, 1999a) identified several mitigation measures that would offset the impact to Socioeconomic Resources. However, BLM and the cooperating agencies lack jurisdiction to impose many of the identified measures and none were carried forward into the PAPA ROD (BLM, 2000b). Any mitigation to offset impacts to Socioeconomic Resources would be strictly voluntary by the Operators"</i>	This section offers two socioeconomic mitigation measures not previously considered by the Proponents. These mitigation opportunities were not analyzed in the RDSEIS.	This should be deleted.

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Chapter 4 4.3.4.3.1 Summary of Impacts Common to All Alternatives p. 4-37	<i>“Once all wells are in production, under any Alternative, wellfield traffic would decline. Production-related traffic would be constant, probably for several decades and would slowly decline toward the end of the production phase under all Alternatives. Impact to arterial roads would likely decline in the same period.”</i>	This is inaccurate. Production-related traffic would not be a constant under all alternatives as outlined on p. 4-34. The LGS under Alternatives B, C &D will reduce truck traffic by 90%. Production-related traffic under Alternatives A and E will be higher because there is no LGS in a majority of the field.	This statement need to be corrected
Chapter 4, 4.4.3.4, Alternative C, p. 4-39, para. 4	Last sentence <i>“All traffic in DA-5 in winter would be production-related.”</i>	Unclear why there would be only production-related traffic in winter if the only seasonal restrictions are sage grouse lek and nesting.	Delete.
Chapter 4, 4.4.3.5, Alternative D, p. 4-40, para. 1  Para. 5 P. 4-94, Noise, para. 4	<i>“Year-round access to DA-1 and DA-2 would be from the south.”</i>  <i>“Alternative D includes use of the liquids gathering system and computer-assisted operations ... with similar reductions in traffic, especially when development is complete and all wells are in production.”</i>	It is unreasonable to restrict access to the northern DA-1 leasehold and require operators to access these areas using the Stewart Point Road, which is closed in the winter.  The implementation of an LGS will immediately eliminate an entire class of traffic, and the volume of traffic eliminated will increase with each well drilled. The benefit of the LGS is realized immediately, not just at production phase.	Clarify that northern DA-1 area can be accessed from the north.  Clarify the benefits of LGS.
Chapter 4 4.4.4 Cumulative Impacts p. 4-41	Transportation Additional Mitigation Opportunities	This section offers six additional transportation mitigation measures that the Proponents had not previously considered. These mitigation opportunities were not analyzed in the RDSEIS.	This should be deleted.

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Chapter 4 4.5.1 Scoping Issues p. 4-41	<i>“3. Concern that operators are industrializing non-federal lands to avoid restrictions on BLM land.”</i>	Please confirm if “industrializing” was used or is that the author’s term.	If it is the author’s term, it should be replaced with the accurate word.
Chapter 4 4.5.2 Impacts Considered in the PAPA DEIS p. 4-41	<i>“BLM further recognized that the PAPA was valued for its open space and as a place of solitude. Some of the area was inaccessible by vehicles, and in those areas and other areas it was difficult to find evidence of human activity. In 1999, the views from most of the PAPA, particularly the Mesa, were exceptional with the Wind River Range to the east and the Wyoming Range to the west. The views were compared to current views available from the adjacent Jonah II Field: “While the views are equally as dramatic in the Jonah II Field, the sense of openness and solitude have been lost. In that portion of the Jonah II Field currently being developed, one is constantly aware that extensive development activities are ongoing. This is not a criticism of oil and gas development but rather a recognition of the difference in the feeling of open space and solitude between the two areas.”</i>	This issue of the PAPA being an area of solitude was a subjective value by the authors of the original PAPA DEIS (BLM, 1999a).	Cite source or delete.

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
<p>Chapter 4 4.5.3.1 Summary of Impacts Common to All Alternatives p. 4-42</p>	<p><i>“While the PAPA was valued for its open space and as a place of solitude, the view in the Anticline Crest in 2006 more resembles the Jonah II Field in 1999. Land uses associated with open space, principally recreation, livestock grazing, and wildlife habitat have changed to an industrial landscape.”</i></p>	<p>This is a subjective statement indicating the author’s personal bias.</p>	<p>Cite source or delete.</p>
<p>Chapter 4 4.5.3.1 Summary of Impacts Common to All Alternatives p. 4-44</p>	<p><i>“Implementation of any of the Alternatives would continue to change the characteristics of most land use/land cover types (see Table 4.5-1) to a landscape where “one is constantly aware that extensive development activities are ongoing.” As stated above, the potential significant impacts to land use predicted in the PAPA DEIS (BLM, 1999a) have occurred and would continue to occur under all of the Alternatives.”</i></p>	<p>This is a subjective statement indicating the author’s personal bias.</p>	<p>Cite source or delete.</p>
<p>Chapter 4 4.5.3.1 Summary of Impacts Common to All Alternatives p. 4-44</p>	<p><i>“Although Sublette County’s zoning districts include BLM-administered public lands, the county has no jurisdiction on these lands. Under all Alternatives, over 80 percent of initial surface disturbance would occur in lands zoned by Sublette County as Resource</i></p>	<p>Since the County has no jurisdiction over these lands, it is not necessary and is counter productive to quantify changes related to County’s zoning districts.</p>	<p>Delete.</p>

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	<i>Conservation (Table 4.5-2) and over 17 percent would be in lands zoned as Agriculture. Wellfield development would be in conflict with the intended use of lands zoned as Resource Conservation in which protection and conservation of environmentally sensitive areas must be limited to prevent degradation (Sublette County, 2002)."</i>		
<p>Chapter 4 4.5.3.4 Alternative D p. 4-46</p> <p>Alternative E p. 4-46 p. 4-50, bullet 3</p> <p>p. 4-47</p>	<p><i>"Under Alternative D, year-round development would be allowed within the Alternative D core Area (same as Alternative C Core Area)...."</i></p> <p><i>"Under Alternative C, there is opportunity for full-field development in DAs to be completed prior to development in other DAs with no additional trends towards industrialization."</i></p> <p><i>"These restrictions could slow the transformation to an industrialized landscape."</i></p>	<p>Unclear how Alternatives D and C have same Core when DA-1 was expanded for Anschutz and DA-5 is bigger than previous draft. Did C core change from previous draft?</p> <p>The term "industrialization" is subjective and cannot be quantified except in the author's mind.</p>	<p>Correct statement.</p> <p>Delete all 3 references.</p>
<p>Chapter 4 p. 4-51</p>	<p><i>"Implementation of the Alternatives would continue to change the characteristics of most of the PAPA to a landscape where "one is constantly aware</i></p>	<p>This seems like a subjective statement.</p>	<p>Cite source or delete.</p>

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	<i>that extensive development activities are ongoing.”</i>		
Chapter 4 4.6.5 Recreational Resource Additional Mitigation Opportunities p. 4-54	Recreation Resources Additional Mitigation Opportunities	This section offers five additional recreational mitigation measures that the Proponents did not previously consider. These mitigation opportunities were not analyzed in the RDSEIS.	Delete.
Chapter 4 4.7.3.1 Summary of Impacts Common to All Alternatives p. 4-57	<i>Wellfield development could disturb about 2,000 acres in VRM Class III on BLM-administered public lands by all action Alternatives (Table 4.7-1). This level of development would exceed BLM’s management objective for VRM Class III, which allows for only moderate change in the character of the landscape. Visual Chapter 4 Environmental Consequences Pinedale Anticline Revised Draft SEIS 4-57 resources in the localized areas of VRM Class II and VRM Class III have been significantly impacted (according to impact significance criteria defined in the PAPA DEIS) and would be further impacted under all Alternatives. Depending on the success of future revegetation and liquids gathering system efforts, the PAPA landscape may not appear as industrial as</i>	This statement should be redrafted to reflect the factual positive results already demonstrated by the existing portion of the LGS	Redraft along the lines of: <i>“Based on the success of existing revegetation and liquids gathering system efforts, the effects to VRM Class II and VRM Class III lands, particularly north of the New Fork River, will be substantially diminished.”</i>

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	<i>it does in 2006 and effects to VRM Class II and VRM Class III lands, particularly north of the New Fork River, may be substantially diminished.</i>		
Chapter 4 4.8.3.3 Alternative D p. 4-64	<i>“Unexpected discoveries would also occur at a greater rate. Unexpected discoveries and subsequent resource damage could significantly increase in areas of large, concentrated surface disturbances (Vlcek, 2006). Development under Alternative B is expected to bring substantial surface disturbance within the Lander Trail SRMZ and trail viewshed. This Alternative would initially disturb 1,307.9 acres within the SRMZ on federal lands and 995.0 acres within the Lander Trail Viewshed on federal lands (Table 4.8-1). The level of development could adversely impact the Trail’s setting and historical significance, according to the criteria described above. Additionally, development under Alternative B would likely lead to considerably more surface disturbance in the Blue Rim Area, the Mesa Breaks, and the terraces of the New Fork</i>	The words, “significantly, substantial and considerably” cannot be quantified or measured and should not be used.	Delete these words.

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	<i>River.”</i>		
Chapter 4, 4.8.3.1, Summary of Impacts Common to All Alternatives, p. 4-64, para. 2	<i>“Further, with extensive surface disturbance (disturbance in many quarter-sections exceeding 50 percent) throughout the PAPA....”</i>	There are no areas that are known to be more than 50% disturbance.	Delete.
Chapter 4, p. 4-75, Acid Deposition Section	.....however, the USFS has concerns that these deposition thresholds are set to high (Svalberg, 2006)	This is the personal opinion of someone in the USFS and not a regulatory, legal, or scientifically recognized screening threshold.	Delete statement.
Chapter 4, 4.9.5 Air Quality Additional Mitigation Opportunities p. 4-92	Air Quality Additional Mitigation Opportunities	This section offers one additional air quality mitigation measures that the Proponents have not previously considered. These mitigation opportunities were not analyzed in the RDSEIS.	This should be deleted.
Chapter 4, 4.10.5 Noise Additional Mitigation Opportunities p. 4-95	Noise Additional Mitigation Opportunities	See rationale above on other proposed mitigation opportunities.	This should be deleted.
Chapter 4, 4.12.5 Paleontological Resources Additional Mitigation Opportunities p. 4-98	Paleontological Resources Additional Mitigation Opportunities	See rationale above on other proposed mitigation opportunities.	This should be deleted.
Chapter 4, Section 4.13.3.1, p. 4-101, para 1	<i>“Temporary depletion of the Wasatch Formation aquifer is an inevitable consequence of groundwater extractions for drilling water through water supply wells.”</i>	This is not “inevitable” based on both the inexact nature of the model and the high amount of re-use of production water.	Delete “inevitable”.

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 N-3/M-10  
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Chapter 4, p. 4-102, Groundwater Resources	<i>“As a result of these concerns (WDEQ did not like existing Groundwater Monitoring Plan), the BLM will develop a science-based water resource monitoring plan following their Regional Framework for Water Resources Monitoring to Energy Exploration and Development....with consultation with WDEQ-WQD....within 6 months of the ROD,...”</i>	Proponents have already been monitoring groundwater required by the existing PAPA EIS; this will be a new plan. Proponents are not a part of the development of the plan and should be.	Add: <i>“Proponents will be involved in the development of any new plan from the beginning.”</i>  Existing groundwater data and activities should be incorporated and not lost.
Chapter 4, 4.13.5 Groundwater Resources Additional Mitigation Opportunities p. 4-104	Groundwater Resources Additional Mitigation Opportunities	See rationale above on other proposed mitigation opportunities.	This should be deleted.
Chapter 4, 4.14.33, Surface Water Resources, Alternative B, p. 4-109	<i>“Concentrated development increases the potential impact from erosion more than if the surface disturbance were dispersed.”</i>		Provide citation to research verifying this conclusion or delete.
Chapter 4, 4.13.5 Surface Water Resources Additional Mitigation Opportunities p. 4-111	Surface water Resources Additional Mitigation Opportunities	See rationale above on other proposed mitigation opportunities.	This should be deleted.
Chapter 4 4.15.3.6 Alternative E p. 4-114	4.15.5 offers additional mitigation opportunities	See rationale above on other proposed mitigation opportunities.	Delete.

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
<p>Chapter 4 4.16 Vegetation Resources p. 4-115</p>	<p><i>The BLM considered that impacts to vegetation produced by the Alternatives in the PAPA DEIS would be significant if:</i></p> <ul style="list-style-type: none"> <li>• <i>within 5 years, reclaimed areas do not attain adequate vegetation cover and species composition to stabilize the site and to support predisturbance land uses including livestock forage, wildlife habitat, and big game population objectives;</i></li> <li>or</li> <li>• <i>there is invasion and establishment of noxious nonnative weeds that contribute to unsuccessful revegetation.</i></li> </ul> <p><i>Based on the significance criteria above, it is not known that vegetation resources have been significantly impacted by existing development in the PAPA.</i></p>	<p>To answer the statement of BLM uncertainty on impacts to vegetation, the Proponents voluntarily commissioned and funded a Habitat/Vegetation inventory.</p>	<p>This should be noted in this statement.</p>

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Chapter 4 4.16.5 Vegetation Resources Additional Mitigation Opportunities p. 4-119	<i>“Vegetation Resources Mitigation Measure 1. A disturbance cap could be imposed in the PAPA. Once a certain amount of surface disturbance occurs, additional surface disturbance would not be allowed until disturbed areas are reclaimed to an acceptable level. This would provide certainty in how much land could be disturbed at one time. A phased process could be applied to aid in meeting acceptable reclamation levels. Some obstacles are likely to occur in allocating surface disturbance amongst the various leaseholders.”</i>	See rationale above on other proposed mitigation opportunities.	Delete.
Chapter 4 4.17 Grazing Resources p. 4-122	<i>“However, forage lost due to very dense wellfield development (16 wells per square mile) could be considerable and successful reclamation could take a decade to reestablish grazing potential (BLM, 2007c).”</i>	The number of wells per square mile on the Pinedale Anticline is not indicative of the amount of surface disturbance.	Delete.
Chapter 4 4.17 Grazing Resources p. 4-123 4.17.3.3 Alt B	<i>“Under Alt B, YRD would be allowed in the entire Alternative B Core Area.”</i>  Also, <i>“operators would be required to conduct interim reclamation”.</i>	Not true.  The Proponents volunteered interim reclamation – it was not a requirement.	Need to correct that Alternative B allows year-round access in only 19 square miles.  Change to reflect that interim reclamation was offered by Proponents.

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
Chapter 4 4.17.5 Grazing Resources Additional Mitigation Opportunities p. 4-125, 126	Proposes 5 measures for consideration.	See rationale above on other proposed mitigation opportunities.	Delete.
Chapter 4 4.19.4 Cumulative Impacts Federally Listed Species p. 4-141	<i>“Available information is inadequate to predict how the anticipated increased human population could contribute to cumulative effects to listed species by any single Alternative and all other past, present, and reasonably foreseeable actions in the region surrounding the PAPA. Possibilities for cumulative impact to listed species could include the following: increased recreational shooting of white-tailed prairie dogs with increased risk of shooting black-footed ferrets, if they occur (Reeve and Vosburgh, 2006), destruction of Ute ladies’-tresses populations by OHV use and/or by urban sprawl (Fertig et al., 2005), increased dispersed winter recreation effects on lynx in the Wyoming Range (Ruggiero et al., 1999), and increased human conflicts with grizzly bears (Moody et al., 2002) or with gray wolves (USFWS et al.,</i>	Since available information is inadequate to predict cumulative impacts to federally listed species everything in this section is speculative and not supported by data.	Delete.

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TE-7/CU-1

P-1-186

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Section or chapter, page number, and subsection	Issue	Comment	Solution
	2007).”		
Chapter 4 4.19.5 Threatened, Endangered, and Special Status Species Additional Mitigation Opportunities p. 4-143	<b><i>Threatened, Endangered, and Special Status Species Mitigation Measure 3. BLM could require raptor perches in areas of known raptor use.</i></b>	On all the additional mitigation opportunities for under this section, see rationale above on other proposed mitigation opportunities.	Delete section.
Habitat Function p. 4-148 para 4	<i>“the function of an important wildlife habitat is essentially lost...”</i>		BLM should quote source for this statement or delete it.
Chapter 4, Sections 4.19.5 and 4.20.5, pp. 4-143, 4-166	Sections 4.19.5 and 4.20.5 contain lists of mitigation opportunities. The mitigation discussions do not discuss the effect of such mitigation measures upon the wildlife impacts to be mitigated.	Case law makes it clear that the effect of mitigation upon otherwise-anticipated impacts must be identified and discussed.	BLM should discuss the effects of mitigation on wildlife.
Chapter 4 4.20.3.1 Big Game p. 4-149	<i>“Preliminary results from winter 2005-2006 indicate that habitat patches of less than about 600 acres are under-utilized or abandoned by wintering pronghorn (Berger et al., 2006) although similar observations were not reported for winter 2006-2007 (Berger et al., 2007). During winter 2006-2007, some study animals utilized portions of the Jonah Field while others completely avoided wellfield disturbances there. Pronghorn wintering in</i>	While this statement presents positive results in the second year of study for pronghorns, it still utilizes the 600 acre fragmentation figure. As we pointed out in previous comments and as determined in the second annual report, the figure was preliminary and had no scientific basis and had not received the concurrence of the WGFD.	This should be rewritten, and the reference to the 600 acre fragmentation figure should be deleted.

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Section or chapter, page number, and subsection	Issue	Comment	Solution
	<i>the PAPA did not avoid disturbances within crucial winter ranges as some did in the Jonah Field (Berger et al., 2007)”</i>		
Chapter 4 4.20.3.1 Big Game p. 4-149	<i>“It is possible that increased surface disturbance on crucial winter range would lead to habitat patchiness. Habitat patchiness would likely contribute to diminished effectiveness and lost function of pronghorn habitats in the PAPA under all of the Alternatives, though the extent might vary depending on the specific development scenario under each Alternative. Lost habitat and diminishing habitat function may eventually lead to population declines but such demographic response to impact would probably occur after some time has elapsed.”</i>	The words, “possible, would, likely, may, would probably” reinforce the concern that this entire statement is speculative. The issues raised by this statement are why the pronghorn study was initiated in the first place. Two years of the 5 year study have been completed, and it is premature to suggest population declines etc. due to habitat patchiness.	Delete.
Chapter 4 4.20.3.1 Big Game p. 4-150	<i>“Mule deer abundance during winter 2005-2006 increased very slightly from the previous winter (Sawyer et al., 2006).”</i>  <i>“This, in combination with a concurrent very slight increase in deer numbers ....”</i>	The increase in mule deer abundance was more than “very slightly.”	Reword this statement along the lines of: <i>“Mule deer abundance during winter 2005-2006 increased from the previous winter (Sawyer et al., 2006).”</i>
Chapter 4 4.20.3.1 Big Game	<i>“Winter 2003-2004, the fourth year of the study, was more severe than the previous three</i>	This statement discounts the possibility of habituation of mule deer to development activity. Pronghorn researchers and sage	The possibility of habituation of mule deer to development activity should be noted.

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
p. 4-150	<i>winters. Although mule deer abundance further declined on the Mesa, the remaining deer inhabiting the PAPA during winter 2003-2004 were closer to wellfield development than in the previous 3 years. Seventy-seven percent of the predevelopment high-use areas were highly used, though by fewer deer (Sawyer et al., 2005a). It appears that mule deer utilizing winter range in 2003-2004 may have been more tolerant of wellfield development, at least when severe winter conditions rendered habitats near wellfield development apparently more suitable than habitats farther away. More than likely, however, heavy snow conditions during winter 2003-2004 reduced available habitat elsewhere and mule deer utilized traditionally-used habitats even though in close proximity to well pads (Sawyer et al., 2006)."</i>	grouse researchers are noting the possibility of habituation in their studies, and mule deer should not be different.	
Chapter 4 4.20.3.1 Big Game p. 4-150	<i>"Crucial winter habitat in all areas adjacent to wellfield development, especially habitats proximate to well drilling locations and roads with high traffic volume, would remain</i>	This is speculative, and based on the mule deer proximity to well pads during the winter of 2003-2004, inaccurate as well.	Delete.

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
	<i>ineffective or nonfunctional as mule deer habitat for the duration of wellfield development.”</i>		
Chapter 4, Section 4.20.3.1, pp. 4-149, 4-151	The discussion of effects to big game does not discuss possible effects of year-round development. The focus is solely on surface disturbance.	Calculating surface disturbance is the first step in impact analysis.	The FSEIS should include some discussion of how surface disturbance affects the species.
Chapter 4 4.20.3.1 Big Game p. 4-151	<i>“There is potential for a declining population, given a time lag between lost habitat effectiveness and function and a population-level response. Current understanding is insufficient to predict how such a demographic response would be manifested, but decreased mule deer survival on or off winter range is one possibility. Other demographic responses that may be observed in the future include overcrowding and overutilization of unimpacted habitats with increased intraspecific competition, increased prevalence of disease, predation, physiological stress response, and decreased birth rates. All of these could occur in some combination and at varying levels as the extent of wellfield development increases under any of the Alternatives.</i>	This is correct in the sense that “ <i>Current understanding is insufficient to predict how such a demographic response would be manifested,</i> ” but everything that follows is speculative.	Delete.

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Section or chapter, page number, and subsection	Issue	Comment	Solution
	<i>Any demographic response to wellfield development (increased mortality and/or decreased survival of native wildlife species considered as Vital, High, or Moderate by the WGFD Mitigation Policy) would be a significant impact."</i>		
Chapter 4 4.20.3.1 Upland Birds p. 4-151	<i>"Declining attendance at leks proximate to wellfield development is attributed to avoidance of the leks by yearling male greater sage-grouse (Kaiser, 2006). With low or no annual recruitment of yearling males, leks could eventually disappear in a few years as older males die. Once a lek has been abandoned, the vital habitat is no longer functional and has been significantly impacted. According to BLM guidelines, a greater sage-grouse lek is classified as abandoned if suitable habitat is present but it has been inactive during a consecutive 10-year period."</i>	This is inaccurate on at least two fronts. Male attendance at leks in and outside the PAPA increased in 2005 and 2006 due to heightened juvenile recruitment following 2004, a year of relatively high precipitation accompanied by beneficial sagebrush growth. Therefore it is not accurate to say that <i>"Declining attendance at leks proximate to wellfield development is attributed to avoidance of the leks by yearling male greater sage-grouse (Kaiser, 2006)."</i> In addition, because a lek has been abandoned does not mean the vital habitat is longer functional. Abandonment has nothing to do with functionality, as leks may be re-occupied at a later date.	Correct this statement in the FSEIS.
Chapter 4 4.20.3.1 Upland Birds p. 4-153	<i>"Greater sage-grouse nesting and brood-rearing habitats have been affected by wellfield development in the PAPA. Females avoid nesting in areas of high well densities and females with broods of chicks</i>	The second annual report investigating the greater sage-grouse use of winter habitat in the Upper Green River Basin indicates that the birds are not avoiding areas near well pads using off-site liquids collection. The new data which was not available to the authors of the RDSEIS suggests that	Incorporate new findings into the FSEIS.

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
	<p><i>avoid well pads with producing wells (Holloran, 2005). Accumulating evidence on the effects of wellfield development on greater sage-grouse use of habitats indicates that once-functional, non-impacted habitats in the PAPA are less effective, given the level of development through 2006. This is because greater sage-grouse use the habitats less over time.”</i></p>	<p>collecting liquids off-site via a gathering system may reduce the impact to the sage-grouse as a result of developing natural gas reserves.</p>	
<p>Chapter 4 4.20.3.1 Upland Birds p. 4-153</p>	<p><i>“Continued loss of habitat function is likely with levels of development under all Alternatives (Table 4.20-5). Under all Alternatives, effectiveness of greater sage-grouse breeding (leks), nesting, and brood-rearing habitats would continue to decline, as they have through 2007. Declining habitat use would likely be exacerbated by continued drought. With the declines in greater sage-grouse use of the PAPA, it is uncertain if habitats would still provide some function to greater sage-grouse by the end of the development phase under all action Alternatives.”</i></p>	<p>At this time this statement is speculative since only two years of the five year research study have been completed. However, the first two years of sage grouse data would indicate that this statement is not accurate.</p>	<p>Delete.</p>

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
Chapter 4, Section 4.20	Concept of delayed population response to habitat impacts.	Section 4.20 introduces concept of delayed population response to habitat impacts, which undermines much of the discussion of current wildlife population impacts and trends.	Delete.
Chapter 4 4.20.3.1 Migratory Birds p. 4-154, 155	The discussion on migratory birds does not include reference to the voluntary BMPs.		Reference the BMPs.
Chapter 4, Aquatic Resources, p. 4-156, para. 1	<i>“Increased surface disturbance associated with the action Alternatives have the potential to increase annual sediment yields to surface waters by up to 20 percent above current conditions.”</i>		Provide citation to data or research verifying this statement or delete.
Chapter 4, Section 4.20.3.2, pp. 4-158 – 4-159	There is no discussion in the impact analysis for the no action alternative of how wildlife will actually be affected.	This section focuses solely on surface disturbance areas, reclamation, traffic, etc.	The prior baseline should be referenced.
Chapter 4, 4.20.4 Cumulative Impacts, p. 4-163, para. 6	<i>“In addition to the effects of fragmentation, wildlife habitats associated with native vegetation have been altered by land uses in the PAPA. These habitats would be physically eliminated through implementation of Alternatives until surface disturbance is reclaimed.”</i>	This implies that all wildlife habitat would be physically eliminated by implementation of the alternatives.	Delete.
Appendix 5, p. 5C-1, Alt C Transportation Plan	Plan would be modified as appropriate.	The plan is left open for interpretation.	Proponents will need to be involved in the development of any Operator-Committed Measure.

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Section or chapter, page number, and subsection	Issue	Comment	Solution
Appendix 6, Pipeline Design and Construction Procedures, p. 6-5	<i>“To allow for both livestock and wildlife movement, no more trench than can be successfully backfilled and compacted in a 10-day period will be open at any one time. Soft plugs will be placed every 0.25 mile and when stringing pipe one joint of pipe will be set back every 0.25 mile.”</i>	Allow flexibility where a variance to the 10-day period may be necessary and to the spacing of plugs and pipe set-backs.	Revise to read <i>“To allow for both livestock and wildlife movement, no more trench than can be successfully backfilled and compacted in a 10-day period will be open at any one time. Variance to the 10-day limit may be granted upon justification. Soft plugs will be placed approximately every 0.25 mile or at logical breaks in pipe installation (e.g., roads, other pipelines, etc.) at approximate 0.25 mile intervals, and when stringing pipe one joint of pipe will be set back approximately every 0.25 mile or at logical breaks in pipe installation at approximate 0.25 mile intervals.”</i>
Appendix 7, Development Procedures for Wellhead Activities, Well Pads, p. 7-3, second bullet	<i>“an earthen flare pit for the safe ignition of flammable gases produced during permitted completion and testing operations.”</i>		Revise to read <i>“...gases produced during drilling and permitted completion and testing operations.”</i>
Appendix 7 p. 7-4, para 6	Surface casing is typically set to approximately 2,500 feet to isolate shallow water zones (alluvium and Wasatch). After drilling out each well and logging it, production casing is run and cemented to at least 400 feet above the Lance Formation, effectively isolating all geologic formations and eliminating fluid migration between hydrocarbon-bearing zones and freshwater aquifers.	There is no “typical” well design across all operators and all parts of the PAPA. The described scenario is not typical for all operators.	Delete.

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<b>Section or chapter, page number, and subsection</b>	<b>Issue</b>	<b>Comment</b>	<b>Solution</b>
p. 7-4 last para and p. 7-5 1 <sup>st</sup> para	Description of completion operations.	This description is inaccurate. Production tubing is not run after perforating.	Correct to say: <i>“casing would be perforated in potentially productive zones downhole (e.g., Lance Pool sand lenses), FRACTURE STIMULATED, and ULTIMATELY production tubing run.”</i>
p. 7-5, para 5	<i>“Interim reclamation of disturbed areas not needed for production would occur as specified in APDs”.</i>	How can the duration a pad remains open be determined in an APD (up front)?	Delete as the reclamation plan for Alternative E.

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— G-88 —

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## **ATTACHMENT F**

### **A RECAP OF ULTRA’S, SHELL’S AND QUESTAR’S DSEIS COMMENTS, MITIGATION LETTER AND AGREEMENTS ON DA-5, RECLAMATION AND THE WILDLIFE MATRIX (9/12/07)**

***9/12/07 NOTE: Any specific dates that were earlier submitted were based upon a 2007 ROD being issued. With the BLM’s new projected date of a ROD at the end of March 2008, dates from the original documents have been modified to accommodate the change in ROD dates. Any commitment dates that are tied to a 2007 ROD should be adjusted to accommodate the new projected date of a 2008 ROD.***

#### ***A. FROM THE PROPONENTS’ DSEIS COMMENT LETTER SENT TO MATT ANDERSON ON APRIL 5, 2007:***

##### **I. Introduction**

The DSEIS provides a thorough analysis of potential environmental impacts from natural gas development in the PAPA. The analysis satisfies the National Environmental Policy Act’s (NEPA) twin aims of (1) requiring that BLM take a “hard look” at the environmental impact of the project, and (2) informing the public of the potential impacts and explaining how those impacts will be addressed. *Cf. Churchill County v. Norton*, 276 F.3d 1060, 1072 (9th Cir. 2001).

Proponents (Ultra, Shell and Questar) support the DSEIS and have prepared detailed comments that address a variety of issues that warrant correction and/or clarification in the FSEIS and ROD. The procedural requirements of NEPA have been followed in good faith, and, consequently, the forthcoming FSEIS and ROD will be well-reasoned and based on full and appropriate disclosure of environmental impacts. The following comments reflect the Proponents’ collective suggestions for improvements to the final document. Although the majority of the following comments are important to enhancing the clarity and technical accuracy of the SEIS, they do not significantly impact the DSEIS’ assessment of potential impacts to the quality of the human environment or BLM’s assessment of the likelihood or magnitude of such impacts.

##### **Organization:**

These comments on the DSEIS are submitted pursuant to the provisions of 40 C.F.R. §§ 1503.1(a)(3) and 1506.6(d). Proponents request that this comment letter on the DSEIS and the attached appendices all be included in the administrative record for this matter. *See County of Suffolk v. Secretary of Interior*, 562 F.2d 1368, 1384 & n.9 (2d Cir. 1977) (addressing scope of NEPA administrative record), *cert. denied*, 437 U.S. 1064 (1978); *Silva v. Lynn*, 482 F.2d 1282, 1283 (1st Cir. 1973).

The Proponents' more substantive comments relative to issues of critical importance are contained in the General Comment Section while comments relative to technical issues and issues of less than critical importance are contained in the Specific Comment Section. In addition, for BLM's convenience, the Proponents have attached as Appendix A an errata document, which contains a number of less significant clarifications that require little or no explanation.

The FSEIS and subsequent ROD will be stand-alone documents that will incorporate decision points and requirements emanating from the 2000 PAPA ROD and subsequent DRs tiering from that ROD. Previous decision points and requirements not specifically migrating over to the FSEIS and ROD will be considered to no longer be in effect. The Proponents' recommendations on which decision points and requirements should migrate over to the FSEIS and ROD are incorporated into Appendix B.

There were inaccuracies in the Performance Based Objectives specific to Reclamation and Monitoring in Appendix E of the DSEIS beginning with the schematic diagram showing the flow of reclamation from pre-disturbance planning through the release of a bond upon completion of reclamation. Proponents have redrafted the schematic diagram to more accurately portray the steps in the reclamation process and have added to the subsequent narrative to explain more clearly the components of reclamation. This redraft of the reclamation and monitoring process is included as Appendix C to these comments.

Proponents have submitted a letter to BLM that summarizes both the Proponents' original "Proposed Action Operators Committed Measures," as reflected in Alternative B and additional voluntary mitigation measures developed by the Proponents, which will lessen potential impacts to the environment. This letter, in its entirety, is contained in Appendix D to these comments.

#### Guiding Principles:

The primary management plan currently in place for oil and gas development in the PAPA is the July 2000 PAPA ROD and subsequent DRs. After 2000, the collective field experience in the PAPA combined with better technology, methods of development, and a fuller understanding of the natural gas resource compelled the Proponents to advance this project proposal. The following guiding principles, which accompanied Proponents' project proposal, afford better environmental protection resulting in decreased overall effects on wildlife, habitats, and habitat use than currently occurs under the 2000 ROD while allowing full field development. In other words, Proponents' Proposed Action and its guiding principles are better for wildlife and the environment than the 2000 ROD (recognizing that some of the analyses, requirements and decision points from that 2000 ROD will migrate to the new ROD unless revised or replaced by the SEIS ROD).

The following are the guiding principles of the Proposed Action for development and delineation activities within the PAPA as committed to by Proponents. These principles accompanied the Proposed Action and demonstrate the reasons why the Proposed Action is more beneficial to wildlife and the environment when compared to the 2000 ROD. Because Alternative C, the Preferred Action, has replaced the Proposed Action's

Concentrated Development Areas (CDA) with Development Areas (DAs) and has made other changes, these guiding principles to the Proposed Action will not entirely apply to Alternative C. However, they still generally guide the Proponents' philosophy for development in the PAPA. These guiding principles will be revised when the ROD is issued to more accurately conform to the provisions of the ROD.

*Guiding Principles for Development and Delineation Activities*

For Ultra, Shell and Questar (Parties), the following are guiding principles of the Proposed Action (Development Plan) for development and delineation activities within the Pinedale Anticline Project Area (PAPA) as committed by the Parties.

- 1) The proposal is intended to fully develop the "core" of the PAPA with the majority of development activity taking place within the core.
- 2) Development (drilling and completion activities) will be concentrated in three Concentrated Development Areas (Concentrated) within the core area. Pads will be reused / expanded to the extent possible and new road construction minimized.
- 3) These Concentrated areas will be minimized by cooperation between the operators, and by annual planning and consultation with the Bureau of Land Management (BLM) and Wyoming Game and Fish Department (Game & Fish).
- 4) Crucial winter range and sage grouse seasonal stipulations will be relaxed within these areas until continuous development activity is completed.
- 5) Reclamation will proceed as soon as practical after development drilling, completion and construction activities are completed on individual pads, reducing net disturbance as development proceeds.
- 6) The operators will undertake delineation activity, adhering to existing seasonal wildlife stipulations where at all possible, to assess the viability of the acreage. Successful follow-up will be undertaken in consultation with BLM and Game & Fish.
- 7) All activities will be conducted in such a manner as to minimize impacts on wildlife, habitat and the local communities.

*Development Detail:*

- Development activities will focus on full development of the core area of the PAPA. Three areas of concentrated simultaneous drilling, completion, construction, and production activities will be employed to complete development in as short a time as possible.
- Crucial winter range and sage grouse seasonal stipulations will be relaxed in these concentrated areas as required to allow year round drilling, completion, construction, and production operations.
- The areas of concentration will be as tightly grouped as possible each year. On average the total of the three areas is less than 19 square miles (plus a buffer area) as shown on the attached sample maps. [Note: Sample maps were provided with the document to BLM but are not attached to this comment letter.] On average, individual areas are less than 8 square miles (plus a buffer area). In the unusual

- situation where additional acres are temporarily required for the concentrated development area, Parties, BLM, and Game and Fish would jointly resolve the issue.
- Each year, the specific areas of concentrated activities will be determined through joint review of the Parties' Development Plan. The Parties (combined or separate as appropriate), the BLM, and Game & Fish will reach agreement on the final plans early in the calendar year to allow sufficient time to plan, permit, and execute new construction as required in the summer months for the coming activity year.
  - The Parties will also provide a 10-year rolling forecast of PAPA activity at the same time each year to fully describe the future Development Plans on an ongoing basis.
  - Each year, the Parties will collaborate as appropriate to seek opportunities to further tighten areas required for concentrated activities and reduce impacts. Then the Parties, the BLM and Game & Fish will jointly seek improvements to the Development Plan to further reduce impacts of the activities.
  - The Parties will endeavor to fully develop each multi-well pad to the approved spacing before moving drilling rigs off pads.
  - Rig counts may vary within the three areas in order to further facilitate concentration.
  - Commitments proposed above will be used in conjunction with other commitments such as liquids gathering systems, supply stockpiling, busing, etc. to reduce impacts of the development activities.
  - Maximum surface disturbance in the Development Area is forecast to be 14,961 acres by 2024.
  - Reclamation will proceed as soon as practical after development drilling, completion, and construction activities are completed on individual pads, reducing net disturbance as development proceeds. Beginning in 2008, the Parties forecast that 70% of the pad will be reclaimed if pits are on the pads and 50% reclaimed if there are no reserve pits on the pad. Parties will also temporarily reclaim pads when no forecasted drilling or completion activity is expected within two years.
  - This focus on development on the core of the Anticline with concentrated activities in the minimum time possible will continue to be a guiding principle until development of the core is completed.
  - Questar's development activities will start at the southern end of their acreage and will proceed northward on the core area.
  - Shell's and Ultra's concentrated activities will begin with one area in the northern end of their acreage positions and with one area in the south central area of their acreage. Both of these areas' activities will proceed southward on the core area.
  - The individual concentrated areas will vary in shape as required to effectively tighten activities while fully developing acreage along the core and as dictated with adjacent delineation activity.
  - To the extent possible, existing pads will be expanded to accommodate development requirements and multiple rigs will be used where practical.

- Associated new road construction will be reduced as possible to further reduce impacts.

Delineation Detail:

- The Parties will conduct delineation activities in the first five years after the SEIS ROD.
- Delineation will generally proceed adhering to seasonal stipulations for wildlife in all areas of the PAPA.
- In the unusual situation where relaxation of stipulations is required to conduct delineation activity, the details will be discussed and joint decisions on how best to handle the situation will be sought between the involved Party(s), the BLM, and Game & Fish in the annual planning process.
- The delineation activities will be conducted on one- or two-well pads with minimal disturbance. These pads will typically be expanded as appropriate for future development activities unless the development is delayed two or more years in which case interim reclamation will be done to reduce the pads to the size required for safe production operations.
- Successful delineation wells will be included as appropriate in the future Development Plans.
- Delineation will be conducted in the core area of the Anticline and on the near flank areas with measured movement outward only as dictated by success.
- Some delineation will also be contemplated on non-contiguous acreage as jointly agreed in the annual planning process.
- The Parties are committed to expanding use of gathering systems and other practices described in the Proposed Action where successful delineation activities warrant expansion.
- Existing roads will be used whenever possible for delineation activities.

## II. General Comments

Under NEPA, an agency shall prepare supplements to either a draft or a final environmental impact statement if (1) the agency makes substantial changes in the proposed action that are relevant to environmental concerns, or (2) there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. 40 C.F.R. 1502.9(c)(1). The lead agency must prepare, circulate, and file an SEIS in the same fashion as a draft and final statement. 40 C.F.R. 1502.9(c)(4). These regulations have been interpreted to require that a SEIS be prepared if the changed plans and circumstances will affect the quality of the human environment “in a significant manner or to a significant extent not already considered by the federal agency.” *Airport Impact Relief, Inc. v. Wykle*, 192 F.3d 197, 204 (1st Cir. 1999); *Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 374 (1989). A change is significant if it presents a “seriously different picture of the environmental impact.” *Arkansas Wildlife Fed’n v. U.S. Army Corps of Eng’rs*, 431 F.3d 1096, 1102 (8th Cir. 2005); *see also Marsh*, 490 U.S. at 374 (noting that when new information is presented, the agency is

obligated to consider and evaluate it and to make a reasoned decision as to whether the proposed action will affect the environment in a matter not already considered). An agency does not have to provide a SEIS every time new information comes to light; “to require otherwise would render agency decision-making intractable, always awaiting updated information only to find the new information outdated by the time a decision is made.” *Marsh*, 490 U.S. at 374. An agency should prepare a SEIS under the “rule of reason,” which hinges on the value of the new information to the still pending decision-making process. *Id.*

Because the long-term development plan proposed by the Proponents, which includes limited year-round drilling and completions of natural gas wells within the Proponents’ leases within the PAPA, differed from the scope of the project components analyzed in the 2000 PAPA EIS and ROD, BLM prepared the DSEIS to assess the environmental consequences of the Proposed Action (Alternative B) as well as alternative courses of action. In preparing, circulating and filing the DSEIS, BLM complied with NEPA and has provided the public and decision makers with an objective evaluation of potential impacts resulting from the Proposed Action and reasonable alternatives.

Discussion of Alternatives:

In order to better illustrate the differences between the Alternatives, the Proponents have prepared the following chart depicting the components of each Alternative and the differences between those components as currently written in the DSEIS.

<b>Operational Activity</b>	<b>Alternative A - No Action</b>	<b>Alternative B - Proposed Action</b>	<b>Alternative C - Preferred Action</b>
Directional drilling from multi-well pads	Not required. Only for specific Questar leases under BLM 2004 EA.	Committed to where feasible, estimated at 8 wells per pad.	Yes.
Number of total pads	700	600	600. However, due to Development Area (DA) 5 seasonal stipulations requirements and uncertainty in DA-2 because of language discrepancies between Chapters 2 and 4, 600 pads would not allow full field development of the natural gas.
Number of new wells analyzed	1,800	4,399	4,399
Resource recovery	9 Trillion Cubic Feet (TCF) of natural gas	20 - 25 TCF	20 - 25 TCF
Year-round drilling and completion	Only for specific Questar leases under BLM 2004 EA for drilling (no winter	Yes, in 3 concentrated development areas.	Yes, in 2 development areas under different scenarios (DA-1 and DA-

activity	completions allowed).		4). None allowed in DA-3 and 5. Unclear in DA-2 because of language discrepancies between Chapters 2 and 4.
Interim reclamation of well pads	None.	Yes.	Yes, however method and timing is unclear
Reclamation	Yes, but delayed significantly	Yes.	Yes.
Liquids Gathering System	Only for specific Questar leases under BLM 2004 EA. 25,500 fewer truck trips annually.	Yes, 165,000 fewer truck trips annually.	Yes.
Computer Assisted Operations	Not required.	Yes.	Yes.
Development Rig Movement	As currently occurring. Most development rigs have to move usually 6 times a year to keep them working around seasonal stipulations.	Rigs would stay on a pad until the pad was completed to the extent practical. <i>See</i> Appendix C in DSEIS.	Rigs stay on the pad until the pad is completed and then are not allowed to come back.
Rig NOx Emission Reduction	Only Questar year-round rigs are required to have emission controls under the 2004 EA.	Tier 2 equivalent rig emissions 50% reduction.	Recommended 80% rig engine NOx reduction, from 2005 levels, in 20% increments within 5 years. Then to 0 days deciview in year 6 for field with no consideration of economic feasibility or impacts to other interests such as wildlife or communities should that alternative cause a slow down in pace of development.
Delineation (Core / Flanks)	Not addressed.	Delineation would occur within the Core and on the flanks.	Delineation allowed anywhere, subject to seasonal stipulations.
Monitoring and research	TRC research with annual reports as outlined in 2000 PAPA ROD. Deer study for 1 more year under Questar BLM 2004 EA.	Deer, antelope and sage grouse studies. Vegetation baseline research. <i>See</i> Appendix C in DSEIS.	Performance Based Objectives assume that the wildlife research as discussed in Alternative B is also contained in Alternative C.
Long-term development planning	With APD submissions. Except for Questar BLM 2004 EA.	10-year plan and annual meetings with BLM and appropriate state agencies. <i>See</i> Chapter 2 and Appendix C in DSEIS.	Not specifically addressed.

Mitigation	Questar BLM 2004 EA and as part of Conditions Of Approvals (COAs) for exceptions.	Mitigation Plan within one year of ROD.	Not specifically addressed.
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NEPA requires federal agencies to evaluate a reasonable range of alternatives to a proposed action. 42 U.S.C. § 4332(C)(iii); 40 C.F.R. § 1502.14. The listed alternatives must be “rigorously explored” and all reasonable alternatives must be objectively evaluated. 40 C.F.R. § 1502.14(a). Furthermore, BLM must devote “substantial treatment to each alternative considered in detail, including the proposed action so that reviewers may evaluate their comparative merits.” 40 C.F.R. § 1502.14(b); *See e.g., Miss. River Basin Alliance v. Westphal*, 230 F.3d 170, 174 (5th Cir. 2000) (an EIS must provide an “explanation of alternatives...sufficient to permit a reasoned choice among different courses of action”).

In evaluating such alternatives, an EIS must consider both the direct and indirect effects of the proposed action. *See* 40 C.F.R. § 1502.16(a), (b). Direct effects are those “which are caused by the action and occur at the same time and place.” *Id.* § 1508.8(a). Indirect effects are “caused by the action and are later in time or farther removed in distance, but are reasonably foreseeable.” *Id.* § 1508.8(b). Effects include ecological, aesthetic, historic, cultural, economic social, or health impacts. *Id.*

40 C.F.R. § 1500.1 states in part that “[t]he purpose of NEPA is not to generate paperwork – even excellent paperwork - but to foster excellent action. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.” It was in this spirit that the Proponents advanced the Proposed Action, and it is in this same spirit of “*fostering excellent action*” that these comments are submitted.

The identification and analyses of environmental effects and values in the DSEIS was adequate for comparison of the Alternatives; however, the explanation of the Proposed Action (Alternative B) and the above-noted guiding principles were not completely presented in Volume 1 of the DSEIS. While a better explanation of the Proposed Action occurs in the attachments to the Appendices of Volume 2, many interested readers never review a draft document past Volume 1, and, therefore, do not get a complete picture of the Proposed Action, particularly how it compares to the No Action Alternative (Alternative A) and the Preferred Alternative (Alternative C).

The innovative and expensive on-site mitigation components of the Proposed Action such as the Liquids Gathering System (LGS) and directional drilling should be more clearly addressed in Volume 1 even though they are contained in Appendix C of the DSEIS. Many other major on-site mitigation measures such as interim and real-time reclamation, leaving lateral and linear migration corridors available, Bald Eagle and Raptor Best Management Practices (BMPs), computer-assisted operations, etc. presented in Volume 1

should be more clearly presented to highlight the key elements of the Proposed Action for purposes of impact analysis and for the benefit of the reader. In addition to addressing and discussing the many innovative and costly on-site mitigation efforts, the BLM needs to state in the FSEIS and the ROD that the application of directional drilling from pads and the LGS techniques constitutes minimization and mitigation of development impacts because they reduce habitat fragmentation and human disturbance.

In addition, Proponents' commitment to off-site mitigation is not adequately presented in Volume 1 or the Appendices. Proponents propose to implement off-site mitigation if on-site actions are not adequate or if off-site measures are considered to be of significantly greater value. Proponents' commitment to develop a comprehensive off-site mitigation plan within one year of the release of the FSEIS and ROD is significant and should be referenced more adequately in Volume 1.

*In order for the reader to get a complete understanding of Alternative B, Proponents recommend that Attachments 1 through 4 of Appendix C (Transportation Plan, Reclamation Plan, Hazardous Materials Plan, and Wildlife and Habitat Mitigation Plan) be included in the description and discussions of the Proposed Action in Volume 1 of the FSEIS. In addition, it is recommended that BLM state in the FSEIS and the ROD that directional drilling from pads, the LGS, and similar components of both Alternatives B and C in fact provide minimization and mitigation benefits because they reduce habitat fragmentation and human disturbance.*

No Action Alternative:

The Council on Environmental Quality's (CEQ's) NEPA regulations requires that a "no-action" alternative be included in an agency's analysis of the environmental effects of a proposed action regardless of whether it is feasible or meets the purpose and need of the proposed action. 40 C.F.R. § 1502.14(d); *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, 46 Fed. Reg. 18,026, 18,027 (1981) (Question 3). Where a current plan exists to govern development, the agency can continue to approve actions pursuant to that plan while new plans are being reviewed. In those situations, "'no action' means 'no change' from current management direction or level of management intensity." *Id.* Thus, the agency must compare the potential impacts of the proposed action to the known impacts of maintaining the *status quo*. *Custer County Action Ass'n v. Garvey*, 256 F.3d 1024, 1040 (10th Cir. 2001).

As previously mentioned, the No Action Alternative means "no change," in this instance, from BLM's current management of the PAPA. Thus, in the DSEIS, the No Action Alternative means that the Proponents' Proposed Action would not occur and BLM would continue to manage natural gas development in the PAPA based on all provisions of the PAPA ROD (BLM, 2000b) and subsequent DRs. The description of the No Action Alternative should be revised to fully reflect those additional DRs, including the Questar Year-Round Drilling Proposal (BLM, 2004a), the Questar Year-Round Drilling Proposal-Condensate Pipeline Modification (BLM, 2005a), the ASU Year-Round Drilling Demonstration Project (BLM, 2005b) and the Questar Year-Round Drilling Proposal, Addendum (BLM, 2005c). This meaning is consistent with the Department of Interior's

(2004) NEPA Revised Implementing Procedures (in 516 DM § 4.10(6)). Mitigation under the No Action Alternative would be the measures set forth in the PAPA ROD and any additional measures or “mid-course corrections” necessary to implement Adaptive Environmental Management as described in the PAPA ROD (BLM, 2000b) to minimize adverse impacts disclosed by updated modeling and impacts analyses in this supplemental EIS. (BLM, 2000b, at 14, 17, 40, Appx. C-1).

The DSEIS needs to be revised to more fully reflect the operational parameters of development activities under the 2000 ROD and the DRs referenced above and to contrast them with the anticipated operational features of the Proposed and Preferred Action alternatives so that the reader can readily compare the relative impacts of those differing development scenarios. To do so, the No Action Alternative should outline the key parameters of development activities, now and in the future, under existing DRs, since that in fact is what the No Action Alternative represents. BLM should articulate more fully the components of the No Action Alternative in the FSEIS. Such components are required for continued transport of natural gas and liquids from the PAPA as development carries forward under the PAPA ROD (BLM, 2000b) and are detailed in Section 2.4.2.1 – Components Common to All Alternatives. In addition to that discussion, however, it would be helpful to outline the significant parameters governing the intensity and location of development activities under existing authorizations, including density of development, road density and traffic, etc., the features which change significantly under the other alternatives. Such a presentation would flesh out and make more understandable the disturbance projected to occur under current BLM management practices and would allow a clearer comparison with the Proposed and Preferred Action Alternatives. *See* DSEIS at v.

As compared to the No Action Alternative, the Proposed Action includes year-round drilling, completions, and production of up to 4,399 additional wells on up to 12,278 acres of new disturbance, including well pads, roads, pipelines and other ancillary facilities within the PAPA. Drilling and completions within big game crucial winter habitats would occur in two of three CDA within a core area centered on the Anticline Crest. The third southern CDA is never entirely within big game crucial winter habitat and moves completely out of it within the first few years. All three CDA will generally contain sage grouse seasonal stipulated areas. The Proponents have proposed to install a LGS in the central and southern portions of the PAPA, complementing the existing LGS in the northern portion of the PAPA. Tier 2 equivalent emission controls would be installed on drilling rig engines in 29 out of 48 drilling rigs at peak drilling in 2009. *See* DSEIS at v. Thus, if the No Action Alternative were to go forward, the Proposed Action would not occur, and current BLM management practices would remain in place. BLM should clarify the differences between both alternatives by using the No Action Alternative as a baseline.

In addition, the 2000 PAPA ROD explicitly required BLM to prepare additional environmental analysis if certain air quality thresholds were exceeded. The NOx threshold has been surpassed, which is one of the reasons BLM has undertaken the current supplemental NEPA analysis. BLM should clarify in the FSEIS that the air quality modeling prepared for the DSEIS provides the supplemental environmental

analysis required by the 2000 PAPA ROD. Under the No Action Alternative, the *status quo* would be maintained, and development would continue as before in light of the supplemental air quality analysis, under conditions set forth in the 2000 PAPA ROD.

*Staggered or Phased Development Alternative Need Not be Considered in Further Detail:*

The CEQ NEPA-implementing regulations explain that the alternatives analysis is “the heart of the environmental impact statement” and that agencies should “[r]igorously explore and objectively evaluate all reasonable alternatives.” 40 C.F.R. § 1502.14(a). An agency’s alternatives analysis is subject to a “rule of reason.” *Citizens Comm. to Save our Canyons v. U.S. Forest Service*, 297 F.3d 1012, 1031 (10th Cir. 2002). The rule of reason asks whether “the environmental impact statement contained sufficient discussion of the relevant issues and opposing viewpoints to enable the [lead agency] to take a hard look at the environmental impacts of the proposed expansion and its alternatives.” *Id.* Alternatives that do not meet the purpose and need of the project are not reasonable and need not be studied in detail by the agency. *Id.* at 1030. The touchstone is whether the selection and discussion of alternatives fosters informed decision making and informed public participation. *California v. Block*, 690 F.2d 753, 767 (9th Cir. 1982). Under this standard, courts uphold agency determinations on the reasonableness of alternatives where the agency has adequately explained why an alternative was eliminated from detailed consideration (as opposed to disregarding an alternative altogether).

In the SEIS scoping phase and subsequent public meetings, the public suggested that BLM consider as an alternative to the Proposed Action a staggered or phased development alternative in the SEIS. BLM explained in the DSEIS that the alternative was eliminated from detailed consideration for three reasons: (1) the No Action Alternative already includes an element of paced development because it maintains the seasonal wildlife stipulations; (2) reducing the pace of development would increase the overall period necessary to develop the resource; and (3) reducing the pace of development is not in keeping with the purpose of the Energy Policy Act of 2005. While these reasons provide an adequate basis for BLM’s determination to not consider a phased development alternative in detail, BLM should include a more thorough discussion of why phased development does not meet the purpose and need of the proposed project and does not demonstrate clear environmental benefits. BLM should include the following in its discussion of why it did not consider a phased development alternative in detail:

- In this case, the timing of the Proposed Action is critical. First, reducing the pace of development fails to meet a purpose of the Proposed Action to avoid drainage of natural gas resources from adjacent fee, federal and state leases. Thus, phased development does not meet the purpose and need of preventing drainage and does not demonstrate any clear environmental benefit that would justify its detailed consideration in the SEIS.

- Further, implementation of the Proposed Action and its accompanying environmental benefits are largely dependent on the Proponents' ability to develop at a certain pace. In a reduced pace scenario, the Proponents cannot support many of the on-site mitigation elements of the Proposed Action such as LGS or emission performance improvements on drilling rigs, and would significantly defer timing of reclamation. The Proponents' proposal to concentrate development in core areas of the PAPA and to delay development in the surrounding areas, construct LNG gathering pipelines, and to use Tier 2 equivalent or better drilling rigs is made possible by the certainty that the Proponents can engage in continuous development in the Core area. Phased development would also inherently lead to prolonged wildlife impacts as development is drawn out over many more years.

BLM's analysis should reflect these key points, which confirm and support the agency's decision to screen the phased development alternative from detailed analysis.

And finally, it should be noted in the FSEIS that this document is, in fact, a supplemental EIS which by definition supplements the analysis which led to the 2000 PAPA ROD. The original PAPA EIS itself contains a detailed analysis of Staggered or Phased Development Alternative and documents BLM's basis for not considering that alternative in further detail in this SEIS. BLM has given phased development ample consideration, and a sound basis exists for not giving phased or staggered development further consideration in the SEIS. The final SEIS should reflect this.

#### Description of CDA:

Even though the analyses of environmental effects and values was in adequate detail so that the Alternatives could be compared, the description and analysis of all Alternatives should be expanded in the FSEIS so that the reader can more clearly distinguish between them. For example, the description of the CDA in the Proposed Action Alternative does not articulate the benefit of having, by design, lateral and linear migration corridors across the mesa and along the flanks at any given time. On page 4-139 of the DSEIS, it states "Under the Proposed Action Alternative, drilling and completions within CDA would continue to occur year-round within big game crucial winter ranges. However, the Proponents have not defined CDA through 2023. Year-round drilling could occur anywhere within the core area as defined for the Proposed Action Alternative (Map 4.1-5)." This statement should reflect the fact that the Proponents have not defined the CDA through 2023 because they have proposed an adaptive management process based on a ten-year rolling plan with annual adjustments made in collaboration with Game and Fish, BLM, and WDEQ which will define the CDA in relation to changing wildlife and environmental issues. Under the guiding principles document (pp. 3-5, *supra*) which the Proponents submitted to BLM (but was not included in the DSEIS), this statement does not accurately portray the Proponents' commitment. Rather than saying Proponents have not "defined CDA through 2023," and that "year-round drilling could occur anywhere," the SEIS should note that Proponents have committed to work with BLM and Game and Fish on a ten-year plan to identify CDA through 2023. *See* Chapter 2, pp. 2-23.

Proponents have identified guidelines for the size of CDA for the Life of the Project (LOP) and they would be confined to well-defined concentrated areas.

In addition, the document should demonstrate the degree and manner in which the Proponents' Proposed Action anticipates and addresses impacts of development on wildlife. The proposed consolidation and sequencing of pad and infrastructure development benefits wildlife resources over time as a result of leaving large tracts of habitat undeveloped and maintaining both linear and lateral migration corridors. The analysis needs to better address the temporal and spatial relationships between the proposed activities and activity-related impacts to wildlife. The analysis should more clearly address the effects of displacement over time and the habitat value and availability of preserved habitat to support displaced wildlife.

*Proponents recommend that the description of the CDA be more clearly presented in the FSEIS and that the Proponents' submitted guiding principles be included in the description of the Proposed Action.*

Discussion of Wells and Pads:

In the DSEIS, the terms "wells" and "pads" are sometimes used interchangeably. In order to distinguish Alternatives B and C from the No Action Alternative, it is very important that the document use the terms "wells" and "pads" accurately. There are 100 fewer pads in Alternatives B and C as compared to Alternative A. Throughout the DSEIS, it is implied that the 4,399 additional wells will cause more pads than Alternative A's 700 active pads.

*Proponents recommend that the terminology be clarified and used correctly in the FSEIS and ROD.*

Resource Recovery:

Proponents' Proposed Action results in the recovery of 20-25 trillion cubic feet (TCF) of natural gas. The No Action Alternative ending in 2011 as analyzed results in recovery of about 9 TCF of natural gas leaving approximately two-thirds of the currently identified resource unrecovered. As the resource is currently understood, Proponents estimate it would take 4,399 additional wells for full development. Regardless of the number of wells needed to fully develop the PAPA, the Proposed Action commits to no more than 600 pads. According to the No Action Alternative, the 1,800 producing wells on 700 active pads would only extract 36% of the recoverable natural gas resource.

*Proponents recommend the FSEIS and ROD more accurately explain their commitment to developing no more than 600 pads under the Proposed Action regardless of the number of wells needed to fully develop the PAPA.*

Discussion of DAs in Alternative C and Proposed Changes:

The explanation of the DAs in Alternative C should better articulate how rigs will move within the DAs, where they will be allowed to move, and how rigs can be effectively and economically transitioned from one DA to another DA.

The Proponents, after much operational analysis, are proposing changes to the current design of the DAs. These proposed changes to Alternative C, the Preferred Alternative, present a logical development and progression process through the DAs while offering more benefits to wildlife than is afforded in the current Alternative C. The Proponents' new mitigation proposals (as outlined below and in Appendix D to these comments) to Alternative C are better for wildlife than the current No Action Alternative, the Proposed Action and the Preferred Action.

Development activity plans will be established annually via consultation with the BLM, WDEQ and Game and Fish as part of the annual planning process using the guiding principles as a basis. The annual plan will be part of a ten-year plan rolled forward each year. See discussion below pp. 26-27.

*Proponents recommend that the existing language of the DSEIS regarding the DAs and delineation be replaced with the following language in the FSEIS and ROD. The Proponents' recommended language is in response to the DSEIS analysis and does not significantly differ from the analysis in the DSEIS. While the DSEIS adequately addresses these issues, the Proponents' new language more completely provides for better wildlife benefits without the need for further NEPA analysis.*

DA-1 Development:

Unlike other DAs, DA-1 is not open in its entirety to year-round development. Consequently DA-1 will be developed using the CDA model that was outlined in the Proposed Action.

Questar plans to begin concentrated development (simultaneous drilling, completion, and production activities) from pads in DA-1 proceeding from south to north as soon as possible after an estimated 24-month transition period following the issuance of a ROD.

The CDA concept will be used to govern activities within DA-1. The CDA will cover up to six square miles at any given time, depending on the number of active pads and their locations relative to each other. The shape and location of the CDA will be established annually via consultation with BLM and Game and Fish as part of the annual planning process.

**9/12/07 NOTE: The dates submitted in this discussion of CDA were relevant to a 2007 ROD. All dates referring to November 15, 2008 should now be considered to mean within two years of a ROD.**

Whenever possible, the CDA will be no more than 2 miles in north-south extent. The CDA will need the flexibility to be greater than 2 miles in north-south extent, particularly when development reaches the middle section of DA-1 (approximately the line between T32N and T33N) where the Core is narrowest. The intent is to maintain a 6 square mile CDA within which the year-round development activity can proceed. Delineation in Stewart Point requiring new pads or roads will be conducted within two years of a ROD, within seasonal stipulations. After that date, Stewart Point delineation activity (both inside and outside the Core) requiring new roads or pads will only take place once the northern edge of the CDA has moved to within 1 mile of the delineation disturbance or the CDA is expected to be at the delineation location within 18 months of the delineation disturbance.

Questar, after discussions with Game and Fish, voluntarily shortened the Stewart Point delineation period in DA-1 to within two years of the ROD rather than 5 years after the ROD as is the case for DA-2, 3, 4, and 5. Because of the shortened delineation period, it is possible that some future delineation activity may be needed in DA-1 after two years of a ROD, beyond the delineation activity described in the previous paragraph. Delineation activity is not intended to be an additional mechanism for development or to circumvent the CDA approach to developing DA- 1. The intent is to allow the flexibility to, if necessary, gather information required to prudently manage and understand the reservoir or establish reserve potential. If delineation activity is necessary, it would be proposed, explained, and discussed during the annual meeting process after which approval would not be unreasonably withheld. Operations would be conducted on existing pads connected to LGS and within existing wildlife timing restrictions. The intent is that these wells will result in no greater impact to wintering big game (i.e., no additional human presence or loss of functional habitat).

If the existing pad that is reoccupied for delineation drilling has already been reclaimed as part of the interim reclamation efforts, additional reclamation work will be done as soon as possible after the delineation work is completed, i.e., during the next growing season. This language will apply to all of the leases in DA-1 regardless of ownership. If application of the principles for access to DA-1 preclude operators from fulfilling their legal obligations to develop leases or to prevent drainage, BLM will allow limited access if such access is minimal and is conducted within existing seasonal stipulations.

DA-2 Development:

Ultra and Shell plan to begin concentrated development (simultaneous drilling, completion, production and construction activities) from pads in DA-2 and DA-4 as soon as possible after an estimated 24 month transition period following the issuance of a ROD.

Development activity plans will be established annually via consultation with the BLM and Game and Fish as part of the annual planning process using the guiding principles as a basis. The annual plan will be part of a ten-year plan rolled forward each year.

All of DA-2 is open to full year-round access for development and delineation activities (without any seasonal wildlife restrictions or stipulations for simultaneous drilling, completion, production and construction activities) immediately following an issuance of a ROD.

Ultra and Shell's development activities would follow their commitment to concentrate activities as much as is feasible by forming two groups of rigs—one at the southern boundary of DA-2 in the area immediately adjacent to the river and one at the northern boundary of DA-2 just to the south of DA-1.

Development in DA-2 would progress with rig concentrations moving toward the center of DA-2 from both the north and south ends. As rigs complete their final development activity in DA-2, they would be moved to the other Ultra-Shell shared development areas (DA-3, DA-4 or DA-5) as deemed appropriate to maintain effective concentration of activities in those DAs under the basis of the guiding principles. East-west location concentration of development activities would not be a concern in DA-2 within the Core boundaries or the expanded Core boundaries (if applicable as described in the delineation process below).

As development activity is completed near the river in DA-2 and rigs move northward, a migration corridor is created for wildlife immediately adjacent to the river (just north of the river). Once a two-mile corridor is established in DA-2 immediately adjacent to the river and two miles northward from the river (where no rigs are active within a two-mile band north of the river), Shell and Ultra would then have access to a two-mile south-north band of acreage at the southern-most portion of DA-3 for year-round development activities. As rigs move further northward away from the river in DA-2, additional access would be proportionately available in DA-3 for rigs to move northward.

As rigs complete their development activity in DA-2, they would be moved to the other Ultra-Shell shared DAs (DA-3, DA-4 or DA-5) as deemed appropriate to maintain concentrated drilling activities in those DAs under the basis of the guiding principles. There would be no east-west location concerns for activities in DA-2 within the Core boundaries.

#### DA-3 Development:

As noted in the description of progression of activity above, once the Proponents have access to DA-3 for year-round development activity, rigs may begin at the southern boundary of DA-3. Ultra and Shell will concentrate development activity in DA-3 with the limited access from south to north as described above until all development activity is completed in DA-2. Development will progress from south to north in DA-3 with rigs as concentrated as possible per the guiding principles used in the annual planning meetings.

Initial development activities for Shell and Ultra will be limited to the center of DA-3 along the line of the Shell checkerboard acreage with Ultra's offsetting leases and will move westward as development activities proceed.

Once full south to north access is available in DA-3 (when DA-2 is fully developed), then DA-3 rigs would concentrate development on a south to north line near the center of DA-3 (along the Shell checkerboard area), and as development continues to progress, the rigs would move westward until development activity is completed on the western flank. At that time, Shell's activity in DA-3 would be completed, and Ultra would complete its development activities on the west boundary. Ultra would then focus on completing DA-3 development by moving from the center of DA-3 eastward until the remainder of Ultra's DA-3 acreage is fully developed. This method of development would serve to alternately maintain maximum access to the migration corridors on the flanks of the Core. It also would provide sufficient time to complete and evaluate results of delineation activities in the half-mile buffer zone (as more fully described below under Delineation Activity, pp. 23-25) on the edges of DA-3 and enable the Proponents to more efficiently concentrate activities. A detailed description of delineation is provided below under "Delineation Activity."

#### DA-4 and DA-5 Development

DA-4, as the DSEIS describes it in Alternative C, should be kept intact.

***9/12/07 Note: On July 24, 2007 Shell, Ultra, BP America Production Company, Yates Petroleum Corporation and Newfield Exploration Company (successor to Stone Energy Corporation) submitted to BLM mitigation on DA-5. That letter is contained in this document on pp. 62-63. The original Shell, Ultra, BP, Yates and Stone (now Newfield) letter is contained below as it provides additional information for the DA-5 plan.***

DA-5, as redefined, is open to full year-round access for development and delineation activities (without any seasonal wildlife restrictions or stipulations for simultaneous drilling, completion, production and construction activities) immediately following an issuance of a ROD. Ultra and Shell's development would follow their commitment to concentrate activities within these areas as closely as possible. These areas will likely have less initial activity than DA-2, and activity in these areas would fluctuate as the Proponents focus on keeping close concentration in DA-2 and subsequently DA-3 development activities.

Although DA-5 is presented under Alternative C, its management prescription is actually more akin to Alternative A—the No Action Alternative. Year-round access is not a feature of DA-5, and seasonal stipulations apply just as in the No Action Alternative: "These elements of Alternative C would not apply in DA-5 because Operators would not be able to fully develop well pads due to timing and geographical constraints related to sage grouse breeding and nesting habitats." This could very well create the situation which year-round access is designed to avoid, namely, lengthening the impacts to wildlife

including sage grouse by imposing seasonal restrictions which will extend development and human disturbance over a greater span of time. In addition to extending development and disturbance, seasonal stipulations would also lengthen the period before reclamation takes place, which would result in a greater span of time for habitat function to be restored. Regarding sage grouse, the BLM needs to clarify where and when buffers will be in place for the protection of leks and why those buffers will be protective given new data on distances required to attenuate drilling noise.

Shell, Ultra, BP/Stone, and Yates Petroleum (the “Operators”) will jointly submit separate comments to encourage BLM to adopt the Preferred Alternative C subject to the Operators’ proposal to redefine the boundary and management of DA-5 as discussed in their letter. The proposed modification will provide additional environmental benefits to the greater sage grouse by minimizing surface disturbance within a core development area while setting aside large blocks of sage grouse habitat to mitigate impacts to the species.

The concept behind the Proposed Action in the SEIS and BLM’s Preferred Alternative C is to minimize impacts to wildlife by concentrating development on the crest of the Pinedale Anticline while leaving the majority of the Anticline free from development. BLM’s Preferred Alternative C divides the Core into five concentrated DAs. Within these DAs, seasonal wildlife stipulations would be temporarily relaxed so that development and subsequent reclamation could occur more quickly. Continuous development in the Core areas would also make consolidation of operations, directional drilling, use of environmentally-friendly drilling rigs, and other mitigation measures possible.

DA-5, on the southern end of the Pinedale Anticline, is outside big game crucial winter range but within a two-mile radius of several greater sage grouse leks. DSEIS, at 2-36. Unlike the other DAs, the only seasonal wildlife stipulations that apply in DA-5 are for sage grouse, as big game winter range does not extend as far south as DA-5. Under the Preferred Alternative C, seasonal stipulations for the greater sage grouse would not be relaxed in DA-5. *See* DSEIS, at 2-30. The effect is that under the current Preferred Alternative C, DA-5 will be developed in the exact same manner as the surrounding area outside the Core because seasonal restrictions would continue to apply both within DA-5 and in the adjacent area. Thus, development of DA-5 would proceed under the same management direction as in the 2000 PAPA ROD. Regarding sage grouse, the BLM needs to clarify where and when buffers will be in place for the protection of leks and why those buffers will be protective given new data on distances required to attenuate drilling noise.

The Operators urge BLM to modify Preferred Alternative C to provide for management of DA-5 consistent with the management concepts applied in the other DAs. Under this approach, seasonal restrictions would be temporarily relaxed within the core development area. To offset impacts of continuous development in Core, the Operators propose to suspend or attach time-limited no surface occupancy (NSO) commitments to leases outside, but adjacent to, the Core to ensure the preservation of large blocks of sage grouse habitat. The boundary of DA-5 would also be modified to include leases owned by

BP/Stone and Yates Petroleum, who did not participate in the Proponents' original proposal for concentrated development. This proposal is made with the understanding that additional Proponent committed mitigation measures made by Ultra, Shell and Questar will not apply to BP/Stone and Yates. In the event BLM adopts a final management plan other than Alternative C, the Operators request that these proposed management prescriptions be included in the final authorized action.

Specifically, the components of the Operators' proposed modification of DA-5 include:

Temporary relaxation of greater sage grouse seasonal stipulations in the redefined DA-5 as described on Proposed DA-5 Map, p. 21.

- Operator commitment to set aside acreage (area within the PAPA, but outside DA-5 south of the Big Game Crucial Winter Range and east of Hwy 191). This commitment is in the form of voluntary suspensions of leases not Held By Production (HBP) and term-limited NSO commitments on portions of certain leases that are HBP.
- Pad Drilling – no additional pads where one or more already exist in a quarter-quarter section, and only one pad in a quarter-quarter section where none currently exist.
- Maintenance of the 0.25 mile NSO buffer around active leks.

Under the current Preferred Alternative C, development of DA-5 and the surrounding area would continue as it has under the current management direction in the 2000 PAPA ROD. The Operators would be required to construct more well pads and disturb more surface area across the entire southern end of the Pinedale Anticline to work around seasonal sage grouse stipulations. Concentrated and continuous development in a core area, however, will allow the Operators to consolidate drilling on less pads and use more economical and efficient drilling techniques. Like in the other core areas, if seasonal restrictions are temporarily relaxed in DA-5, there will be less pads, less human activity, faster development and subsequent reclamation, guaranteed preservation of flank habitat, and economically practical and feasible rig emission NO<sub>x</sub> reduction efforts.

Modification of DA-5 would require BLM to consider any potential environmental effects of the change to the Preferred Alternative C in the FSEIS. Modifying the Preferred Alternative C and implementing those changes as part of the final ROD, however, should not require BLM to supplement and recirculate the DSEIS for an additional round of public comment. Indeed, the CEQ NEPA-implementing regulations specifically contemplate that an agency may “[m]odify alternatives including the proposed action” in response to public comment. 40 C.F.R. § 1503.4(a)(1). CEQ's Forty Most Asked Questions provides that if an agency receives a comment that a particular alternative “should be modified somewhat, for example to achieve certain mitigation benefits,” the agency should include and discuss the modified alternative in the final EIS. *Forty Most Asked Questions Concerning CEQ's [NEPA] Regulations*, 46 Fed. Reg. 18,026, 18,035 (Mar. 23, 1981). If the modified alternative “is qualitatively within the spectrum of alternatives that were discussed in the draft, a supplemental draft will not be needed.” *Id.* Further, if the modified alternative is “within the range of alternatives the public could have reasonably anticipated the [agency] would be considering” and “the

public's comments on the draft EIS alternatives also apply to the chosen alternative and inform the [agency] meaningfully of the public's attitudes toward the chosen alternative," the agency need not recirculate the modified alternative in a revised draft EIS. *California v. Block*, 690 F.2d 753, 772 (9th Cir. 1982).

Here, the proposed DA-5 redefinition modifies the Preferred Alternative to provide the same mitigation and minimization benefits as in other areas of the Pinedale Anticline. Public comments on the concentrated development concept and sage grouse impacts in other areas of the Pinedale Anticline will apply equally to DA-5. Further, modification of DA-5 would not cause any unique impact to sage grouse or any other resource that would require additional opportunity for public comment. Thus, public comment on the DSEIS will meaningfully inform BLM of the public's attitudes toward concentrated development and its potential impacts on sage grouse, and BLM is not obligated to re-circulate a revised DSEIS for public review and comment.

The Operators' proposed modification of DA-5 extends the same concentrated development concept applied in the northern and central portions of the Pinedale Anticline to the southern end. Without the proposed modification, development in DA-5 and the surrounding area will continue under the management direction of the 2000 PAPA ROD with unconsolidated drilling across the entire area for a much longer time period. BLM has an opportunity, however, to minimize impacts by approving the Operators' plan to consolidate drilling in DA-5 in exchange for Operator commitments to preserve undisturbed large blocks of habitat outside the Core area. Modifying DA-5 will lead to less surface disturbance, less human activity, faster development and reclamation, and economical use of new environmentally-friendly drill rig technology. The Proponents support the Operators' proposed modification to DA-5, and ask that it be reflected in the FSEIS and ROD.

For BLM's convenience, Proponents have included a map depicting the proposed core development area within the PAPA, which also illustrates the half-mile buffer designed to provide additional mitigation measures and surrounds all of the DAs. To reflect more accurately the core development area and the half-mile buffer, Proponents request that BLM use the Proposed Core Boundaries of DAs with Half-Mile Buffer Map provided below and adopt it in the FSEIS and ROD.

***9/12/07 Revision – The map submitted on 4/05/07 has been deleted and the revised map of the proposed core with 0.50 mile buffer is attached in a separate document to include the 7/24/07 Shell, Ultra, Yates, BP and Newfield letter offering additional mitigation for DA-5. The 7/24/07 letter included the revised DA-5 map so the DA-5 map from 4/06/07 was also deleted from this portion of the document. The 7/24/07 DA-5 map is also attached in a separate document.***

*Other DA Comments:*

In addition to the recommended fortifying language on movement and transition within DAs, several other DA components need to be addressed. In the DSEIS there is a

statement in DA 1 that says: “The pattern of development moving north while reclamation is initiated to the south would continue until DA-1 is fully developed. Once final reclamation has been initiated, no new development would occur in the areas to the south of the ongoing development.” See Chapter 2, 2.4.2.4, p. 2-33. Absolute statements such as this are contrary to the flexibility which needs to be part of the Performance Based Objective Planning Process if it is to work efficiently.

For example, as development continues throughout the field and as more is learned about the resource, it is possible new technologies will be developed to make poorer quality wells economic or knowledge may be gained that result in a different final well spacing. These circumstances may require initiating activities on reclaimed areas without fragmenting additional habitat.

The decision on whether or not it is necessary to conduct additional development in areas previously reclaimed should be part of the decision-making process which will occur in the annual meetings. The annual planning meetings, as discussed below, are where the next one to two years’ development activities can be adapted or fine-tuned based on changing factors and absolute statements such as “no new development in reclaimed area” will hamper the flexibility and creativity that makes adaptive management work.

*Proponents recommend that the above noted wording be changed in the FSEIS to read: “Once transitional and delineation activities are completed, the pattern of development moving north while reclamation is initiated to the south would continue until DA-1 is fully developed. Even though final reclamation has been initiated, new development activity may occur in the areas to the south of the ongoing development where required to develop the resource on appropriate spacing and as discussed and agreed upon during the annual planning meetings.”*

*Proponents recommend that the following statement be applied within each of the DAs 1 through 5: “Even though final reclamation has been initiated, development activity may occur in developed areas where required to develop the resource on appropriate spacing and as discussed and agreed upon during the annual planning meetings.”*

Another statement in Chapter 2, 2.4.2.4, p. 2-30 of the DSEIS needs to be revised: “In all areas of the PAPA, Operators would be required to expand existing well pads before constructing new well pads.” Also in this section of the Chapter are statements about using existing pads in a quarter section and expanding these pads before putting in new pads and that if there were no pads in a section, only one pad per quarter section would be allowed. These statements are also contrary to the flexibility which needs to be part of the annual planning process and Performance Based Objective Planning. There are substantial operational, topographical, geographical and vegetative reasons why the Proponents did not propose such ideas. Proponents’ committed to developing with as few pads as possible and in as concentrated areas as possible is outlined in the guiding principles. Proponents committed to using existing pads to the extent possible but cannot commit to using existing pads before constructing new well pads without substantially slowing the pace of development and putting into question the ability to implement fully

all the Proponent committed mitigation. Proponents' proposal is a comprehensive plan including substantial investment in mitigation tied directly to surface access and pace of development.

*Proponents recommend that the statements be deleted and replaced with "Existing pads will be reused / expanded to the extent possible. Pad issues will be discussed and resolved in annual planning with the BLM and Game and Fish."*

There is an inconsistency in the discussion of DA 2 that needs to be rectified in the FSEIS and ROD. In describing the type of access to DA 2 it is stated: "Year-round development activities would be allowed to occur within all areas of DA-2 beginning in 2007 and lasting until DA-2 is entirely developed." See Chapter 2, 2.4.2.4, p. 2-33. This statement is contradicted later in the DSEIS on p. 4-142: "Wellfield development would be restricted within 2-mile buffers around leks between March 15 and July 15 (BLM, 2004c) in DA-2 and in all of DA-5 (Map 4.1-4)." The statement on p. 4-142 should be eliminated in the FSEIS and ROD.

*Proponents recommend that the inconsistent statement, "Wellfield development would be restricted within 2-mile buffers around leks between March 15 and July 15 (BLM, 2004c) in DA-2 and in all of DA-5 (Map 4.1-4)." in Chapter 4 be deleted.*

#### Delineation Activity:

##### General Description of Delineation for the LOP

Ultra, Shell, and Questar will continue to conduct delineation activities subsequent to the ROD. The purpose of this paragraph and the following paragraphs is to provide a general description of what the Proponents mean when using the term "delineation activities" within the PAPA. Delineation activities will include drilling, completion, production and construction activities both inside and outside of the Core. Delineation includes all activities required to establish reserve potential in all areas of the project (including the Core). Delineation will be required to establish reserve potential (supporting the Corporate Reserves Evaluation process as necessary for each operator), to define appropriate drilling spacing, and to define the extent and depth of economic reserves (both inside the Core and outside the Core on the flanks). In DAs within the Core, where the Proponents have year-round access, delineation will be required ahead of development to establish reserve potential and to establish the appropriate drilling spacing. Delineation activities will be coordinated through the annual planning process with the BLM and Game and Fish. Delineation activity in areas where year-round access is not allowed will be conducted honoring existing wildlife timing restrictions currently managed unless it is specifically provided to accommodate the improvement of concentrated development activities. Delineation drilling is necessary to determine the level of development activity required.

Within the Core in areas where little drilling has taken place, delineation activity is required primarily to confirm reserve potential and the appropriate well density (spacing

and pattern). Drilling results in the field have demonstrated that there can be significant variability in the resource quality between adjacent quarter sections. There are many un-drilled quarter sections within the Core area.

In areas outside, but adjacent to the Core area that have not been drilled, delineation activity will be required. It is anticipated that there will be areas adjacent to the Core that will require sufficient development activity (as a result of successful delineation activity) that, in order to deliver the benefits included in the Proposed Action, these areas should be included in the DAs. In these cases, the Core would be expanded to accommodate the efficient development of these areas in the DA development process.

Delineation activity is also used to determine depth of economically recoverable gas.

#### Specific Description of Delineation during First 5 Years of Project:

The purpose of this section is to describe delineation activities that will occur in the first five years of the Project—specifically delineation in DA-3. It is estimated that approximately five years after the ROD, most delineation activities will be completed. However, this is subject to actual drilling times and results as well as access limitations where delineation access is restricted because of wildlife restrictions under seasonal stipulations.

The Proponents are proposing lease suspensions on the flanks of the Anticline to provide certainty regarding the spatial extent of delineation and development activities during the first five (5) years of the project. The delineation activities for Ultra, Shell and Questar conducted within the first 5 years of a ROD will be confined to the Core and within a half-mile buffer as shown on the 9/06/07 map document. Note, this commitment to the half-mile buffer is contingent upon approvals of lease suspensions and term NSO commitments in exchange for increased access in DA-3 as described below as well as increased access to an expanded DA-5. This process provides certainty of needed access to the Proponents in these areas and term certainty of no activity on the flank leases for BLM and Game and Fish within the first 5 years. The length of suspensions and NSOs on the flanks will be evaluated each year after the initial five years by the Proponents, BLM and Game and Fish for the need to extend commitments in order to provide necessary mitigation success. For further clarity, specifically within DA-3, in exchange for Proponents' commitments to flank acreage suspensions and term NSOs, the Proponents will have the ability to conduct delineation activities without seasonal antelope (big game) restrictions inside the Core of DA-3 as specifically described below beginning immediately after the ROD and ultimately in the half-mile buffer as needed depending on future results of delineation.

After the ROD, delineation activities would begin in DA-3 in the center portion of the DA immediately to the east of the Riverside-Boulder Township boundary. Delineation would occur on a north-south line in the western-most section of Boulder and would extend from the south boundary of DA-3 to the north boundary of DA-3 with the east-west width of the activity generally occurring within an estimated one and a half section

width within any given year. The Proponents would adhere to the revised guiding principles (please see pp. 3-5) to limit the annual extent of this delineation activity (likely 2-4 rigs during the allowed times). This access will enable the Proponents to better plan future development activities in this sparsely drilled area. Specific locations of delineation activities would be discussed as part of the annual planning process with the BLM and Game and Fish. Delineation would proceed on the boundary of the western part of the Boulder Township moving to the east along a north to south line as much as possible and moving toward the east boundary of the Core and ultimately the half-mile buffer boundary on the east side of DA-3. These delineation activities would continue until the development activities in DA-2 move sufficiently to allow development activities to begin in the southern part of DA-3 (as described above, pp. 15-16). Once development activities begin in DA-3, the delineation activities would cease on the east side and would resume again near the middle of DA-3 and move westward in the opposite direction from that as described above. This will allow delineation to occur sufficiently in advance of development as it moves westward.

In instances where delineation activities substantiate the need for development, the development will be coordinated as part of the Core development using the guiding principles during the annual planning process with BLM and Game and Fish to establish the timing for further development. In these cases, the Core outline would be expanded to include these areas within the half-mile buffer as warranted by delineation activity results. Ultimately, if delineation activities within the half-mile buffer warrant additional development and consideration for delineation outside the half-mile buffer after five years, this will be considered as appropriate during the annual planning process with the BLM and Game and Fish. Due to the large amount of delineation yet to take place within the currently defined Core development area, the situation also exists where the Core may be contracted due to delineation results.

The FSEIS and ROD need to clarify and in some cases define processes. For example, there needs to be a process in place which allows for DA boundary changes based on field performance and emerging technologies and methods; however, Proponents cannot adapt to changing conditions without a defined process. In addition to not having a defined process to change specific DA boundaries, the DSEIS does not contain a process that allows consideration of Core boundary changes based on field performance or other changing conditions. The ability to change both DA and the Core area boundaries is central to being able to manage the development of the Core based on new information, technology, wildlife and other environmental conditions.

*The Proponents recommend that the ability to change the DA and Core boundaries should be acknowledged in the FSEIS and ROD, and further Core boundary discussions should be part of the annual meetings of the Performance Based Planning discussed below.*

The DSEIS treats surface disturbances inconsistently in the document. For example, charts and text in Chapter 2 of the DSEIS include reclamation activities and pipeline corridors as temporary disturbances. Charts and text in Chapter 4 of the DSEIS,

however, do not. BLM should treat these surface disturbances consistently throughout the DSEIS. Areas such as pipeline corridors that are reclaimed immediately should be considered temporary surface disturbance for the purposes of this analysis and mitigation.

*Proponents recommend that any disturbances, which receive immediate or interim reclamation and thereby retain habitat function, should not be considered as permanent surface disturbances requiring compensatory mitigation as was incorrectly done in Chapter 4 and Appendix E.*

Performance Based Planning:

The description of the Performance Based Planning for Alternative C and subsequent monitoring should be expanded in the FSEIS so that the description presents a more complete picture of how Performance Based Planning and checks and balances will work over time in the PAPA. The Proposed Action Alternative B's ten-year rolling plan, fine tuned in annual multi-agency meetings, is not referenced in the description of the Performance Based Planning in Alternative C, which leaves the Proponents to assume that there is no long-term plan that can be modified in annual meetings. In addition, the Performance Based Planning does not reference any other agency's involvement in the annual meetings. Proponents assume this will be clarified in the FSEIS.

The intent of the annual meetings is to assess operations, emerging wildlife trends, environmental factors and other issues relevant to the Proponents' activities and to adjust operations as necessary. The Performance Based Planning needs to define the annual meeting process. In addition, it is recommended that scientific and measurable monitoring and mitigation components for the major species (mule deer, pronghorn and sage grouse) be added to and articulated in the description of Performance Based Planning. Proponents fully support monitoring and mitigation based on measurable impacts directly attributable to gas development, based on verifiable wildlife data that can be replicated and reviewed by an independent panel. Performance Based Objectives (PBOs), as introduced in the DSEIS Appendix E, is a new concept, and while Proponents support this principle, they recommend caution with its implementation. As the details of implementation of PBOs were not clearly defined in the DSEIS Appendix E, Proponents are concerned that any effort to pre-determine and prescribe mitigation responses, prior to sufficient data and analysis being available, will be subject to varying interpretation, and likely lead to a mitigation plan that does not deliver its objectives. As such, Proponents are committed to working with BLM and Game and Fish to develop a monitoring and mitigation plan, based on verifiable wildlife data that can be replicated, which can unambiguously determine impacts related to gas development activities.

It will be at the annual meetings where Proponents, BLM, DEQ, Game and Fish, and other appropriate agencies review and refine Proponents' annual and 10-year plans for development and delineation activities and discuss mitigation and monitoring needed to offset impacts to air quality, wildlife, and/or grazing.

As outlined earlier, neither the process for the annual meetings nor the actual performance-based objectives have been clearly defined. The participants in the annual meetings will need to review the Proponents' upcoming annual plan specifically in context of the overriding 10-year plan. The components of the operational plan, which will need to be reviewed, are rig locations / movement, pad construction and facilities construction and expansion, reclamation, well spacing update and the status of APDs. In addition to the Proponents' development and operation plan, other issues which will need to be addressed at the annual meeting include air quality (e.g. DEQ would share monitoring and modeling results, impacts and mitigation, rig permitting and compression), wildlife (review of research results and data, review of emerging population trends and discussion on performance-based mitigation measures), and agriculture and livestock grazing (discussion on location of activity relative to livestock, water and forage availability). The FSEIS and ROD should include a process to efficiently reach resolution in the event that consensus cannot be reached by the participants in the annual meeting.

Elements of 2000 PAPA EIS and ROD:

The DSEIS is silent on which components and requirements of the July 2000 PAPA ROD and other PAPA EAs will migrate to the SEIS and ROD. It is Proponents' understanding that the new ROD will be a stand-alone document superseding and supplanting the previous decision documents. This should be clarified, and those components from previous NEPA decision documents which migrate to the new ROD should be clearly articulated. Appendix B of this letter provides Proponents' recommendations on which previous requirements should migrate to the FSEIS and ROD from the PAPA ROD and other DRs.

Reduction of Drill Rig NOx Emissions:

*Proponents recommend that three paragraphs at pages 4-74 - 4-75 of the DSEIS be replaced with the language set forth in paragraphs 1 through 7 at pp. 28-30 below. The three paragraphs to be replaced would be the last paragraph beginning on page 4-74, which begins "Predicted impact reduction by modeling is based on . . .," and the two paragraphs that follow. The replacement language would be followed by the last paragraph in Section 4.9.5 of the DSEIS, which begins, "At any time, BLM and/or the Operators may run air dispersion models . . . ." The Proponents believe that this language would be a more appropriate approach to meet the BLM's goals regarding visibility in Class I Areas in light of ongoing consultations and new information as it becomes available.*

The Proponents recommend drill rig NOx emissions be reduced to 2005 levels **within one year of a ROD** and then an additional 80% over the next forty-two months after BLM issues the ROD. These emission reductions demonstrate compliance with all federal and state air quality requirements and reduce visibility concerns.

Alternative C in the DSEIS, Phase II mitigation also requires that in addition to an 80% drill rig NOx emissions reduction, the Proponents will use "any and all available means"

to ensure that visibility impacts will not exceed 1.0 deciview on any day. *See* Chapter 4, p. 4-75. Proponents have many concerns with this requirement.

This language could result in the Proponents having to reduce activity levels or take other drastic measures if there are no technologically and economically feasible or reasonable means to further reduce drill rig emissions, despite the very significant investment in drill rig emissions reduction equipment and methods to achieve the 80% reduction level. In addition similar to never allowing new development in reclaimed areas in DAs, this type of absolute statement is contrary to Performance Based Planning.

NEPA does not require that BLM adopt a full-blown mitigation plan to address each and every impact identified in the DSEIS. BLM need only identify the impacts and provide reasonable mitigation for such impacts, as the 80% reduction requirement does. “Any and all available means” (Chapter 4, p. 4-75) is an absolute mandate that leaves no room for balanced or reasoned judgment based on the facts.

The WDEQ is the appropriate regulatory entity to address any additional concerns with visibility from the project. Any remaining concerns with visibility can be assessed once the 80% reduction is achieved.

The modeling in the DSEIS demonstrates a wide range of predicted visibility impacts depending on the model used and the assumptions incorporated into the model. The visibility monitoring results reported at pages 3-58–3-59 of the DSEIS indicate no degradation in visual range during periods of large-scale oil and gas development in the PAPA and surrounding areas. The variation in the modeling results, coupled with the monitoring data, suggest it would be premature at this time to try to define what additional mitigation, if any, might be necessary or appropriate beyond the 80% reduction. The WDEQ should assess modeling alternatives, in light of visibility monitoring data, and address any remaining visibility concerns after the 80% reduction is achieved.

More refined modeling may even demonstrate that visibility is adequately protected and that no further emission reductions are necessary.

The Proponents commit to the additional following air mitigation measures to Alternatives B and C which can be undertaken without creating unacceptable air quality impacts.

1. To provide more predictability during the development phase, Proponents will annually develop a ten-year rolling forecast or development plan for submission to BLM and WDEQ Air Quality Division (AQD). The forecast or development plan should report the anticipated activity levels and projected air emissions from all significant emitting units including compression for each year during the upcoming ten-year period. This annual forecast should continue through the end of the development period. Proponents will meet annually with BLM and AQD to review monitoring data and evaluate

alternate ways to achieve the visibility impact reduction goal specified in paragraph 4, beyond the 80% rig engine NOx emission reductions specified in paragraph 3.

2. No later than one year after signing of the ROD, Proponents will adopt air emission strategies reducing predicted visibility impacts to 2005 predicted levels which are modeled to result in no more than 45 days greater than 1.0 deciview of visibility impairment. This would provide an almost immediate reduction of predicted visibility impacts from current development.
3. Proponents will accelerate the use of advanced technologies to reduce drill rig engine NOx emissions to reduce predicted visibility impacts to the 80% drill rig engine NOx emissions reduction scenario as described in the DSEIS, which is modeled to result in no more than 10 days greater than 1.0 deciview of visibility impairment. Such reductions shall occur no later than the end of year 2010 (or 42 months following signing of the ROD) instead of the five-year period proposed under the DSEIS. To ensure that such drill rig emission levels are enforceable, Proponents understand WDEQ-AQD would establish permitting requirements for all rig engines operating in PAPA.
4. During annual planning sessions as specified in paragraph 1, Proponents, AQD and BLM will collaboratively identify methods to reduce air emissions beyond the 80% drill rig engine NOx emissions goal. No later than the fifth annual planning session following signing of the ROD, Proponents will submit to the collaborative group an evaluation of alternatives and recommend a plan that addresses all sources from project activities and whose aim is to meet a predicted visibility impact objective of no more than zero days greater than 1.0 deciview of visibility impairment. The Proponents' evaluation will identify the expected reduction in predicted visibility impairment which can be achieved by each alternative as well as an implementation schedule. No later than the sixth annual planning session following signing of the ROD, the collaborative group, with input from Game and Fish will select and Proponents will begin to implement a plan which minimizes any adverse wildlife or other impacts, is technically and economically practicable, and is as close as is reasonably possible to the goal of zero days greater than 1.0 deciview of predicted visibility impairment. The collaborative group will also specify a schedule for completely implementing the plan.
5. All operators will comply with AQD permitting regulations to establish emission limitations for production equipment and compression facilities and will voluntarily institute any other emission reduction measures that have been proposed as part of the alternate method selected by the collaborative group.
6. The Proponents will fund the following additional activities, to be carried out by AQD:

- a. Supplement AQD's existing Jonah Interagency Office (JIO) field inspection staff by adding an inspector dedicated to monitoring compliance in the PAPA for a period of five years at a cost not to exceed \$400,000 for the five-year period.
  - b. AQD will conduct a formal "network assessment" of the adequacy of the existing ambient monitoring network in southwest Wyoming. Based on the results of the "network assessment," Proponents will provide a funding contribution to AQD not to exceed \$1,250,000 over a five-year period to establish and/or operate monitors recommended by the network assessment for pollutants of interest from the PAPA project. AQD will, to the extent practicable, use monitor data collected by any new and all existing local monitors in performing future air quality modeling. AQD and the Proponents will cooperate to collect ambient ammonia data for use in modeling, including modeling to evaluate the adequacy of alternate emission reduction options required under paragraph 4.
  - c. Supplement AQD's existing capability to analyze and report on ambient monitoring data by funding an analyst (1) in AQD's monitoring group for a period of two years at a cost not to exceed \$160,000 for the two-year period, and providing \$200,000 as a contribution to the expected costs of \$400,000 to allow AQD to upgrade its ambient air quality data management systems. AQD would agree to use such staff and funds to improve its ability to analyze data to more effectively disseminate those data to the general public and to use ambient monitor data in future air quality modeling associated with the project.
7. A DSEIS ozone air quality analysis was conducted under NEPA for the purposes of allowing BLM to evaluate and disclose potential environmental impacts from the project. AQD has embarked on further evaluation of ozone formation in the Upper Green River Basin, including the PAPA, through a field study and modeling project to understand previously monitored elevated ozone events and gather additional information. It should be noted that to date, there is no finding of an ozone air quality standard violation at the monitoring sites adjacent to the PAPA. The results of the field study and modeling project will form the basis for AQD to develop strategies to manage ozone formation in the Upper Green River Basin to ensure that the area remains in compliance with current and future Wyoming Ambient Air Quality Standards for ozone.

*Proponents recommend that Alternative C, Phase II mitigation should be revised to require reduction of emissions to 2005 levels in year one, 80% reduction within 42 months after BLM issues the ROD and continued collaboration thereafter between Proponents, BLM and AQD on visibility protection. It is further recommended that the absolute statement "any and all available means" be deleted and replaced with language from paragraph 4 above that "No later than the sixth annual planning session following signing of the ROD, the collaborative group, with input from Game and Fish will select and Proponents will begin to implement a plan which minimizes any adverse wildlife or*

*other impacts, is technically and economically practicable, and is as close as is reasonably possible to the goal of zero days greater than 1.0 deciview of predicted visibility impairment from project sources. The collaborative group will also specify a schedule for completely implementing the plan.”*

*Proponents also recommend that future modeling incorporate available measured data.*

#### *Electrification:*

The Proponents anticipate that future operational changes may be instituted to further reduce environmental impacts of development activities in the PAPA. For example, the use of electrical power or other alternative power sources, such as yet-to-be developed combustion engines with reduced emissions, may be desired. Alternatively, the Proponents may need to employ additional natural gas-powered compression or electric-powered compression to assist in production. Whether, when, or where such additional or new power supplies might be employed is unknown.

Under either scenario, however, the impacts to air quality and to the environment would be minimal. While neither the possibility of additional future compression or potential power sources is sufficiently concrete nor certain to support detailed analysis in the SEIS, the Proponents recommend that BLM disclose the potential for such future operational developments in the FSEIS, and, to the extent possible, discuss generally the types of potential impacts that natural gas-powered and electric-powered compression may cause. In the alternative, if BLM regards the likelihood of such activities as too speculative to support reasoned analysis of environmental effects, that conclusion should be stated in the FSEIS and ROD. Moreover, BLM should note that if in the future it becomes desirable or necessary to employ such power sources, further NEPA analysis will be conducted to determine the environmental effects of those activities. *See Scientists’ Inst. For Pub. Info. v. Atomic Energy Comm’n*, 481 F.2d 1079, 1092 (D.C. Cir. 1973) (noting that “one of the functions of a NEPA statement is to indicate the extent to which environmental effects are essentially unknown.”).

#### *Mitigation:*

NEPA requires a reasonably complete discussion of possible mitigation measures. *See Robertson*, 490 U.S. at 351. The CEQ regulations require that an EIS address mitigation measures in evaluating the proposed action, alternatives to the proposed action, and environmental consequences, and to “include appropriate mitigation measures not already included in the proposed action or alternatives.” 40 C.F.R. 1502.14(f). Furthermore, “[a]ll relevant, reasonable mitigation measures that could improve the project are to be identified, even if they are outside of the jurisdiction of the lead agency.” *Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations*, 46 Fed. Reg. 18,026, 18,031 (1981).

In keeping with these principles, Proponents have voluntarily proposed numerous on-site and off-site mitigation measures to avoid, minimize and mitigate impacts from natural

gas development and production activities in the PAPA. These are detailed in Proponents' attached Appendix D, which is a letter submitted to BLM by the Proponents outlining both the Proponents' original "Proposed Action Operators Committed Measures," and additional voluntary measures developed by the Proponents to address potential resource impacts identified during the SEIS process. These mitigation measures should be identified and considered in the FSEIS and ROD.

*Transition from PAPA ROD to the SEIS ROD:*

It is expected that it will take approximately 24 months to fully transition from PAPA ROD operations to operations detailed in the FSEIS and ROD. This is due to a number of factors, including lead time for APDs, construction/reclamation, acquisition of new equipment and delineation/down hole well density. This transition discussion does not alter the specific time commitments made by the Proponents in the Proposed Action or the Proponents' recommended changes to the Preferred Alternative.

For example, with a first quarter 2008 ROD, the specific pads and wells that rigs will occupy for winter 2008-09 and summer 2009 must be identified, permitted, and constructed before the SEIS ROD is expected to be final. This is an 18-24 month process that includes surveying and staking locations, performing multiple onsite inspections with regulatory agencies, designing down hole well paths and anti-collision planning, allowing processing time for regulatory agencies and construction time. This long lead time will result in some development operations occurring outside of the concentrated areas through summer 2010 even though the planning, design, and permit process for DAs will begin immediately upon the issuance of the ROD. Dirt work (including both pad construction and reclamation) will not be performed during times of frozen soil which can delay activity by up to 6 months and must be accounted for in the well planning lead time. Following SEIS ROD, pads which require interim reclamation will be identified by the Proponents based on which areas are to be occupied at what times. As delineation wells are drilled, this reclamation requirement will increase. Pad reclamations will begin as soon as possible after the SEIS ROD and will be ongoing throughout the development phase of the project. Due to the limited number of companies providing this service and the fact that work is limited to about half of each year due to soil conditions, it is anticipated that the initial phase of reclamation will be lengthy. The exact amount of time required is not easily predicted due to the process of voiding pits, weather impacts, and other variables. The activity plan for each construction and reclamation season will be part of the annual planning process.

Designing, planning, permitting and initial construction of the LGS to collect liquids from Shell and Ultra wells is expected to take approximately 24 months. Questar will also need to expand its existing LGS including line loops and additional or expanded central gathering facilities (CGFs) so that the system can handle year-round drilling in small, concentrated areas which it was not originally designed to do. The Questar system will remain operational during these expansion activities. Expansion to LGS will be ongoing through development.

A component of the Proponents' plan is to move rigs onto pads in concentrated areas and to drill all the necessary wells for that pad before moving the rig off (to the extent possible). Factors impacting the ability to accomplish that goal include timely drilling on delineation pads where well/resource quality is undetermined and timely evaluation of ultimate down hole well density for different areas of the PAPA. On delineation pads, multiple wells may be required, and then the rig will move off while production data is obtained that will determine how many more wells, if any, should be drilled. This type of situation often occurs on the edges of the field as the aerial extent of the gas resource is being determined but also includes determining commercial viability for deeper gas-bearing zones. The process to determine well spacing includes permitting and drilling a pilot project, gathering production and pressure data from those pilot wells and offset wells, modeling the results of the pilot wells and applying for a spacing hearing with the Wyoming Oil and Gas Conservation Commission (WOGCC) and having a successful decision from that hearing. This process can take several years, and the result is that certain pads may have all of their currently spaced wells drilled, their rigs moved, and the pad reclaimed on an interim basis before the denser well spacing is understood, applied for, and approved. This could result in Proponents needing to temporarily reoccupy certain pads to drill the higher density wells. Knowing the ultimate well density is one requirement for the Proponents to be able to place a rig on a pad and keep it there until all wells for that pad are drilled and will be part of the annual planning discussion.

### III. Specific Comments

#### Executive Summary:

*The Executive Summary misrepresents some of the data in the body of the document. The Executive Summary needs to be reviewed and revised in the FSEIS and ROD after recommendations are incorporated in the body of the document.*

#### Chapter 2:

The discussion of rig count in the Proposed Action implies a rig limit, which Proponents have not proposed. The language needs to be clear that the rig numbers are provided for purposes of analysis only and are not a limit. DSEIS Chapter 2 2.4.2.3, at 2-27.

Alternative C proposes that only one well pad would be allowed in each quarter section without BLM case by case consideration. Proponents recommend that this statement be revised to state: "Unless there are topographic constraints which limit pad size, or as specifically addressed in detailed DA development description, Operators will be allowed only one pad per quarter section. Other justification for more than one well pad per quarter section, e.g. safety, will also be considered." See DSEIS Chapter 2 2.4.2.4, at 2-33; see also additional discussion under General Comments, p. 22.

The statement “Most new producing wells would be required to be connected to a LGS” should be clarified so that it is clear that geography and/or economic or technical feasibility are considerations that BLM will allow as exceptions. DSEIS Chapter 2 2.4.2.4, at 2-33.

Chapter 3:

The discussion on bald eagles does not mention that the Proponents have voluntarily agreed to utilize Best Management Practices along the New Fork Corridor for eagles and raptors. The list of Best Management Practices was developed in concert with the U.S. Fish and Wildlife Service (USFWS).

The voluntary subscription to Best Management Practices for Bald Eagles and raptors is germane to this section. Reference to the Best Management Practices should be included. See DSEIS 3.21.1.1 Federally Listed, Proposed and Candidate Species Bald Eagles, at 3-97, 3-98.

The discussion of wildlife and wildlife behavior in the affected environment portion of the DSEIS (Section 3.22.1) does not identify movement patterns of pronghorn or mule deer in detail. This makes it difficult to assess either the impact of development to date on migration and movement or the impacts of future concentrated development aligned along the spine of the PAPA. This discussion should be bolstered.

“Pronghorn fawn production within the entire herd unit increased during 2004, a likely response to increased precipitation during water year 2003-2004.” While this is a true statement, it is significant to note that even though the fawn production in the entire herd unit dropped in 2005, the 2005 fawn production is still the second highest fawn production since 2000 and this statement should be put into perspective by noting in the FSEIS and ROD that it is the second highest fawn production since 2000. DSEIS Big Game Pronghorn, at 1-106, 3-105, 3-107.

“*Pronghorn Sublette Herd Unit Population, Productivity, and Harvest*” shows that the 2005 post hunting season population estimate is 47,930 pronghorn. This is a significant number since it represents the highest pronghorn population estimate since before 1999. In order to give the reader an accurate picture of population trend since 1999 it should be referenced in the narrative that the population estimate for pronghorns in 2005 is the highest since 1998. DSEIS Chapter 3 3.22.1.1 Big Game Pronghorn, at 1-106, 3-105, 3-107; see also Table 3.22-1.

“*Pronghorn Northern Sublette Herd Unit Population, Productivity, and Harvest*” shows that the 2005 post hunting season population estimate is 27,537 pronghorn. This is a significant number since it represents the highest pronghorn population estimate since before 1999. In order to give the reader an accurate picture of population trends on the PAPA portion of this herd unit since 1999 it should be referenced in the narrative that the population estimate for pronghorns in 2005 is the highest since 1998 (Chapter 3, 3.22.1.1 Big Game Pronghorn 3-105, 1-106, 3-107 Table 3.22.2).

*“Pronghorn Northern Sublette Herd Unit Population, Productivity, and Harvest”* shows that the pronghorn fawn production in 2005 is the second highest since 1999. It also shows that the 2005 fawn production for the Northern Sublette Herd Unit is smaller but not substantially different than the fawn production in the entire herd unit (0.652 fawns per doe on the northern herd unit vs. 0.688 on the entire herd unit). These are significant numbers since they represent the second highest pronghorn fawn population estimate since 1999 and because Northern Sublette Herd Unit contains the PAPA. In order to give the reader an accurate picture of population trend on the PAPA portion of this herd unit since 1999 these figures should be referenced in the narrative. *See* DSEIS Chapter 3 3.22.1.1 Big Game Pronghorn, at 1-106, 3-105, 3-107; *see also* Table 3.22-2.

“Preliminary study results suggest that continual fragmentation of previously undisturbed land is leading to reduced use by pronghorn. Pronghorn appear to abandon habitat in parcels with patch sizes at or about 600 acres (Berger et al., 2006).” This is a preliminary finding which has neither been substantiated by the Game and Fish, nor has it been subjected to any form of peer review. At this stage of the research study, this figure is unverifiable. This paragraph should be eliminated, and any analysis and conclusions based on this figure should also be eliminated. *See* DSEIS Chapter 3 3.22.1.1 Big Game Pronghorn, at 3-108.

While no decreasing trend in mule deer density was noted in the Pinedale Front Complex control area in the Sublette Mule Deer Study, the comparison cannot be made with the Mesa since the control area location shifted and was expanded throughout the duration of the study. As such, BLM should delete the sentence “No such trend was observed on crucial winter ranges unaffected by natural gas developments that were used as a control in the study (Pinedale Front Complex).” Emigration rates in the control area were not consistently used. DSEIS Chapter 3 3.22.1.1 Mule Deer, at 3-111. While the current mule deer study shows only limited emigration of deer from the Mesa during winter, it was not designed to identify or track emigration, and, therefore, reference to “extremely limited emigration” is not warranted.

BLM should delete the sentence “Although the wintering mule deer population on the Pinedale Mesa has declined each year from 2001 to 2005, available information indicates deer are not using alternative habitats, since emigration to other winter ranges is extremely limited.” The study is not designed to measure whether the mule deer utilize alternative habitats because it does not look outside the test area. DSEIS Chapter 3 3.22.1.1 Mule Deer, at 3-111. It should be noted that the years quoted represent summer drilling and completions during seasonal restrictions as well as year-round trucking of produced liquids. Questar’s LGS was not approved and in place until the winter of 2005-2006.

For an unknown reason, fawn mortality rates were much higher than expected in the control group while they were lower than expected in the treatment group (Mesa). The conclusion drawn from this is that it is all the more important that all winter ranges be protected. Unknown factors that cause high fawn mortality rates in areas without natural

gas development should not be used as a reason for restrictions on areas with natural gas development.

The programmatic agreement on the Lander Trail included in Appendix H of the DSEIS is not discussed within Chapter 3 to the degree needed to allow the reader to understand the context of the agreement and how it facilitates development within certain parameters along the Trail. The FSEIS and ROD should disclose and discuss the objectives of the agreement.

Chapter 4:

“These habitats would be physically eliminated through implementation of alternatives until surface disturbances have been reclaimed. However, revegetation of surface disturbances within native vegetation will alter wildlife habitats for the life of the project, especially habitats defined by shrub and tree species.” This is only true if the revegetation within the native vegetation is with non-native plant species. The Proponents have committed to utilizing native species for revegetation so that habitat function is restored as quickly as possible. *See* Proponents’ included Appendix C Proponent Committed Measures for Reclamation (Proponents will return as much of the disturbed acreage as possible to its pre-disturbed state as quickly as possible). Final revegetation will begin when the last of the wells on the pad is completed. Drilling and completing all wells on a pad sequentially results in earlier final revegetation and a smaller disturbed area. Proponents propose to use a variety of options and methods, such as the new habitat seed mixture of grasses, shrubs, and forbs and a new application method, which is in its second year of demonstration. This expedited reclamation will increase habitat patch sizes and will reduce habitat fragmentation for sagebrush-obligate species. Proponents estimate that on the larger consolidated pads, approximately 70% of the pad will be reclaimed if reserve pits were on the pad, and if there are no reserve pits, the surface disturbance area is smaller, and about 50% of that smaller pad would be reclaimed. DSEIS Chapter 4.20.4 Cumulative Impacts, at 4-144.

While there will likely be reduced levels of mule deer use in areas proximal to field developments, these areas are only ineffective if they are not used, and existing data reveal that they are used in all years by some animals and in some years by most animals. It is suggested that the words “remain ineffective” be replaced with the words “less effective” on line 6. DSEIS 4.20.3.1 Big Game Chapter 4, Mule Deer, at 4-132.3.

“Available information, since 2002, indicates that the mule deer population on the Pinedale Mesa steadily declined from more than 5,000 animals in 2002 to less than 3,000 animals in 2004-2005 (Sawyer et al., 2005a).” The decline was never “steady,” which might indicate a single cause. In addition, since this DSEIS went to the printer, the 2006 Mule Deer Study has shown no further decline and that the numbers are beginning to increase. The mule deer population showed no further decline in the latest annual report by the researcher. This statement should be updated to reflect the newest findings. DSEIS 4.20.3.1 Big Game Mule Deer, at 4-131. It should be noted that the years quoted represent summer drilling and completions during seasonal restrictions as well as year-

round trucking of produced liquids. Questar's LGS was not approved and in place until the winter of 2005-2006.

“After the first year of the study, none of the study animals utilized the Jonah Field Project Area. Analyses of preliminary results indicate that habitat patches of less than about 600 acres are under-utilized or abandoned by wintering pronghorn (Berger et al., 2006).” Although the first year of the report stated that none of the study animals utilized the Jonah field, that finding was nullified a few months later when the same researchers located animals in the Jonah field. The 600 acre fragmentation figure is a preliminary finding, which has neither been substantiated by the Game and Fish nor has it been subjected to any form of peer review. At this stage of the research study this figure is unverifiable. This paragraph should be rewritten to accurately portray the situation with pronghorn in the Jonah field. The reference to the 600 acre habitat fragmentation threshold should either be qualified or eliminated, and any analysis and conclusions based on this figure should also be eliminated. DSEIS 4.20.3.1 Big Game Pronghorn, at 4-130.

“Each well pad could be considered as a patch of altered or unusable wildlife habitat.” The way this reads it suggests permanent disturbance and infers permanent loss to wildlife. This is not accurate; the loss is only for that span of time between excavation and reclamation. This statement should be deleted. DSEIS Chapter 44.20.3.1 Habitat Fragmentation and Effectiveness, at 4-128.

“Declines of greater sage-grouse are expected to be more rapid and more extensive under the Proposed Action Alternative than by the No Action Alternative because winter drilling would generate noise and considerably more traffic (due to drilling and completions). This would occur even if development activities are restricted within 2-mile buffers around leks between March 15 and July 15 (BLM, 2004c).” The Proponents have funded a five-year sage grouse research project to determine the impact of their operations on sage grouse. At this point in time this statement is speculative. BLM should rewrite this statement and should reference the study that it is being conducted to answer these questions. DSEIS 4.20.3.3 Alternative B Proposed Action Alternative, at 4-139.

“Under this alternative, the distribution of disturbance includes the liquids gathering system proposed for the central and southern portions of the PAPA, and all pipelines and ancillary facilities identified in Table 2.4-8 (through 2011) and Table 2.4-9 (through 2023).” The LGS presents a very temporary disturbance since it is reclaimed shortly after it is built. The bigger issue is calling the LGS a “disturbance” when in fact, it is a mitigation measure volunteered by the Proponents to reduce human disturbance to wildlife by substantially reducing truck traffic.

In fact, in Chapter 4 Environmental Consequences 4.7.3.1 Summary of Impacts Common to All Alternatives, Pipeline and Gas Sales Pipelines on page 4-51 it is stated:

“Reclamation of the disturbed construction rights-of-way for each pipeline would allow for overall retention of the landscape's existing character. Within a short period of time

(3 years), apparent changes in landscape character within the construction rights-of-way should not be readily noticeable to a casual observer.” Please see Appendix C Shell and Ultra Liquid Gathering System page C-5: “Shell and Ultra plan to install liquids gathering systems to collect condensate and water from existing and future well pads. The piping right-of-way disturbance would be a short-term impact during piping construction and burial. Following installation of the piping, reclamation and seeding of right-of-ways would take place to restore the disturbed areas to a native state.” BLM should either discuss the temporary disturbance caused by implementing this mitigation measure so that the reader has the proper perspective, or it should eliminate the disturbance from the corresponding analysis and charts. DSEIS 4.1.2.2 Alternative B (Proposed Action), at 4-6.

“The areas of initial surface disturbance have not been adjusted for reclamation efforts because it is impossible to predict when and where reclamation would occur over the landscape by the end of 2006. Likewise, there have been no attempts to model how reclamation would offset initial wellfield surface disturbance in the future for each of the alternatives analyzed, below.” It is not impossible to predict when and where reclamation would occur over the landscape by the end of 2006 or other years. In fact, in Chapter 2, disturbance tables for all Alternatives include reclamation projections. These reclamation projections are readily available. Without these data being entered into the model, the initial well field surface disturbance is inaccurate. These statements should be rewritten based on figures provided by the Proponents and as projected in Chapter 2. BLM should also use this data in the models (Chapter 4 4.1.2 Spatial Analysis of Future Surface Disturbance 4-4, 4-6, 4-12 throughout the rest of Chapter 4 and Appendix F).

The maps concerning the spatial analyses of future disturbance in Section 4.1.2 of the DSEIS are inaccurate and do not illustrate the actual nature or extent of surface disturbance. As a result, they do not provide the public with an adequate visual image of the relationship between spatial disturbances and potential impacts but instead overstate the extent of such impacts. *See* DSEIS maps 4.1-1 – 4.1-6, at 4-5 – 4-11. An accurate depiction of future surface disturbance necessarily must reflect the anticipated timing of future-disturbance activities in light of restoration obligations (reclamation and temporary surface disturbance measures) which are an essential element of the Proposed Action. Furthermore, rather than depicting the general areas within which isolated surface disturbance and development activities will occur, BLM should use illustrations that show the actual pattern and footprint of surface-disturbing activities, contrasted with the areas which will be left undisturbed so that the public can accurately assess the nature and extent of surface disturbances. In the FSEIS, BLM should provide maps that properly reflect the spatial density of all existing wellfield disturbances and that illustrate the likely future temporal and spatial density of anticipated wellfield disturbances as the maps provided in the DSEIS do not adequately reflect surface disturbance and show affected areas to be much larger than what will actually be disturbed. *See* p. 17 in Proponents’ included Appendix A.

## Comments by Topic

### Development:

Throughout the DSEIS, the word “drilling” is used to explain year-round activity (e.g. winter drilling, year-round drilling, etc.). The Proponents have requested year-round development in specified areas which includes simultaneous operations such as drilling, completions, construction, etc. The Preferred Alternative in the FSEIS and ROD with Proponents’ recommended changes should use “year-round development” as defined above instead of “year-round drilling” or “year-round drilling and completions,” or “drilling”.

### Wildlife and Habitat:

Although revegetation mitigation measures would likely also apply to mitigate damage to grazing resources, the mitigation measures listed in DSEIS Appendices A, C §§ 1-4, and E are not specific in dealing with protection of grazing resources. Further, the FSEIS needs to explain how, and to what extent, minimization or mitigation measures (here and more generally) will reduce otherwise-expected impacts.

The DSEIS is inconsistent in identifying and discussing development-related wildlife impacts other than those attributable to habitat destruction/degradation and, to a lesser degree, transportation activity. For example, there is little discussion of “secondary” indirect impacts of development such as poaching, hunting, domestic pets, etc. Nor does the draft discuss such impacts as vehicle-related injury or death of bald eagles or other raptors feeding on roadkill, which usually is a concern to USFWS at least. Although these impacts are expected to be minimal, they should be identified.

The cumulative impact area must be defined for each species, and summer ranges for mule deer and other big game animals should be included. Impacts of other projects occurring in both summer and winter ranges should be considered in the cumulative impact analysis.

Wildlife-protective minimization and mitigation measures need to be addressed explicitly, and the FSEIS needs to explain how, and to what extent, such minimization or mitigation measures will reduce otherwise-expected impacts.

### Socioeconomics:

The scoping concerns include boom / bust development and the impacts of continued seasonal stipulations (that lead to fluctuations in employment and attendant disruptions). The negative impacts of continued seasonal stipulations on employment, small businesses, schools, etc., however, are not addressed in the socioeconomics analysis. Chapter 4.3 should include discussion of the many socioeconomic benefits to

employment, small businesses, schools and families that can be realized by the lifting of seasonal restrictions and allowing year-round development.

The analysis includes unsupported assumptions and conjecture that should be either removed from the text or supported and documented.

Transportation:

The scoping concerns include the need to evaluate busing to reduce traffic and increased safety risks with winter development and increased winter traffic. The DSEIS does not mention the PAPA July 2000 Transportation Plan or the Proponents' proposed Transportation Plan attached as Appendix C to the DSEIS, which would supplement the 2000 PAPA ROD Transportation Plan. Chapter 4.4 needs to be revised in the FSEIS to present a more balanced picture of the traffic planning done annually in the Technical Support Document and the mitigation built into the Proponents' Transportation Plan in Appendix C, which will supplement the original Transportation Plan.

Cultural Resources:

The DSEIS does not indicate whether BLM intends to conduct a Class III inventory, which is the most thorough inventory, or a lesser inventory. This is addressed through the Wyoming Protocol Agreement in Appendix G of the DSEIS. In Section 4.8 of the DSEIS, BLM should clarify the level of inventory it plans to conduct on the PAPA. It is considered appropriate to inventory only those areas that will be disturbed, and, therefore, BLM should clarify the scope of the area that it intends to inventory. Finally, BLM does not indicate whether an inventory will be needed for all of the Alternatives or whether an inventory will be needed only for Alternatives B and C.

Paleontological Resources:

The DSEIS notes on page 4-81 that "discovery of fossils during construction would result in the suspension of construction activities to prevent further disturbance and/or damage to fossils." The Wyoming Protocol does not apply to paleontological resources. BLM should propose mitigation measures designed to protect paleontological resources and should have a system in place to deal with inadvertent discoveries. Such specific mitigation measures should be included in the FSEIS.

Air Quality:

No mention is made of Ultra's \$2.86 million investment to offset emissions at the Naughton plant in this area of air-related mitigation. It is mentioned later in the document in a scoping question, but that question is ignored in the air section of the DSEIS. This effort should be referenced in the air section of the FSEIS and ROD.

The Proponents support reducing drill rig engine NOx emission by 80% from 2005 levels. Modeling of this scenario predicts no exceedance of Prevention of Significant Deterioration (PSD) increment, so there is no reason for additional mitigation to address PSD increment consumption. This leaves only visibility in Class I Areas as a possible air

quality concern. As further discussed below, visibility in Class I Areas is an environmental impact that is properly evaluated in the DSEIS. The recently completed ozone modeling analysis predicts no violation of the ozone NAAQS despite the fact that the emissions used in the modeling are far greater than the emissions from any of the action Alternatives in the DSEIS and is also greater than the combined emissions from the action alternatives in the DSEIS and RFD. BLM correctly identified in the ozone modeling analysis that the Western Regional Air Partnership (WRAP) Oil and Gas 2018 inventory that was used in the ozone impact model overestimated the emissions from PAPA and other projects in the area. The WRAP inventory used conservative factors and limit control mechanisms that are either currently now used in PAPA or planned to be used. See pp. H-4 - H-5. and Table 2.1. Even with the overestimate for the emission inventory, no exceedance of the regulatory limit was modeled. However, Proponents are concerned about the additional provisions in the DSEIS that appear to characterize zero days of modeled visibility impairment in Class I areas greater than 1.0 deciview (dv) as a mandatory regulatory standard that must be achieved using, if necessary, “any and all available means.” DSEIS, at 4-74 – 4-75. These provisions misconstrue the nature of the visibility protection requirements under the Clean Air Act and the nature and extent of the BLM’s responsibility and authority regarding visibility in Class I areas. The provisions also fail to recognize the limitations on the capacity of modeling to accurately describe and predict visibility impairment.

Protection of visibility in Class I areas is an important factor that must be fully discussed in the FSEIS. Further, BLM has an important interest in the protection of visibility in Class I Areas. However, the 1.0 dv level is not a regulatory standard. It is only one criterion in a guideline used by Federal Land Managers (FLMs) to evaluate visibility impacts. WDEQ has the primary authority regarding visibility protection under the Clean Air Act. For purposes of NEPA and a ROD, the BLM should consider the FLM guideline to balance visibility considerations with the Proponents’ rights to develop the PAPA under their leases and the public’s need for affordable sources of clean energy. Once oil and gas leases have been issued, BLM may not later impose mitigation measures on development operations that unreasonably condition or take away the right to develop the leases. *Conner v. Burford*, 848 F.2d 1441, 1449-50 (9th Cir. 1988) (“on land leased without a No Surface Occupancy Stipulation the Department *cannot* deny the permit to drill; it can only impose ‘reasonable’ conditions which are designed to mitigate the environmental impacts of the drilling operations.”). NEPA, while it requires thoughtful consideration of environmental impacts and alternatives, does not compel substantive outcomes. *Robertson*, 490 U.S. at 350 (“it is now well settled that NEPA itself does not mandate particular results, but simply prescribes the necessary process.”).

The Air Quality Impact Analysis Technical Support Document (TSD) acknowledges that 1.0 dv is not a binding requirement: “[t]he BLM considers a 1.0 dv change as a perceptible significant threshold; *however, there are no applicable local, state, tribal, or federal regulatory visibility standards.*” (Emphasis added.) DSEIS TSD, at 51. The DSEIS also acknowledges that “WDEQ has the regulatory authority for air quality in Wyoming.” DSEIS, at 4-62.

The 1.0 deciview threshold is derived from the Federal Land Managers' Air Quality Related Values Work Group (FLAG), Phase I Report (2000). Its purpose was to set out a more consistent approach for FLMs to use in assessing visibility impacts. FLAG, at iii. It is not a regulation and does not have the force of law. It includes "guidelines" and "does not provide a universal formula that would, in all situations, allow one to determine whether a source of air pollution does, or would, cause or contribute to an adverse impact." *Id.* "It is important to emphasize that the FLAG report is only a guidance document that explains factors and information the FLMs expect to use when carrying out their consultative role. It is separate from Federal regulatory programs." *Id.* at 5. FLAG sets forth "decision thresholds" which are "strictly a guideline." *Id.* at 27. A 10% change in light extinction (equated in the DSEIS with 1.0 deciview) is such a decision threshold. Even if a project is predicted to exceed the 10% threshold, any determinations in that regard must be made "on a case-by-case basis." *Id.* Ultimately, visibility determinations are aimed at identifying visibility impairment which interferes with the management, protection or enjoyment of the visitor's visual experience of Federal Class I areas. Such determinations must be made on a case-by-case basis "taking into account the geographic extent, intensity, duration, frequency, and time of visibility impairment, and how these factors correlate with: (1) times of visitor use of the Federal class I areas, and (2) the frequency and timing of natural conditions that reduce visibility." *Id.* at 15-16 (quoting 40 C.F.R. §51.301(a)).

The U.S. Supreme Court has made clear that an agency preparing an EIS, while obligated to take a hard look at environmental consequences of a proposed action and discuss mitigation of consequences, is not obligated to formulate a complete mitigation plan and may rely on other agencies, including non-federal agencies, to address environmental effects over which they have authority. *See Robertson*, 490 U.S. at 350-53. "There is a fundamental distinction between . . . a requirement that mitigation be discussed in sufficient detail that environmental consequences have been fairly evaluated, on the one hand, and a substantive requirement that a complete mitigation plan be actually formulated and adopted, on the other." *Id.* at 352. "In this case, the off-site effect on air quality and on the mule deer herd cannot be mitigated unless non-federal government agencies take appropriate action. Since it is those state and local governmental bodies that have jurisdiction over the area in which the adverse effects need to be addressed and since they have authority to mitigate them, it would be incongruous to conclude the Forest Service has no power to act [to grant a special use permit] until the local agencies have reached a final conclusion on what mitigating measures they consider necessary." *Id.* at 352-53. What was true in *Robertson* holds true in this case.

Therefore, the FSEIS and ROD need not define a comprehensive plan to protect visibility in Class I areas throughout the life of this project. BLM must adequately discuss visibility impacts and consider mitigation of those impacts. However, it may rely on and collaborate with other agencies with jurisdiction and authority, and it may utilize adaptive management techniques and allow for ongoing collection and analysis of information to inform future actions. Protection of visibility is an ongoing concern under the Regional Haze program, and the WDEQ will be developing a State Implementation Plan (SIP) in 2007, which will implement the requirement of the Regional Haze Rule to make

reasonable progress toward achieving improvement of visibility in Class I areas. In the future, air quality modeling methods will evolve, and new visibility monitoring information will be gathered. Evaluation of what future mitigation, if any, may be needed to protect visibility in Class I areas should be informed by all of these factors. Mitigation required by the BLM at this time should allow for the fact that the WDEQ, with EPA oversight, is the agency with direct and ongoing statutory responsibility for protecting visibility in Class I areas.

Sections 169A and 169B of the Clean Air Act establish the Regional Haze program and require states to adopt SIPs to protect visibility in Class I areas. EPA has adopted regulations to implement the Regional Haze program. 40 C.F.R §§51.308-309. Under these regulations, States, including Wyoming, must submit Regional Haze SIPs by December 17, 2007, which include measures designed to achieve reasonable progress toward attaining the national visibility goal to remedy existing and prevent future impairment of visibility in Class I areas. 71 Fed. Reg. 60,612, 60,633 (October 13, 2006). Under the Regional Haze program, States must consult with FLMs and must obtain EPA approval. Primary responsibility and jurisdiction resides with the States and EPA, with FLMs playing a supporting role. The WDEQ has authority under the Regional Haze Rule, to regulate emissions of sources outside the PAPA that contribute to visibility impairment, and thus is better positioned than is BLM to address visibility concerns.

Proponents do not argue that the FLAG guideline should be ignored, that visibility impacts in Class I areas are not important, or that mitigation of such impacts should not be taken seriously. The Proponents are prepared to invest tens of millions of dollars within a few years to substantially reduce their emissions, thereby avoiding modeled exceedances of PSD increments and greatly reducing modeled visibility impacts. The 80% drilling rig engine NOx emission reduction scenario is a concrete objective that the Proponents can assess based on available emission control techniques. However, the Proponents are concerned that the further requirement to achieve zero days of visibility impact above 1.0 dv in Class I areas, no matter what, using any and all available means, would prematurely mandate an outcome that is more stringent than required by law when it remains uncertain whether there are reasonable technical and economic means to achieve that outcome. Such a mandate is particularly questionable in light of uncertainties associated with visibility modeling.

Modeling of the 80% emission reduction scenario was performed by the BLM using five different methods. Three methods used FLAG and IMPROVE (Interagency Monitoring of Protected Visual Environments) background data. Two methods followed recent CALPUFF modeling guidance for Best Available Retrofit Technology (BART) analyses under the Regional Haze program. *See* DSEIS TSD, at 48. The latter uses the 98th percentile of modeled values to assess visibility impacts rather than using the maximum predicted impacts. DSEIS TSD, at 51-52. As stated in EPA's Guidelines for BART Determinations, "we believe it is appropriate to use the 98th percentile—a more robust approach that does not give undue weight to the extreme tail of the distribution." 70 Fed Reg. 39104, 399121 (July 6, 2005). The results from the various methods diverge greatly. Although BLM favors the method that predicts visibility impacts greater than

1.0 dv on 10 days, with a maximum daily impact of 2.62 dv, modeling with the BART methodology predicts impacts greater than 1.0 dv on only 3 days, with a daily maximum 98th percentile value of 1.16 dv. The DSEIS gives no explanation why the BLM's favored method should be viewed as more accurate than the BART method. The DSEIS also does not discuss all factors listed in the FLAG guideline—geographic extent, intensity, duration, frequency, time of visibility impairment and visitor use, or natural conditions that reduce visibility. As noted above, the visibility monitoring data reported in the DSEIS indicates that between 1999 and 2003, a time of rapidly growing oil and gas development in the PAPA and surrounding areas, visibility was not degraded in Class I areas. These factors call into question whether, in fact, once the 80% rig engine NOx emission reductions are in place, PAPA activities will impair visibility in Class I areas.

The Proponents have performed preliminary modeling to determine how the results would be affected by altering modeled assumptions about background levels of ammonia. When modeled background ammonia levels are adjusted to conform more closely to actual background levels, visibility impacts are predicted to be significantly less than impacts reported in the DSEIS. Modeling predictions should be understood as an imperfect tool to be used in conjunction with other tools such as monitoring for purposes of visibility protection.

BLM should defer to WDEQ, which will develop and implement its Regional Haze SIP and determine what, if any, further emission control requirements might be needed in the PAPA in order to demonstrate reasonable progress toward the national visibility goal, in accordance with the Clean Air Act. This approach is consistent with the Clean Air Act and accords visibility protection in Class I areas appropriately high importance. At the same time, this approach recognizes that there is no legal or regulatory requirement to achieve zero days over 1.0 dv in Class I areas and that WDEQ has primary responsibility to regulate and protect air quality.

Noise:

BLM should clarify in its discussion that noise impacts will be mitigated by the Proposed Action to concentrate drilling in core areas, leaving the surrounding habitat undisturbed by noise impacts. BLM should also acknowledge additional mitigation measures currently employed by the Proponents to protect sage grouse leks from noise disturbances, including flareless completions and use of hospital grade mufflers on drilling rigs. Finally, the FSEIS and ROD should include a clear statement of the mitigation measures BLM may use to maintain or further reduce noise generated by oil and gas activity.

Cumulative Impacts:

An EIS must include a cumulative impact discussion for each environmental resource. 40 C.F.R. § 1508.25(c). The CEQ Regulations define a cumulative impact “as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes

such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. *Id.* § 1508.7.

The cumulative impact discussion presented in the DSEIS needs further refinement. As an initial matter, BLM should explain the rationale for its delineation of the cumulative impact areas chosen for each resource. For some resources, it may be necessary to expand the impact area unless BLM can provide a reason for limiting the scope of analysis to the PAPA. For example, in light of BLM’s identification of potential surface water impacts downstream of the PAPA BLM should explain why the DSEIS limits the cumulative impact area to the PAPA. Further, the impact area for migratory wildlife may require expansion to include summer range for the species. For those resources where expansion of the cumulative impact is not necessary, BLM should clearly explain why the resource area is limited to the PAPA. BLM should also prepare a list of projects with potential to cause cumulative impacts for each resource, or at least reference such a list.

Additional detail should be included in the impact analyses. Most discussion of cumulative impacts amounts to a general acknowledgement that they may occur. Where quantitative data is available, or BLM has the ability to indicate where and when the most impacts might occur, it should include that information. For example, the discussion of cumulative traffic impacts should include reference for which communities or transportation corridors will be most impacted by the Proposed Action along with other projects. This degree of detail will assist the agency in determining how impacts can best be mitigated.

***B . RECOMMENDED PAPA ROD AND SUBSEQUENT RD COMPONENTS  
TRANSITION TO FSEIS AND ROD SENT TO MATT ANDERSON ON APRIL 5,  
2007 AS PART OF THE PROPONENTS’ DSEIS COMMENTS***

<b>DOCUMENT</b>	<b>TOPIC</b>	<b>ACTIVITY</b>	<b>CITATION</b>
2000 PAPA ROD	Seasonal Road Closure	Retain closure of Mesa Road to public from January 15 to April 30.	p. 12
2000 PAPA ROD	Road Maintenance Agreement	Retain requirement for road maintenance agreements among all operators using specific roads.	p. 16
2000 PAPA ROD	Exception Requests	Retain process for requesting exceptions.	p. 27, p. A-19
2000 PAPA ROD	Watering Roads	Retain ability to use treated produced	p. A-10

		water for watering roads.	
2000 PAPA ROD	Reclamation	Continue to allow operators to use their own expertise in recommending and implementing construction and reclamation projects.	p. A-14
2000 PAPA ROD	Surface pipelines	Retain the ability to use surface pipelines where steep slopes are traversed.	p. A-26
2000 PAPA ROD	Mitigation Guidelines and Standard Practices	Surface occupancy within 0.25 mile of an active lek	p.19, Appendix A, p. A-19
2000 PAPA ROD	Minimize Wildlife Mortality	Retain education of workers, to minimize poaching including prohibition of dogs on location, disciplinary against those who violate the laws.	p. A-18
2004 Questar Year-Round Drilling Proposal 2005 Questar Condensate Pipeline Modification 2005 Questar Year-Round Drilling Addendum	Habitat Improvement	Questar understands that the habitat improvement commitments under the PAPA SEIS will replace Questar's commitments made in previous documents. Questar requests that its current habitat improvement projects (totaling approximately 300 acres) be credited towards its obligation under the PAPA SEIS.	p. 2-13 p. 2 p. 12

***C. PROPONENTS' COMMITTED MITIGATION MEASURES SENT TO DENNIS STENGER APRIL 4, 2007***

Ultra Resources, Inc. (Ultra), Shell Exploration & Production Company (Shell), and Questar Market Resources (Questar), collectively referred to as the "Proponents", propose the following on-site and off-site mitigation components, as commitments to avoid, minimize and mitigate impacts from natural gas development and production activities in the Pinedale Anticline Project Area (PAPA) in accordance with the National Environmental Policy Act (NEPA), 40 CFR 1508.20. This proposal includes and summarizes both the Proponents' original mitigation commitments and additional mitigation including a \$36 million dollar mitigation and monitoring fund. The net costs to operators for implementing these combined measures will exceed \$1 billion. Proponents' ability to fulfill these commitments is directly tied to surface access and pace of development as described in the Proponents' Proposed Action.

Proponents' primary emphasis is on avoidance of impacts and on-site mitigation of any unavoidable impact and Proponents also commit to off-site mitigation. This proposal is unlike any other onshore natural gas development proposal in its effort to minimize on-site disturbances to wildlife, livestock, habitat and air while providing benefits to local and state communities.

**Proponents' Original Mitigation Commitments:**

- Directional drilling - 600 pads to drill over 5,000 total wells (100 fewer pads than the No Action)
- Year-round concentrated drilling and completion activity
- Interim reclamation of well pads
- Liquids Gathering Systems to reduce traffic
- Computer Assisted Operations
- Tier 2 equivalent rig engine emissions by 2009
- 10-year plan and annual meetings with BLM and appropriate state agencies

**Proponents' Additional Mitigation Commitments:**

- Mitigation and monitoring fund
- Mitigation, monitoring, continued research, and Performance Based Objectives with threshold
- Voluntary suspension of certain leases on the flanks of the Pinedale Anticline
- 80% rig engine NO<sub>x</sub> reduction from 2005 levels by year end 2010 with a Q3 2007 ROD or 42 months following signing of the ROD

**Benefits:**

- Minimizes surface disturbance and habitat fragmentation
- Preserves large, contiguous undisturbed blocks of habitat and migration corridors
- Provides interim, and earlier, well pad reclamation
- Substantially reduces air emissions
- Substantially reduces traffic and human activity for the Life of Project

- Stabilizes development activity and year-round workforce
- Facilitates community forecasting for planning purposes
- Develops fully the natural gas resource

The benefits to wildlife, livestock, habitat, air quality and local communities of this proposal are substantial. The Proponents' comprehensive long-term development plan will result in the most beneficial long-term protection of the wildlife and habitat while enabling the efficient, full development of the PAPA natural gas resource.

In order to mitigate potential impacts identified during the NEPA process, and in addition to the net cost Proponents will incur by implementing the Proponents' committed mitigation, Proponents have committed to establishing the Pinedale Anticline Operators' Mitigation and Monitoring Fund (Fund). This Fund will provide assurance that financial support is available for mitigation and monitoring for the life of the project. The sole purpose of the Fund is to provide funding for monitoring and mitigation impacts directly related to Proponents' activities in the PAPA SEIS project. Proceeds from the Fund can be used both on-site and off-site in the general PAPA area for air quality monitoring, wildlife, livestock, vegetation and reclamation research, analysis, monitoring, mitigation and agencies' PAPA-project essential full time equivalent (FTE) positions as a result of PAPA activities. Proponents envision that the Fund will support as components of wildlife mitigation:

- basic habitat enhancements for improvement of habitat function both onsite and off-site and
- protection of key migration routes and / or acreage that directly benefit wildlife.

The funds referenced in this correspondence are aimed at mitigation and monitoring activities. It is impossible to accurately predict what types of actions would warrant the use of these monies, but compliance activities do not fit the intended purpose of the fund.

Proponents will provide \$4.2 million as the initial contribution after BLM issues the SEIS Record of Decision (ROD) to begin mitigation and monitoring efforts immediately. Proponents would make future annual contributions to the Fund based on the pace of development. Estimated annual average contribution based on the Proposed Action is \$1.8 million per year with an expected total contribution based on the Proposed Action of approximately \$36 million. This offer is the only commitment for Proponents' contributions to the Fund.

Please find attached a more detailed explanation of these committed measures.

### **Detailed Explanation of Committed Measures**

#### **Background**

According to the Energy Information Administration, the PAPA is the second largest natural gas field in the nation with an estimated 20 to 25 trillion cubic feet (TCF) of recoverable natural gas. Unlike Jonah, or any other natural gas project at this stage of

development in Wyoming or onshore in the western continental United States, the Proponents have intentionally designed the PAPA comprehensive development and production proposal to avoid, or in the alternative lessen and minimize, any on-site impacts to wildlife, livestock, habitat and air while improving the socio-economic health of the local and state communities.

The Proponents have developed this plan based on recommendations from federal and state agency wildlife biologists. Year-round access lessens both the development period by up to 50% in areas with seasonal restrictions and impacts of human presence on wildlife populations over the life of the project. Temporary year-round access is necessary for this Proposal to be economically feasible.

#### Mitigation

##### Concentrated, Directional Drilling and Completion

The Proponents' plan minimizes surface fragmentation during the development phase by utilizing directional drilling from multi-well pads. By operating large multiple-well pads year-round, the Proponents are able to complete operations on individual pads much sooner, which in turn will allow pads to be reclaimed up to a decade earlier compared to multi-well pads developed under seasonally restricted stipulations. Multi-well pads also decreases the amount of disturbed acreage per well compared to what is needed for single well pads.

As the resource is currently understood, Proponents estimate it would take 4,400 additional wells for full development. Regardless of the number of wells needed to fully develop the field, the Proposed Action commits to no more than 600 pads. According to the No Action Alternative, The 1,800 producing wells on 700 pads would only extract 36% of the recoverable natural gas resource ensuring a request for additional NEPA analysis would occur within the next few years to allow for recovery of the remaining reserves. The impacts associated with the additional NEPA analysis would be in addition to impacts associated with the first 700 pads and the result would be far less beneficial than this Proposal.

#### Reclamation

The Proponents' plan allows individual pads to be reclaimed up to a decade earlier compared to multi-well pads developed under seasonal restriction stipulations. Proponents commit to the reclamation goal of restoring habitat function as soon as reasonably possible to pre-disturbance levels by restoring wildlife habitat through vigorous site-stabilizing plant growth with a native plant community that is endemic to the area. This community will be diverse in species composition, as well as age classifications, and productivity. Should available seed mixtures, techniques and other applications be available to enhance the productivity and diversity of the reclaimed area used by wildlife or livestock, these methods will be pursued. The Proponents will also commit to working with livestock producers on water placement and other methods to balance livestock needs with the need to isolate reclaimed areas for the revegetation. The Proponents commit that successful reclamation to maintain soil stability and provide habitat function will be measured in stages, as follows:

- a. The establishment of a viable seedling cover within 1 year of initiation of reclamation. Viable seedling cover shall consist of indigenous species and/or ecologically comparable species as approved by BLM habitat experts;
- b. Within 5 years of initiation of reclamation establish at least 50% of indigenous vegetative cover and species composition; and,
- c. Within 8 years of initiation of reclamation establish at least 80% of indigenous vegetative cover and species composition.

By concentrating pad locations and operational activities, as well as engaging in earlier reclamation, the Proponents will leave large blocks of acreage undisturbed and migration corridors available for use by wildlife.

#### Liquids Gathering System / Computer Assisted Operations

During the production phase, the Proponents commit to substantially reducing the amount of human activity, disturbance and on-site facilities through the use of liquids gathering systems (LGS) and consolidated production facilities, which will result in up to 165,000 fewer truck trips per year when compared to a full development scenario with no LGS. In addition, LGS significantly reduces tank requirements and associated emissions. Questar installed a LGS as mitigation for its 2004 Environmental Analysis. Ultra and Shell are committing to a LGS in the Proposed Action as their mitigation for year-round access. In addition, the Proponents commit to expanding the use of computer assisted operations (CAO) which will substantially reduce the number of trips to pads required for normal operations.

#### Air Emissions Reduction

As a part of the on-site mitigation commitment, the Proponents are committed to an 80% reduction in rig engine NOx emissions from 2005 levels at the end of the three year and a half year period following issuance of the SEIS ROD (42 months). With year-round access, Proponents can identify and retain 'fit for purpose' drilling rigs and economically justify investments on these drilling rigs to reduce NOx emissions.

Additional emission from traffic, tanks (VOC), and compressor engines will be reduced through implementation of LGS, CAO and other technologies.

After the Proponents achieve the rig engine NOx emission goals, compression emissions become the dominant source of NOx. Proponents are studying alternative solutions to reduce these emissions.

#### Lease Suspension

BLM wildlife biologists and the Wyoming Game and Fish Department have encouraged Proponents to mitigate impacts for wildlife by keeping large, contiguous blocks of habitat undisturbed and available for wildlife. Proponents offer to voluntarily suspend or commit to time-limited No Surface Occupancy (NSO) certain leases or acreage in the flank areas of the PAPA. This voluntary commitment ensures a significant portion of the flanks of the PAPA will be available as undisturbed habitat for wildlife. The certainty of

undisturbed habitat allows for enhanced access for delineation and development activities in certain areas.

#### Mitigation, Monitoring, Continued Research, Performance Based Objectives

Within one year of the PAPA SEIS Record of Decision (ROD), Proponents commit to developing a comprehensive mitigation and monitoring plan and by working with the BLM and Game and Fish to develop an appropriate wildlife threshold / emerging trends matrix. Proponents commit to continued research and monitoring of mule deer, pronghorn antelope, sage grouse and vegetation on the PAPA and of control groups. Results of this monitoring and other wildlife tracking efforts will be used to identify emerging trends and be used to cooperatively determine what mitigation actions (on-site and / or off-site) should be taken next based on the plan.

#### Planning

The Proponents commit to provide an annual development plan which will tier from a 10-year rolling forecast of PAPA activity fully describing the future development plans on an ongoing basis. Each year the specific areas of concentrated activities will be determined through joint review of the development plan. The Proponents, the BLM, Game and Fish and DEQ will reach agreement on the final plans early in the calendar year for the following year and tentative plans for the year after to allow sufficient time to plan, permit and execute new construction as required in the summer months. For example, the first quarter 2009 meeting determines 2010 activity and outlines 2011 plans. Each year, the Proponents will collaborate as appropriate to seek opportunities to further tighten the areas required for concentrated activities and reduce the associated impacts. The Proponents, BLM, Game and Fish and DEQ will jointly seek improvements to the development plan to further reduce impacts. During the annual meetings, impacts and mitigation will be evaluated for effectiveness.

#### Mitigation and Monitoring Fund

In order to mitigate potential impacts identified during the NEPA process, and in addition to the net cost Proponents will incur by implementing the Proponents' committed mitigation, Proponents have committed to establishing the Pinedale Anticline Operators' Mitigation and Monitoring Fund (Fund). This Fund will provide assurance that financial support is available for mitigation and monitoring for the life of the project. The sole purpose of the Fund is to provide funding for monitoring and mitigation impacts directly related to Proponents' activities in the PAPA SEIS project. Proceeds from the Fund can be used both on-site and off-site in the general PAPA area for air quality monitoring, wildlife, livestock, vegetation and reclamation research, analysis, monitoring, mitigation and agencies' PAPA-project essential full time equivalent (FTE) positions as a result of PAPA activities. Proponents envision that the Fund will support as components of wildlife mitigation:

- basic habitat enhancements for improvement of habitat function both onsite and off-site and
- protection of key migration routes and / or acreage that directly benefit wildlife.

The funds referenced in this correspondence are aimed at mitigation and monitoring activities. It is impossible to accurately predict what types of actions would warrant the use of these monies, but compliance activities do not fit the intended purpose of the fund.

Proponents will provide \$4.2 million as the initial contribution after BLM issues the SEIS Record of Decision (ROD) to begin mitigation and monitoring efforts immediately. Proponents would make future annual contributions to the Fund based on the pace of development. Estimated annual average contribution based on the Proposed Action is \$1.8 million per year with an expected total contribution based on the Proposed Action of approximately \$36 million. This offer is the only commitment for Proponents' contributions to the Fund.

#### Summary

Mitigation, both on-site and off-site, is a substantial cost that the Proponents are committed to bear as part of a comprehensive development plan that includes the temporary relaxation of all seasonal restrictions including, but not limited to, big game and sage grouse within specific concentrated areas as defined by the annual development plan. Raptor seasonal stipulations would be managed under the 2006 voluntary best management practices from the United States Fish and Wildlife Service.

Proponents' mitigation commitment for the PAPA SEIS would supersede all existing commitments for mitigation as well as those identified in the following and any other Decision Records: BLM 2004 [Finding of No Significant Impact, Decision Record and Environmental Assessment for the Questar Year-Round Drilling Proposal, Sublette County, Wyoming, WY-100- EA05-034]; BLM 2005 [Finding of No Significant Impact, Decision Record and Environmental Assessment for the Questar Year-Round Drilling Proposal – Condensate Pipeline Modifications, Sublette and Lincoln Counties, Wyoming, WY-100-EA05-283]; and BLM 2005a [Questar Year- Round Drilling Proposal, Addendum Environmental Assessment, WY-100-EA06-04]. Acreage included in existing habitat enhancement projects that have been initiated pursuant to these and other Decision Records will apply towards the mitigation commitment under a PAPA SEIS ROD.

#### ***D. FINAL WILDLIFE MATRIX AGREED TO BY PROPONENTS AND SENT TO MATT ANDERSON, KEN PEACOCK AND DON SIMPSON ON JULY 24, 2007.***

Monitoring criteria and methods, mitigation thresholds, mitigation responses, and mitigation process. This should be included in Attachment 4—Wildlife and Habitat Mitigation Plan in Appendix C as it will become a Memorandum of Understanding between State and Proponents.

SPECIES	CRITERIA	METHOD	CHANGES THAT WILL BE MONITORED	SPECIFIC CHANGE REQUIRING MITIGATION	MITIGATION RESPONSES
Mule Deer	Change in Mesa deer numbers	Current mule deer study, and use of WGFD data	Change in deer numbers in any year, or a cumulative change over all years, initially compared to average of 05/06 numbers (2856 deer)	15% change in any year, or cumulatively over all years, compared to reference area (Sublette mule deer herd unit [average 05/06 herd unit population is 27,254], or other mutually agreeable area).	Select mitigation response sequentially as listed below, implement most useful and feasible and monitor results over sufficiently adequate time for the level of impact described by current monitoring.
	Avoidance distances		Average of any 2-year avoidance distance from well pads and roads, and a concurrent change in deer numbers compared to average of 05/06 numbers (2856 deer)	Average of 0.5 km change per year over 2 years, and a concurrent 15% change in deer numbers in any year, compared to reference area (Sublette mule deer herd unit [average 05/06 herd unit population is 27,254], or other mutually agreeable area).	Select mitigation response sequentially as listed below, implement most useful and feasible and monitor results over sufficiently adequate time for the level of impact described by current monitoring.
Antelope	Change in Anticline antelope numbers	WMI antelope study; TRC project; and use of WGFD data	Change in antelope numbers in any year, or a cumulative change over all years, initially compared to first year of available antelope data	15% change in any year, or cumulatively over all years, compared to reference area (Sublette antelope herd unit or other, mutually agreeable area)	Select mitigation response sequentially as listed below, implement most useful and feasible and monitor results over sufficiently adequate time for the level of impact described by current monitoring.

	Size of habitat fragments used		Use by antelope in any year, initially compared to first year of available antelope habitat use data, and a concurrent change in antelope numbers compared to first year of available antelope data	10% change in habitat availability for one year, and a concurrent 15% change in antelope numbers for that year, compared to reference area (Sublette antelope herd unit or other mutually agreeable area).	Select mitigation response sequentially as listed below, implement most useful and feasible and monitor results over sufficiently adequate time for the level of impact described by current monitoring.
Sage Grouse	Number of active leks in identified lek complexes	Lek counts according to protocol	Active use on 70% of total current leks; Active use on 70% of leks in each complex (the development area complexes include the Mesa, Duke's Triangle, and Yellowpoint complexes) compared to 2007 data	30% change in total number of active leks, or 30% change in the number of leks in a single complex <sup>1</sup>	Select mitigation response sequentially as listed below, implement most useful and feasible and monitor results over sufficiently adequate time for the level of impact described by current monitoring.
	Peak numbers of males attending lek complexes <sup>1</sup>		Total average 2-year change in numbers of males attending development area lek complexes (the Mesa, Duke's Triangle, or Yellowpoint lek complex), compared to the East Fork, Speedway, or Ryegrass reference lek complexes	Average of 30% change in numbers over 2 years compared to reference area <sup>1</sup>	Select mitigation response sequentially as listed below, implement most useful and feasible and monitor results over sufficiently adequate time for the level of impact described by current monitoring.

	Nesting success and habitat selection	Current sage grouse study; WGFD data	Change in nesting success compared to reference areas, or change in nesting success and a concurrent change in habitat selection by nesting hens in relation to development disturbance	Average of 15% per year change over 2 years in nesting success compared to reference area, or a 0.5 km increase in avoidance distance per year over 2 consecutive years and a concurrent change of an average of 15% per year change over 2 years in nesting success compared to reference area	Select mitigation response sequentially as listed below, implement most useful and feasible and monitor results over sufficiently adequate time for the level of impact described by current monitoring.
	Winter concentration area use	Monitoring according to protocol	Change in winter concentration area use compared to reference area (once initial data is available), and a concurrent change in the total average 2 year numbers of males attending development area lek complexes (the Mesa, Duke's Triangle or Yellowpoint lek complex), compared to the East Fork, Speedway, or Ryegrass reference lek complexes	Average of 15% per year change in amount of winter habitat used over 2 years compared to reference areas, and a concurrent average of 30% change in numbers over 2 years compared to reference area	Select mitigation response sequentially as listed below, implement most useful and feasible and monitor results over sufficiently adequate time for the level of impact described by current monitoring.
	Noise levels	Decibel monitoring from March 1-May 15 at lek sites	Noise levels demonstrated to impact peak lek use by male sage grouse and a concurrent change in the total average 2-year numbers of males attending development area lek complexes (the Mesa, Duke's Triangle, or Yellowpoint lek complex), compared to the East Fork, Speedway, or Ryegrass reference lek complexes	Decibel levels at the lek more than 10 dBA above background measured from the edge of the lek (2000 ROD, p.27), and a concurrent average of 30% change in peak numbers of male birds over 2 years vs. reference area.	Select mitigation response sequentially as listed below, implement most useful and feasible and monitor results over sufficiently adequate time for the level of impact described by current monitoring.
Sensitive Species <sup>2</sup>	Occurrence of species and change in numbers of each species	TRC data, existing and continued	3-year change in presence/absence of species, and in numbers of individuals of each species, compared to reference areas; nest activity	3 consecutive years of change in presence or absence of a species, or an average of 15%	Select mitigation response sequentially as listed below,

			and success for raptors	change in numbers of individuals each year over 3 years; 3 consecutive years of change in nesting activity or nest success of raptors	implement most useful and feasible and monitor results over sufficiently adequate time for the level of impact described by current monitoring.
Sensitive sagebrush associated bird species <sup>3</sup>	Occurrence of species and change in numbers of each species	TRC data, existing and continued	3-year change in presence/absence of species, and in numbers of individuals of each species, compared to reference areas	3 consecutive years of change in presence or absence of a species, or an average of 15% change in numbers of individuals each year over 3 years <sup>4</sup>	Select mitigation response sequentially as listed below, implement most useful and feasible and monitor results over sufficiently adequate time for the level of impact described by current monitoring.

<sup>1</sup> If the number of leks decline but the bird numbers on lek complexes do not, the mitigation threshold would not be surpassed. If the number of leks does not decline but the bird numbers on lek complexes does decline, the mitigation threshold would be surpassed. If both numbers of leks and birds decline, the mitigation threshold would obviously be surpassed.

<sup>2</sup> Bald eagle, burrowing owl, ferruginous hawk, pygmy rabbit, white-tailed prairie dog

<sup>3</sup> Brewer's sparrow, grasshopper sparrow, long-billed curlew, mountain plover, sage sparrow, sage thrasher

<sup>4</sup> Consideration will also be given to comparisons with other regional data (e.g., USFWS Breeding Bird Surveys)

## 1. MITIGATION RESPONSES

It should be noted that these mitigation responses all follow operational mitigation measures already in place for development of the field, and deal with the remaining unavoidable impacts from field development.

The mitigation process utilizes performance-based measures to proactively react to emerging impact changes early enough to assure both effective mitigation responses and a fluid pace of development over the life of the project. In that regard, this process is designed to provide certainty to the effected agencies and the public that impacts to wildlife will be addressed before consequences become severe or irreversible by monitoring changes and responding early. Initial mitigation will utilize Mitigation Responses 1, 2, and 3. Certainty of adequate results will be through implementation of a

mitigation response followed by monitoring of mitigation results and, if the results are not satisfactory, repeating the process with another response from Mitigation Responses 1, 2, or 3 until the desired results are achieved or all feasible responses from this group are exhausted. It is fully anticipated that with multiple mitigation attempts with subsequent monitoring, it will be several years before modification of operations as noted in Mitigation Response 4 will be considered.

Sufficient time will be allowed for mitigation measures to demonstrate the desired result before the next mitigation response for each specific impact is required, and this expected time will be estimated when the measure is planned and implemented. If continued monitoring indicates that additional levels of impacts occur, beyond those already being mitigated, additional mitigation for those impacts will also occur, and will also initially utilize Mitigation Responses 1, 2, and 3. Priority for mitigation will be given to those habitats designated as most crucial or important (big game crucial winter ranges; sage grouse breeding, nesting, and winter habitats; raptor nesting areas; specific sensitive species habitats).

The process provides certainty for the Operators in that modification of operations through Mitigation Response 4 would not be considered until the previous sequential options were fully utilized. This certainty is further supported by utilization of a diverse review panel, if deemed necessary by the Operators, Wyoming Game and Fish Department, or the BLM, and selected by these entities, that would provide any needed information or advice regarding modification of operations.

Monitoring of unavoidable impacts that could result in a mitigation response is designed to identify those impacts directly attributable to oil and gas activities by isolating natural fluctuations in wildlife numbers and habitat use (e.g., severe winters, drought, wildfires, disease) as well as other unrelated cumulative man-made impacts (e.g., prescribed fires, hunting seasons) from those caused by the development of the Pinedale Anticline.

The first annual BLM/State Cooperator/Operator and 10-year development plan meeting will be held within 30 days of the signing of the ROD. A monitoring/mitigation plan will be initiated at that meeting to describe more specifically the details and process of monitoring and selection of actual mitigation responses. This plan will be updated each year, based on the monitoring and mitigation results and future needs that are apparent at that time. Monitoring methods, changes requiring mitigation, and responses are also subject to discussion and change as part of these meetings, and are subject to change in response to new research and other updated information as it becomes available.

Specific monitoring requirements for wildlife will be developed by the Wyoming Game and Fish Department, in cooperation with the operators and their contractors. When monitoring indicates a change requiring mitigation, serious mitigation efforts would be made to avoid the change becoming greater, as this may result in more costly and long-term responses to mitigate the impacts. Specific mitigation efforts will be discussed during the annual meetings. Once a change requiring mitigation happens, mitigation will need to be continued for the life of the impact and any reclamation associated with it. Mitigation measures dealing with habitat impacts will nearly always need to be long-term

in nature (habitat enhancements, Conservation Easements, etc.) in order to achieve appropriate results and assure their usefulness.

Discussions on mitigation responses will first evaluate on-site measures, followed by off-site measures, in the order of sequence noted below.

#### On-site

1. Protection of flank areas from disturbance (e.g., voluntary lease suspensions, lease buyouts, voluntary limits on area of delineation/development drilling) to assure continued habitat function of flank areas, and to provide areas for enhancement of habitat function.
2. Habitat enhancements of SEIS area (both core/crest and flanks) at an appropriate (initially 3:1) enhancement-to-disturbance acreage ratio.

#### On-site/Off-site

3. Conservation Easements or property rights acquisitions to assure their continued habitat function, or provide an area for enhanced habitat function (e.g., maintenance of corridor and bottleneck passages, protection from development, establishment of forage reserves, habitat enhancements at an appropriate (initially 3:1) enhancement-to-disturbance acreage ratio).

#### Modification of operations

4. Recommend, for consideration by Operators and BLM, adjustments of spatial arrangement and/or pace of ongoing development.

***E. FINAL RECLAMATION PLAN AGREED TO BY PROPONENTS AND SENT TO MATT ANDERSON AND MARY BLOOMSTRAN ON JULY 26, 2007.***

#### **PAPA SEIS Reclamation Plan Requirements**

The Operators are responsible for the satisfactory and timely reclamation of the land surface disturbed by their operations in accordance with federal regulations and the standards, guidelines, and criteria set forth below. Operators are encouraged to reduce net disturbance utilizing aggressive reclamation techniques that restore wildlife habitat and livestock grazing function. These standards would apply to all surface disturbing activities including but not limited to pads, roads, right-of-way, and all industry associated pipelines.

All surface disturbances will be reclaimed to meet Bureau of Land Management (BLM) standards as described in Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development – The Gold Book, and specific criteria identified in this

document. Habitat and livestock grazing reclamation shall be initiated to meet criteria standards on all portions of the well pads, access roads, etc not need for production operations when the last well on the pad is drilled and completed or when no forecasted drilling (based in existing Wyoming Oil and Gas Conservation Commission permitted spacing or depth limitations) or completion activity is expected within two years, but additional well development activity is planned on the pad. Sites stabilization including seeding will occur during the first appropriate growing season. BLM will coordinate such requests for expansion and reoccupation with Wyoming Game and Fish Department and/or other appropriate agencies through the Application for Permit to Drill (APD) process. Where practical this coordination would occur through the annual meeting, but could occur on a case-by-case basis throughout the year. Proposals to expand or reoccupy a pad after habitat and forage reclamation has been initiated would be approved by Bureau of Land Management.

### **Reclamation Objectives:**

The objective of **interim reclamation** is to achieve healthy, biologically active topsoil; control erosion; and restore habitat, visual, and forage function on those portions of the disturbed area not need for production operations for the life of the well or facilities or until final reclamation is initiated.

Interim reclamation may be considered successful when:

- Disturbed areas not needed for long-term production operations or vehicle travel are recontoured, protected from erosion, and revegetated with a self-sustaining, vigorous, diverse, native (or otherwise approved) plant community sufficient to minimize visual impacts, provide habitat and forage, stabilize soils, and impede the invasion of noxious weeds.

The objective of **final reclamation** is to achieve habitat, forage, and hydrologic function the functions that existed prior to disturbance. Including restoration of the original landform or creating a landform that approximates and blends in with the surrounding landform. Final reclamation involves restoring natural vegetative community, hydrologic systems, visual resources, agricultural values and wildlife habitats.

Final reclamation may be considered successful when:

- The original landform is restored for individual disturbed areas including well pads, production facility areas, roads, pipelines, and utility corridors.
- A self-sustaining, vigorous, diverse, native (or otherwise approved) plant community is established on the site, with a density or frequency sufficient to control erosion and non-native plant invasion and reestablish wildlife habitat and forage production. Sites demonstrate productivity approximately equal to or better than pre-disturbance levels.
- Plants are resilient as evidenced by well-developed root systems, flowers, and seed heads. Sites must exhibit sustainability of desired attributes after the removal of external influences for a period of not less than one year.

- Shrubs are well established and in a “young” age class at a minimum (therefore, not comprised of seedlings that may not survive until the following year).
- In agricultural areas, irrigation systems and soil conditions are reestablished in such a way as to ensure successful cultivation and harvesting of crops.
- Erosion control is sufficient so that water naturally infiltrates into the soil and gullyng, headcutting, slumping, and deep or excessive rilling (greater than 3 inches) is not observed.
- The site is free of federal, state and county-listed noxious weeds, oil field debris, contaminated soil, and equipment.

### **Reclamation Plan and Annual Reports:**

The Operators will prepare a detailed Reclamation and Monitoring Plan for the SEIS area within 1 year of the signing of the ROD. The Plan will include appropriate quantitative and qualitative reclamation and monitoring standards, as detailed below.

Site-specific reclamation plans will continue to be included with the section 10 of the 13 point Surface Use Plan of Operations for APD-related surface disturbing activity and in the Plan of Development (POD) for right-of-way related actions. The reclamation plan for surface disturbance should reference and be consistent with the overall Reclamation Plan for the SEIS area and should reference the ecological site type when the site type is available, or will reference general vegetation composition if ecological site type data is not available. The plan will address erosion control measures including wind erosion.

Reclamation standards, objectives, and results will be reviewed during the annual preplanning meetings. Reclaimed sites should be inspected annually (until release of bond) and evaluated the first and third growing seasons post seeding to determine if desirable plants are establishing. **Operators will provide annual ERRP reports** (as defined in more detail in appendix X<sup>1</sup>) indicating reclamation status of all locations (to include extent of reclamation, vegetative composition, density or frequency, cover, resilience, sustainability, diversity and noxious weed presence, and surface stability. Surface disturbance reports will include “as built” GIS data in acceptable form for inclusion into BLM database.

### **Monitoring and Evaluation:**

The Operators shall monitor and evaluate reclamation success and shall prepare an annual monitoring and evaluation report to be submitted to BLM and the cooperating agencies pr a minimum of 3 weeks prior the annual meeting. Sites will be monitored and evaluated by individuals skilled in rangeland or reclamation monitoring (including knowledge of local ecology and plant identification). An interagency-review team will annually review and analyze the annual monitoring results and methods.

Should the success criteria stated below not be met, the operators will be responsible for implementing additional measures as directed by BLM. Wyoming Game and Fish Department (WGFD), Department of Environmental Quality (DEQ) and/or other

appropriate agencies may provide guidance and suggestions to BLM what the additional measures could include, such as: soil amendments, reseeding, inter-seeding, providing precipitation, fencing to isolate plantings from ungulates, and creating snow fences to increase snowfall depth.

### **Interim or Final Reclamation Criteria:**

A sample representation of the vegetative population will be used to collect the vegetative data on the reclamation and reference site. The reference site location will represent the ecological characteristics of the well pad prior to disturbance.

Successful reclamation to facilitate restoration of habitat function will be measured in stages as follows:

Within 1 year of initiation of interim or final reclamation sites will demonstrate the establishment of a viable desirable seedling density or frequency. Desirable seedling density or frequency, compared to reference site, shall consist of a vigorous, diverse, native (or otherwise approved) plant community or ecologically comparable species as approved by BLM Authorizing Officer.

### **Vegetative Criteria for Interim Site Stabilization**

**a. Native Forbs:** The average density or frequency of desirable forbs must be a minimum of 75% of the reference site within 5 years. Diversity of forbs on a reclaimed site must be equal to or greater than the reference site within 5 years.

**b. Native Shrubs:** The average density or frequency of the shrub component must be at least 50 % of the reference site within 5 years. This includes both shrubs and half shrubs (e.g. winterfat, fringed sage, etc.). At least 15 % density or frequency of the shrub component must be by the dominant species from reference site. The diversity of shrubs must be equal to or greater than the reference site.

**c. Native Grasses:** Reclaimed sites must have a minimum of 3 native perennial grass species present, 2 of which must be bunch grass species. These are to be planted at rates appropriate to achieve abundance and diversity characteristics similar to those found on the reference site.

**d. Non-Native Weeds:** Sites must be free from all species listed on the Wyoming and federal noxious weed lists. All state and federal laws regarding noxious weeds must be followed. Other highly competitive invasive species such as cheatgrass and other weedy brome grasses are also prohibited in seed mixtures and will actively treated if are found in the reclaimed areas,

**e. Plant Vigor:** Plants must be resilient as evidenced by well-developed root systems, flowers, and seed heads. All sites must exhibit the sustainability of the above desired attributes after the removal of external influences. A minimum of 1 growing season without external influences (irrigation, mat pads, fences, etc.) may satisfy this requirement.

## **Full Site Final Reclamation Criteria**

### **1. Ground Cover & Ecological Function:**

To ensure soil stability and nutrient cycling, ground cover must be equal to or greater than the reference site and vegetative litter must be decomposing into the soil.

### **2. Vegetative Criteria:**

**a. Native Forbs:** The average density or frequency and total diversity of forbs must be equal to or greater than the reference site within 8 years

**b. Native Shrubs:** The average density or frequency of the shrub component must be at least 80% of the reference site within 8 years. This includes both shrubs and half shrubs (e.g. winterfat, fringed sage, etc.). At least 25% density or frequency of the shrub component must be the dominant species from the reference site. The diversity of shrubs must be equal to or greater than the reference site.

**c. Native Grasses:** Reclaimed sites must exhibit grass production equal to the reference site. A minimum of 3 native perennial species must be included with at least 2 bunch grass species.

**d. Non-Native Weeds:** Sites must be free from all species listed on the Wyoming and Federal noxious weed list. All state and federal laws regarding noxious weeds must be followed. Other highly competitive invasive species such as cheatgrass and other weedy brome grasses are also prohibited.

**e. Plant Vigor:** Plants must be resilient as evidenced by well-developed root systems and flowers. Shrubs will be well established and in a “young” age class at a minimum (e.g. not comprised of seedlings that may not survive until the following year).

## **Other Requirements**

All seed must be native (or otherwise approved) ecologically suitable species and site-specific. Should available seed mixtures, techniques or other applications be available to enhance the productivity and diversity of the reclaimed area used by wildlife or livestock, these methods should be pursued as approved by the BLM Authorizing Officer.

All topsoil from disturbed sites should be salvaged and stockpiled for later use in reclamation. Stockpiled topsoil will be seeded with native perennial grasses or an appropriate cover crop and soil should be reapplied to a reclaimed area while the topsoil is still viable – usually within 2-5 years.

Any mulch used would be free from mold, fungi, or noxious weed seeds. Mulch may include native hay, small grain straw, wood fiber, live mulch, cotton, jute, biodegradable netting, and rock or otherwise approved media. Straw mulch should contain fibers long enough to facilitate crimping and provide the greatest cover. The grantee or lessee would be responsible for the control of all noxious weed infestations on surface disturbances.

**Release Criteria for Suspended Flank Leases:**

A primary goal of reclamation is to restore functioning habitat. Flank leases set aside by suspension would be considered for release when habitat function is demonstrably restored in the core area. Successfully reclaimed acres are defined in detail above under Full Site Final Reclamation Criteria. Habitat may qualify as restored when ecological processes are functioning and the land is providing sustainable forage for wildlife and/or livestock as documented by animal use and stable populations based on Pinedale SEIS Mitigation Wildlife Matrix (appendix X<sup>2</sup>). BLM will confer with WGFD prior to lifting the suspension of lease in the PAPA flanks area.

X<sup>1</sup> *Performance Based Objectives and Best Management Practices* document currently being developed by BLM to be included in ROD

X<sup>2</sup> *Mitigation Wildlife Matrix* document developed by WGFD and Industry submitted with committed measures

***F. JULY 24, 2007 ULTRA, SHELL, BP, YATES AND NEWFIELD LETTER COMMITTING TO DA-5 ADDITIONAL MITITAGATION. EACH OPERATOR SUBMITTED TO MATT ANDERSON HIS SIGNED LETTER. REVISED DA-5 MAP IS INCLUDED AS A SEPARATE DOCUMENT.***

July 24, 2007

Matt Anderson, Project Lead  
Bureau of Land Management  
Pinedale Field Office  
P.O. Box 768  
Pinedale, Wyoming 82941

**Re: An Additional Operators' Committed Mitigation for Development Area Five in the Supplemental Environmental Impact Statement for the Pinedale Anticline Oil and Gas Exploration and Development Project**

Dear Mr. Anderson:

Ultra Resources, Inc. (Ultra), Shell Exploration & Production Company (Shell), BP America Production Company (BP), Stone Energy Corporation (Stone) and now Stone's successor Newfield Exploration Company (Newfield), and Yates Petroleum Corporation (Yates), collectively referred to as the "Operators", jointly submitted on April 6, 2007 comments to encourage BLM to adopt the Preferred Alternative C subject to the Operators' committed mitigation to redefine the boundary and management of Development Area 5 ("DA-5"). The purpose of this letter is to further add to the Operators' committed mitigation to provide additional environmental benefits to the greater sage grouse by minimizing surface disturbance within a core development area (Core) and potential development areas (PDAs) while setting aside large blocks of sage grouse habitat to mitigate impacts to the species. The Operators' committed mitigation contained in this letter applies only to DA-5.

The Operators' commit to the following mitigation for DA-5. Please see the attached map that outlines where the DA-5 Core and PDAs are located as well as the 1 mile buffer for specific key leks listed below in #2.

- 1) Operators offer mitigation to operate in the DA-5 Core year-round while development is needed and operate in the DA-5 PDAs with greater sage grouse seasonal stipulations continuing to apply while development is needed.
- 2) Operators commit to mitigation within DA-5 that creates a Core that avoids key greater sage grouse active leks by 1 mile. Those key active leks are Shelter Cabin, Rocks, South Rocks, Akali Draw, and Sand Draw. The 1 mile buffer includes the standard ¼ mile No Surface Occupancy (NSO) and an additional ¾ mile PDA. The ¼ mile NSO will continue to apply to all active leks. The 1 mile buffer will apply only to the active leks listed in this section.
- 3) Operators commit to mitigation that as the DA-5 PDAs are developed, the development will take place within the area between the ¼ mile NSO and the 1 mile boundary on only one active lek at a time.
- 4) Operators' previous mitigation components offered for DA-5 in the April 6, 2007 letter would still apply (performance objectives, monitoring, reclamation plan, mitigation, flank suspensions, annual planning/review team, etc.). As stated in the letter, "(T)his proposal is made with the understanding that additional Proponent committed mitigation measures made by Ultra, Shell and Questar will not apply to BP/Stone and Yates." Therefore the Liquids Gathering Systems (LGS) is not part of the mitigation for this proposal.