FINAL
Environmental Assessment for the Rands Butte Gas Development Project

Volume 1

Decision Record
Finding of No Significant Impact

May 2010

The BLM manages more land – 253 million acres – than any other Federal agency. This land, known as the National System of Public Lands, is primarily located in 12 Western States, including Alaska. The Bureau, with a budget of about $1 billion, also administers 700 million acres of sub-surface mineral estate throughout the nation. The BLM's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development, and energy production, and by conserving natural, historical, cultural, and other resources on public lands.

BLM/WY/PL-10/018+1310

WY-100-EA09-43

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
High Desert District
Pinedale Field Office
1625 West Pine, PO Box 768
Pinedale, WY 82941

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June 2, 2010

Dear Reader:

This compact disc with the Final Environmental Assessment (EA), Finding of No Significant Impact (FONSI) and Decision Record (DR) for the proposed Cimarex Rands Butte Project is furnished for your information. The DR identifies the BLM decision, explains the rationale for reaching the decision and identifies measures to protect the environment. The decision is based on the analysis in the EA, public concerns and comments and other multiple-use resource objectives or programs that apply to the project.

Four alternatives in addition to No Action were analyzed in the EA. The EA was prepared pursuant to the National Environmental Policy Act (NEPA) and other regulations and statutes, to fully disclose potential impacts of the proposal and alternative actions to resources in the area of RMP's proposal. Per NEPA regulations, the No Action alternative is included as a baseline for comparison.

The Final Environmental Assessment, Finding of No Significant Impact and Decision Record have been sent to affected Federal, State and local government agencies and to individuals who provided substantive comments during the scoping period or during the comment period on the Draft EA. Input from individuals, organizations and Federal, State and Local Governments who participated in the process is considered essential and is appreciated by the BLM. The Decision Record also establishes the Administrative Remedies protocol for protesting or appealing the actions authorized through this decision.

Sincerely,

Brian W. Davis
Pinedale Field Manager

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
PINEDALE FIELD OFFICE
FINDING OF NO SIGNIFICANT IMPACT

Rands Butte Gas Development Project
Environmental Assessment WY-100-EA09-43

BACKGROUND

The Bureau of Land Management (BLM) prepared an Environmental Assessment (EA) (WY-100-EA09-43) which analyzed the effects of granting permits for the Rands Butte Gas Development Project (Project). The Project proposed to drill and operate sour gas wells and injection well on the established Riley Ridge Oil and Gas Unit, and for associated rights-of-way (ROWs) lease applications for pipelines, high-voltage transmission lines and other infrastructure in southwestern Sublette County and portions of Lincoln County, Wyoming.

The Project is a natural gas and helium resource development project involving federal fluid minerals and infrastructure located on state, private, and federal land. The Project could occur regardless of federal action, since many components could be completed by other means and without federal authorization. Significance of impacts was evaluated on all BLM actions and connected non-federal actions, as well as cumulative impacts of the Project when combined with reasonably forseeable future actions in the area.

BLM initiated Public Scoping on September 10, 2008, with the publication of a Scoping Notice. The Project Open House was attended by 35 individuals on September 29, 2008. The BLM received 64 substantive scoping comments from nine individuals and agencies. The BLM identified several alternatives based on scoping, and evaluated both the adverse as well as beneficial impacts of the alternatives, including No Action in the EA. Mitigation measures and monitoring requirements were incorporated into the analysis, in order to reduce expected environmental effects of alternative actions.

The EA, BLM preferred alternative and BLM-required Mitigation and Monitoring Measures (Exhibit A) were made available to the public for a 30-day public review on January 25, 2010, which was later extended. A public meeting was held on February 11, 2010 to aquaint the public with the content of the EA. A total of 194 comments were received from 19 entities during the comment period, which ended on March 15, 2010.

Hereinafter, the Selected Alternative refers to Alternative 3, as described in the EA and modified to include a minor re-routing of the pipelines and transmission line as mitigation to new sage-grouse leks discovered after the public comment period on the draft EA.

ADDITIONAL INFORMATION

Several clarifications have been made to the Rands Butte Gas Development EA based on comments received by the public (see comment) letters in Exhibit B. Responses to the public comments and changes to the EA are provided in Exhibit C.

A modification was made in the EA section 4.7.4.5.1.1, Greater-sage-grouse and in section 4.7.4.8.1.1, "BLM-required mitigation for Greater sage-grouse", Alternative 3. These changes were the result of new data that was obtained after the Draft EA was published.

In March, 2010, subsequent to the release of the EA for public review and comment, the U.S. Fish and Wildlife Service found that listing of the Greater sage-grouse, range wide, was warranted but precluded from listing under the ESA by higher priority listing activities. As a result, the Greater sage-grouse was given the status of a Candidate Species for all federal agencies. This status requires that federal agencies consider the species in their management decisions and with the objective of improving their status on federal lands. In April, 2010, two previously unknown Greater sage-grouse leks were discovered in the RBPA approximately 4 miles east of the M&HRF. The leks were initially discovered through repeated helicopter surveys and verified with two on-the-ground site visits by a BLM biologist. This discovery increased the number of occupied leks within an 11-mile radius from 28 to 30 leks, and changed the total number of leks within or intersecting the RBPA from 8 to 10 leks. The new finding required development of new BLM-required mitigation measures specific to Alternative 3, as included in Exhibit A, to alleviate potentially significant effects to the species.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the information contained in the EA (WY-100-EA09-43) and all other information available to me, it is my determination that: (1) the implementation of the selected alternative (Alternative 3) will not have significant environmental impacts beyond those already addressed in the BLM Pinedale Field Office "Record of Decision and Resource Management Plan" (RMP, 2008); (2) the selected alternative is in conformance with the RMP; and (3) the selected alternative does not constitute a major federal action having a significant effect on the human environment. Therefore, an environmental impact statement or a supplement to the existing environmental impact statement is not necessary and will not be prepared.

This finding is based on my consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), both with regard to the context and to the intensity of the impacts described in the EA or as articulated in the letters of comment.

Context

The Proposed Action would occur within the Traditional Leasing Area (TLA) as designated by the RMP, which anticipated that oil and gas development and right-of-way (ROW) actions would occur throughout the TLA. The RMP further anticipated that that existing leases would be managed under their existing lease terms and stipulations and that post lease actions such as the Rands Butte Applications for Permit to Drill (APDs) and ROW applications would be managed under restrictions and Conditions of Approval developed through a programmatic and/or site-specific environmental analysis. The Proposed Action is, therefore, in conformance with the Pinedale RMP.

Under the Selected Alternative, APDs and ROW grants for a natural gas pipeline, a raw helium pipeline, a fiber optics line, a 230-kV and 69-kV power line, and an Ambient Air Monitoring and Weather Station would be authorized.

Should the federal applications be denied (i.e., adoption of the No Action Alternative, the Operators have indicated their intention to proceed with private and state actions to meet the intended purpose of the project, and since several non-federal connected actions have already begun or would be completed regardless of BLM actions, the context in which BLM decisions occur is limited. With the Selected Alternative (Alternative 3), production of natural gas and helium resources federal would occur from the federal mineral estate and would be transported via federal right-of-way permits across public lands under the jurisdiction of the BLM Pinedale Field Office.

Intensity

The BLM has considered the potential intensity/severity of the impacts anticipated from the Rands Butte Project decision relative to each of the ten areas suggested for consideration by the Council on Environmental Quality. With regard to each:

1. ***Impacts that may be both beneficial and adverse.*** The EA considered both potential beneficial and adverse effects (see EA Table 4-64, pp. 507-508. Adverse impacts to visual and cultural resources are anticipated for Alternatives 1 and 2 and a significant adverse impact has been identified for Alternative 1. Minor adverse impacts to elk winter range and migration routes are expected for all alternatives. Minor, largely temporary, adverse impacts are expected to occur to air quality in the area. Long-term beneficial impacts to the local and regional economy would occur for all alternatives. The increased supply of natural gas and industrial helium would provide a long-term benefit to consumers.
2. ***The degree to which the proposed action affects public health and safety.*** The risk to health and safety has been evaluated based on possible uncontrolled spills or release of hazardous substances, explosions, or fires caused by the construction or operation of the proposed Project. With implementation of safety measures and contingency plans mandated by BLM Onshore Orders and other federal and state regulation (see EA Appendix E), affects to human health and safety are expected to be minor.
3. ***Unique characteristics of the geographic area such as proximity of historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*** There are several cultural resource sites identified as potentially sensitive. Implementation of avoidance and mitigation measures would eliminate any adverse impacts from the decision. The EA evaluated potential effects to the visual quality of the Lander Trail and concluded that impacts would be minor. There are no parks, prime farmlands, or wild and scenic rivers that would be affected by the decision. The nearest ACECs/WSAs are outside of the area and would not be affected by the decision. Impacts to wetlands are not anticipated with the selected alternative. There are no prime farmlands, wild and scenic rivers, or ecologically critical areas identified in or near the project area~~,~~. Varying amounts of wetlands have been identified association with the different Alternatives. Wetlands associated with the Selected Alternative include pipeline crossings on Spring Creek and Beaver Creek. Impacts would be mitigated by boring under these streams.
4. ***The degree to which the effects on the quality of the human environment are likely to be highly controversial.*** The effects of actions planned for the Project are similar across all alternatives and

considered to be minor. No unique or appreciable scientific controversy has been identified. Public comments were received concerning potential for releases of sour gas and the safety of reinjection of the gas. One comment refers to a study concerning sour gas spills/reslease in Canada. The EA addresses the geologic features that seal off the Madision Formation, thus making such spills/releases of re-injected H_2S and CO_2 from the Rands Butte project to the surface very unlikely. The EA also addresses the safety plans that would be implemented to minimize the affects of releases from the project infrastructure.

5. ***The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*** The EA has identified and evaluated the level of uncertainty and risk associated with earthquakes in the Project Area. The level of risk has been mitigated with though project design and safety and contingency planning that are incorporated into the selected alternative. As stated in item 4 above, the EA also addresses possible H_2S and CO_2 spills/releases, as well as geologic characteristics and safety and contingency plans designed to alleviate the potential for adverse affects to the human environment. Based on the analysis in the EA, unique or unknown risks to the human environment are not anticipated.

6. ***The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*** This project neither establishes a precedent nor represents a decision in principle about future actions. The Proposed Action is consistent with actions approved by the Pinedale RMP. Oil and gas development, including APDs for well drilling and rights-of-way for pipelines, power lines, etc. are anticipated activites anticipated for this area in the RMP.

7. ***Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*** The selected alternative has been evaluated for potential additive and cumulative impacts and none are found to be significant.

8. ***The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources.*** There are several features within the Project Area that are listed or eligible for listing in the National Register of Historic Places in the project area or within the project vicinity Portions of the project would be visible from portions of the Lander Cut-off of the Emigrant National Historic Trail. However, mitigation and avoidance measures have or will be implemented to alleviate adverse impacts to these sites. The project would not result in the loss or destruction of significant scientific, cultural, or historic resources.

9. ***The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.*** Portions of the project would fall within the Birch-South Beaver Lynx Analysis Unit (LAU) with occasional, migrant occupancy by Canada lynx. No project components fall in or result in the loss of critical lynx habitat. Therefore, the project may affect, but is not likely to adversely affect Canada lynx. RBPA is not within the Primary Conservation Area for grizzly bear; but is within the Grizzly Bear Data Analysis Unit (derived by the WGFD) and is considered an ecosystem transitional zone containing the southernmost portion of known grizzly bear activity in the Greater Yellowstone ecosystem and the Project would not affect suitable habitat. Therefore, the decision may affect, but is not likely to adversely affect grizzly bear. The decision may also affect, and is likely to adversely affect listed Colorado River fishes from water depletions in the Colorado River Basin. Greater sage-grouse, a Candidate species under consideration for listing

under the ESA, are located in the project area and the decision may affect, but is not likely to adversely affect this species. Based on consultation with the U.S. Fish and Wildlife Service, implementation of compensatory mitigation, protective design features, mitigation measures, and BMPs would ensure that no significant adverse impacts to listed threatened, endangered, or ESA candidate species would occur as a result of the decision.

10. ***Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*** The Proposed Action does not threaten to violate any law. The Proposed Action complies with the Pinedale RMP, which provides direction for the protection of the environment on public lands.

June 2, 2010

Date

Brian Davis,
Field Manager
Pinedale Field Office

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
PINEDALE FIELD OFFICE
DECISION RECORD

Rands Butte Gas Development Project
Environmental Assessment WY-100-EA09-43

DECISION

It is my decision to select Alternative 3, as described in the Rands Butte Gas Development Project (Project) Environmental Assessment (EA), and to include the alignments and other design features described under Alternative 3 and Exhibit A, "BLM Required Mitigation and Monitoring Measures". The EA and the finding of no significant impacts (FONSI) analyzed the selected alternative in detail and either found no significant impacts or mitigated adverse impacts to a level below the significance threshold. Implementation of this decision will result in construction and operation of new federal gas wells, and acid gas disposal wells, pipelines, high-voltage transmission lines, and air monitoring station on federal lands under the jurisdiction of the BLM. Any terms and conditions or other standards specific to the Endangered Species Act will be implemented if included by the USFWS in the Biological Opinion (see "Consultation" below). All design features and required mitigation identified in the EA will be implemented.

The selected alternative is in conformance with the Pinedale Field Office Record of Decision and Resource Management Plan (RMP, 2008).

This decision also serves as the authorization to approve the Applications for Permit to Drill (APD) the Riley Ridge Unit (RRU) 13-14, 18-14, and 16-24 wells and the right-of-way (ROW) and temporary use permit (TUP) applications for the Williams pipeline loop, the Cimarex natural gas pipeline, the 230-kV and 69-kV power lines, the helium pipeline, the fiber optics line, and the Ambient Air Monitoring & Weather Station.

CONNECTED ACTIONS

In 2008, the State of Wyoming granted Cimarex Energy a Wyoming Special Use Lease for development of a new Methane and Helium Recovery Facility (M&HRF) to be located on State of Wyoming land, which would process sour gas from the Riley Ridge Unit. Other private and state actions are underway for construction and operation of a helium liquefaction facility near Big Piney, Wyoming, and a produced water pipeline and injection well on state land near the M&HRF. These actions are connected to the BLM decision regarding the Project, but are outside the BLMs ability to modify or change. However, these non-federal connected actions have been included in the EA analysis of environmental consequences and have been considered in my decision.

ALTERNATIVES

No Action

Under the "No Action" alternative the BLM would not authorize drilling, production, or new ROW; however the Rands Butte Project could still be implemented by installing all project components on

state or private lands. The EA discloses the environmental impacts of implementing the No Action Alternative. The No Action would have somewhat lesser impacts to wildlife, but would impact substantially more wetland and riparian habitat, and would have greater impacts to the Lander Trail viewshed/setting and to a Class II Visual Resource Management (VRM) area.

Actions Common to All

Each of four action alternatives considered in the EA, the BLM would authorize the drilling and operation of three new federal sour gas wells and one H_2S/CO_2 injection well on a single well pad, and completion and operation of an existing sour gas well, along with the ancillary gas flow llines, buried fiber optic and electrical distribution lines from the M&HRF to the well pad , and the installation of an air quality monitoring and weather station on federal lands. BLM would also authorize expansion of the capacity of the existing Williams market gas pipeline with a 12.7-mile pipeline on public land in an area west of LaBarge, Wyoming. The effects of these actions would be the same for all alternatives, and would not result in significant adverse impacts.

Action Alternatives

Alternative 1 is the Proposed Alternative submitted by the project proponents. In addition to the common to all alternatives project components listed above, the BLM would authorize federal ROW permits in the Rands Butte Area for the construction and operation of a high voltage 230-kV electrical transmission line, a natural gas pipeline to the Williams system, a helium pipeline to the helium liquefaction plant south or Big Piney, and a buried fiber optic data transmission cable connecting the various project components to each other and to an existing fiber optics line near Higway 189.

The objective of Alternative 2 would be to avoid surface disturbance and overhead structures in occupied habitat of greater sage-grouse on public lands under the jurisdiction of the BLM. In addition to the federal components considered in all the action alternatives,under this alternative private lands in the Middle Piney-South Piney Valley would be used for the location of the helium pipeline, fiber optic cable, natural gas pipeline, and electrical transmission line infrastructure.

The objective of Alternative 3 would be to minimize surface disturbance and reduce impacts to sensitive habitats within public ROW by boring the pipelines and fiber optic lines under Beaver Creek and Spring Creek and locating portions of the 230-kV power line and the natural gas/helium/fiber optic line corridor to avoid significant impacts to specific greater sage-grouse leks and to reduce visibility from sensitive viewsheds, including the Lander Trail.

The objective of Alternative 4 would be to avoid visual effects and habitat disturbance from overhead powerlines by including an on-site electrical generating plant constructed and operated on state land near the M&HRF. Alternative 4 would have the same surface water, fisheries, aquatic resources, wetland, and riparian impacts as Alternative 1. While BLM can deny approval of the federal right-of-way application for the 230-kV power, it cannot mandate that the Operator or the State of Wyoming actually install an electrical generating plant at the M&HRF.

Alternatives Considered but not Analyzed in Detail

- Partial Use of Wind Energy for project power was eliminated from further analysis based on the lack of suitable wind availability, the large land requirement, and the potential visual and noise impacts that would result from wind turbines sufficient to meet the 45-MW energy demand of the M&HRF.

- Use of Solar Energy was eliminated from further analysis due to the large land requirement, water requirement, and visual impact of a solar array sufficient to meet the 45-MW energy demand of the M&HRF. Only a partial offset would be technically feasible due to the intermittent nature of the energy source.

- Year-round Drilling_was eliminated because in was not consistent with the RMP decision for the well pad area, nor was it consistent with the requirements of the MOA between Cimarex and the Wyoming Game and Fish Department.

- Water Disposal to an existing Madison Formation well was considered instead of drilling a new well to the Nugget Formation. One existing well was determined to require redrilling before it could be safely used, and the other was eliminated due to its proximity to the South Piney Creek and the historic Lander Trail.

- Completion and use of existing Riley Ridge Unit Madison Formation wells was considered instead of drilling new gas wells. There are five existing wells drilled to the Madison Formation in the Riley Ridge Unit (RRU). One (RRU 33-24) was determined to have technical issues with the borehole making it unsafe to complete and use. Two existing wells, RRU 8-24 and RRU 12-43, are located in areas where completion and operation would result in adverse impacts to sensitive resources such as riparian habitats adjacent to South Piney Creek and within view of eligible portions of the historic Lander Trail, or within the Bridger-Teton National Forest and designated critical habitat for Canada lynx and grizzly bear habitat. The RRU 10-14 was determined to be suitable for use and was incorporated into the action alternatives. The RRU 17-34 may not have sufficient gas flow rate to meet the needs of the Project. However, the RRU 17-34 well pad will be used as the multi-well pad for directional drilling.

- Location of M&HRF on federal land outside the Riley Ridge Unit was considered. This alternative considered location of the M&HRF on Trail Ridge to the south of the proposed location within the Riley Ridge Unit. The alternative was eliminated from further consideration because of increased risk to human health and safety due increased human occupancy, longer sour gas flow lines through difficult topography, increased overall surface disturbance within a sensitive watershed with potential impacts to BLM sensitive fish species, and greater difficulty of safely disposing of produced water.

- Alternative State land locations were considered for the M&HRF at lower elevations. These locations were eliminated from further consideration because of concerns for increased public safety risk due to decreased wind velocities and higher public surface occupancy. Landowner concerns also indicated possibly greater impacts to grazing.

RATIONALE FOR SELECTION

The purpose of the action is to implement and test new technological advances in recovering economic natural gas and helium from federal reserves from the Madison formation, while reducing greenhouse gas emissions, safety considerations, and energy impacts of preivous technology considered in the Riley Ridge EIS (1984); and to facilitate the leaseholder's rights to develop oil and gas resources within their federal mineral leases in accordance with the Mineral Leasing Act of 1920, as amended. The new process would separate economic gases contained in a complex gas mixture,

followed by immediate re-injection of the waste stream of dangerous gas by-products containing hydrogen sulfide (H_2S) and carbon dioxide (CO_2). The action is needed to supply U.S. markets with natural gas and additional supplies of helium for 40-years, which will help alleviate the relative shortage of industrial helium supply consistent with BLM's National Helium Reserve Program guidance (EA, Appendix A).

No Action Alternative would allow testing the new H_2S/CO_2 processing system and it would provide natural gas and helium supplies from the relatively small state oil and gas lease to market. It would not, however meet the purpose of facilitating the leaseholder's rights to develop oil and gas resources within their federal mineral leases. Nor would it meet the need of providing the larger supply of federal natural gas and helium reserves contained more expansive mineral leases in the Rands Butte Project Area and Riley Ridge Unit consistent with BLM's National Helium Reserve Management Program (EA, Table 4-65). Additionally, no action would result in greater impacts to visual quality, to the Lander Trail setting, to wetland and riparian habitat, and other resources located on private land than the action alternatives.

Alternative 1 would meet the purpose of the action, but is rejected due to significant adverse impacts to Greater sage-grouse breeding habitat from loctation of overhead transmission lines visible within 0.5 mile of occupied leks and from the location of the natural gas pipeline, helium pipeline, and fiber optics line within the ¼-mile no surface occupany area an occupied lek; and also due to increased impacts to surface water resources, fisheries, wetlands, and riparian habitat resulting from trenching the natural gas, helium, and fiber optics lines through Beaver Creek and Spring Creek. These impacts cannot be completely mitigated (Table 4-65).

Alternative 2 is rejected due to adverse impacts to natural resources, visual, and cultural resources that cannot be completely mitigated (Table 4-65). Like the No Action, Alternative 2 would locate the natural gas pipeline helium pipeline, fiber optics line, and 230 kV powerline on private lands in the Middle and South Piney Creek drainages resulting in greater impacts to surface water resources, fisheries, wetlands, and riparian habitat, and other resources along the route than Alternatives 3 and 4. It would also result in greater impacts to the Lander Trail setting and to a Class II ,

Alternative 3 meets the purpose and need identified in the EA with the lowest potential impacts as analyzed in the EA, and summarized in Table 4-65 of the EA. Adverse impacts can be successfully mitigated. This alternative will be consistent with objectives of the RMP. Boring under Spring Creek and Beaver Creek would reduce impacts to riparian and aquatic systems. Impacts to greater sage-grouse in the RBPA would be reduced by location of the ROW corridors. Alternative 3 would also reduce viewshed/setting impacts to the Lander Cut-off historic trail and Class II VRM area and other resources located in the South Piney Valley, compared with Alternatives 1 and 2. Additionally it would not have the level of surface water, fisheries, aquatic resources, wetland, and riparian impacts that would occur through the other action alternatives.

Alternative 4 is rejected due to adverse impacts to air quality that would be created by the year-round operation of the on-site electrical generation plant, which could not be completely mitigated (Table 4-65). In addition, BLM cannot mandate that the Operator or State of Wyoming implement the electrical generating plant on state lands, as considered in Alternative 4.

Based on the analysis of potential environmental impacts detailed in the attached EA (EA-100-EA09-43), and in accordance with the National Environmental Policy Act (NEPA) and the Pinedale Resource Management Plan, Record of Decision (November 2008), I have determined that the

impacts of Alternative 3, when coupled with mitigation measures and monitoring requirements (see attached Exhibit A) and environmental protection measures presented and detailed in the EA and this Record of Decision, are not significant per the definition of significance in 40 CFR 1508.27. Therefore, A Finding of No Significant Impact was determined for EA-100-EA09-43 and preparation of an environmental impact statement is not required.

CONSULTATION AND COORDINATION

Public Scoping and Review

BLM initiated Public Scoping on September 10, 2008, with the publication of a Scoping Notice and invitation to a Project Open House on the Wyoming BLM website. The Scoping Notice and 118 individual letters were sent to federal agencies; state agencies and boards; local government; educational institutions, universities, and museums; Native American tribes; state and federal elected officials; trade groups; media; and livestock operators. Scoping comments were received through November 3, 2008. The BLM accepted scoping comments during scoping meetings, and comments were also accepted via letter, fax, and electronic mail during the scoping period.

An Open House was held in Marbleton, Wyoming, on September 29, 2008. The meeting was held at the Marbleton Town Hall and included a brief presentation of the proposed Project with maps and information regarding relevant resources located in the RBPA. BLM resource specialists and representatives from Cimarex were available to answer questions from the public. Thirty-five individuals from the public registered at the scoping meeting. During the scoping period, the BLM received 64 substantive comments from nine respondents.

The public draft of the EA was released for a 30-day public review on January 22, 2010, via a direct mail out to 120 entities, news release on the BLM PFO and Wyoming BLM websites, the Pinedale Online website, as well as other media outlets. Electronic copies were made available on the Wyoming BLM website and were directly mailed to 59 landowners and grazing permittees, agencies, and organizations. Print copies were made available for pick-up at the Pinedale Field Office.

A second Project Open House was held on February 11, 2010. The meeting was held in Marbleton, Wyoming, at the Marbleton Town Hall. The Open House included a brief presentation of the alternatives, their relative impacts on the human and physical environment, and the BLM preferred alternative. BLM resource specialists and representatives from the Operators were available to answer questions from the public. The Open House was attended by 39 individuals from the public. BLM made a short presentation to the public describing the alternatives and their relative impacts. The public was not invited to make formal statements but were invited to return written comments to the BLM.

The public comment period on the EA ran from January 25 through February 25, 2010. The comment period was extended until March 15, 2010 at the request of the Environmental Protection Agency. Nineteen comment letters were received by the BLM, containing a total of 194 individual comments. All comments were logged and reviewed. Substantive comments were considered during preparation of the final EA and BLM made several changes to the Draft EA based on public comments received, see Exhibit B for comment excerpts and responces and Exhibit C for actual comment letters (please note that attachments referenced in the comment letters are available on the world-wide web and were not included in Exhibit C).

Wyoming State Historic Preservation Office
Pursuant to the National Historic Preservation Act, consultation with the Wyoming State Historic Preservation Office must take place prior to commencing any surface disturbing activities on puclic lands. The project area has been surveyed for cultural resources in part. Additional Class III survey must be conducted and approved along unsurveyed private ROW areas and federal pipeline and power line access and traffic re-routes before construction is permitted. With the mitigation measures placed in the rights-of-way grants and temporary use permits, no conflicts to cultural properties will result from the installation of the Rands Butte Gas Development Project.

Native American Tribes
Pursuant to the National Historic Preservation Act, Section 106, consultation with Native American tribes must take place if sites are identified which may have tribal significance. The BLM PFO initiated consultation with Eastern Shoshone Tribes traditionally affiliated with the project area, and conducted on-site visits of relevant cultural resource locations with tribal representatives in October 2009. Tribal consultation was completed by BLM under Section 106 of the National Historic Preservation Act.

U.S. Fish and Wildlife Service
Pursuant to the Endangered Species Act, consultation must be completed with the U.S. Fish and Wildlife (Service) prior to commencing any surface disturbing activities on public land. Consultation with the Service was initiated on April 9, 2010. BLM has made conducted a Bioldogical Assessment of the effects of the decision. Based on this assessment, it was determined that the decision would have no effect on the black-footed ferret and Ute ladies'-tresses orchid. The decision would have no effect on designated critical habitat of Canada lynx, and would not jeopardize the continued existence of the gray wolf, western yellow-billed cuckoo and greater sage-grouse.

The decision may affect but is not likely to adversely affect grizzly bear. The decision may affect and is likely to adversely affect listed Colorado River fishes, and compensatory mitigation has been identified .

The Service determined in March of 2010 that Greater sage-grouse were warranted for listing under the Endangered Species Act but precluded due to higher priorities of the Service. The status of this species was identified as a federal candidate species. BLM undertook additional surveys of lands in the PFO jurisdiction in April of 2010, identifying new lek areas in the project area, with new mitigation measures imposed as a result of the new findings (Exhibit A). Any additional changes to the preliminary determinations and terms and conditions will be incorporated in the final BLM grants.

IMPLEMENTATION
Additional requirements that must be met prior to commencing with construction of the Rands Butte Gas Development include completion of Endangered Species Act Section 7 consultation with the Service, consultation with the State Historic Preservation Office, submittal and BLM approval of the Cimarex Environmental Compliance Plan and Reclamation Plan demonstrating conformance with all provisions of the EA and the RMP (2008). Final cultural and paleontological resource surveys and clearances, and any required wildlife and botanical clearances will be conducted prior to implementation of the Project. Special status species sites and special habitats discovered as a result of clearances or pre-disturbance surveys will be managed consistent with the direction the RMP.

ADMINISTRATIVE REMEDIES

In accordance with 43 CFR 3165.3 , affected parties may request a State Director Review of this management decision to approve the APDs for the Riley Ridge 13-14, 18-14, and 16-24 wells Requests for a State Diretor Review must be filed in writing with the State Director, Bureau of Land Management, P.O. Box 1828, Cheyenne, WY, 82003 within 20 business days of the date of this decision shown below.

The decision to approve the APDs, ROW, and TUP applications for the Project, including the new gas wells and acid gas injection well, Williams pipeline loop, the Cimarex natural gas pipeline, the 230-kV and 69-kV power lines, the helium pipeline, the fiber optics line, and the Ambient Air Monitoring & Weather Station, may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4.

If an appeal is taken, your notice of appeal must be filed writing to the Field Manager, Bureau of Land Management, High Desert District, Pinedale Field Office, P.O. Box 768, 1625 West Pine Street, Pinedale, WY within 30 calendar days of the date of this descision as shown below. The appellant has the burden of showing that the decision appealed from is in error. If you wish to file a petition (request) pursuant to regulation 43 CFR 2801.10 or 43 CFR 2881.10 for a stay (suspension) of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay: Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

(1) The relative harm to the parties if the stay is granted or denied,
(2) The likelihood of the appellant's success on the merits,
(3) The likelihood of immediate and irreparable harm if the stay is not granted, and
(4) Whether the public interest favors granting the stay.

June 2, 2010

Date

Brian Davis,
Field Manager
Pinedale Field Office

EXHIBIT A

BLM-REQUIRED MITIGATION*

BLM-required mitigation measures apply to only BLM-approved actions, as evaluated in the Rands Butte Final Environmental Assessment. The BLM approved Operator/grant holders, including Cimarex Energy, Inc, Williams Pipeline, and Rocky Mountain Power, and their representatives, partners, contractors, and subcontractors, are required to implement the following mitigation measures during construction and operation of the federally-approved Project.

Mitigation Relative to April 2010 Findings of Greater Sage-Grouse

No Surface Occupancy is allowed within the ¼-mile radius around the perimeter of an occupied Greater sage-grouse lek.

Natural gas and helium pipelines shall be re-located outside of the ¼-mile radius around the perimeter of an occupied Greater sage-grouse lek.

Power poles within the ½ - mile visual buffer around the lek near the center of the southwest quarter of Section 13, T29N, R114W, shall not extend higher than 80 feet above natural ground level.

The power line shall be relocated from the ridgeline in the north half of Section 14, T29N, R114W south approximately 900 feet to the north side of the of the road/two-track traverse the Spring Creek drainage.

Best Management Practices

Implement BMPs listed in Appendix F when and where appropriate.

The Storm Water Pollution Prevention Plan (SWPPP) will be prepared and implemented in accordance with WDEQ Permit WYR10-0000, General Permit to Discharge Storm Water Associated with Large Construction Activity Under the Wyoming Pollutant Discharge Elimination System.

BMPs will be applied to minimize surface disturbance and erosion, control any mobilized pollutants, and expedite revegetation efforts.

Spill Prevention Control and Countermeasure Plans (SPCCP) shall be in place at all times. The SPCC Plan applies BMPs intended to prevent spills of fuels, chemicals, or other hazardous materials, and establish procedures to follow in case any spills occur. These procedures should prevent spilled pollutants from reaching waters of the state. This plan will outline all emergency responses to hazardous releases of substances into the environment, limit exposure of the substance to the organisms present in the environment, and provide details for rapid cleanup of the environment.

The Operator/grant holder shall conduct operations and implement control measures to prevent sediment discharge from Project components occurring on federal land.

Do not remove vegetation from areas with slopes of 25% or greater.

Take immediate steps to correct any detected erosion or slope movements.

Design ROWs such that they follow slope contours and have adequate drainage plans.

Reclamation

An Erosion, Revegetation, and Restoration Plan shall be prepared to address all Project-related surface disturbance on BLM-administered land.

The Operator will recontour and reclaim areas immediately following construction if not needed for production or other long-term operations.

Soil retention measures, such as silt fencing, contour furrows, or hydromulching, will be implemented at the time of disturbance.

Topsoil depth will be determined by the BLM AO and all surface soil materials salvaged and respread during interim reclamation. During pipeline and fiber optic line construction, topsoil will be kept intact through scalping.

Interim reclamation of disturbed areas will be initiated within one growing season to minimize long-term exposure to wind and water erosion, achieve natural erosion rates and soil productivity to the extent practicable, and control for invasive noxious weeds and/or undesirable plant species.

The Operator shall use adapted species and BLM-approved seed mixtures, and the application of biodegradable mulch, netting, or soil stabilizers.

The Operator shall develop, submit, and implement a SWPPP prior to initiating construction operations on BLM-administered lands.

Water Resource Mitigation

Implementation of Project components shall adhere to all requirements and standards of the Clean Water Act, as well as WDEQ regulations, and applicable requirements in Appendix 3 of the BLM Pinedale RMP ROD.

Water withdrawals from perennial streams on BLM-administered lands shall be conducted in accordance with the WSEO permit requirements.

Culvert installations shall be designed and installed to minimize sediment discharge and shall adhere to Gold Book standards and applicable BMPs from Appendix C of the Pinedale RMP ROD.

In order to protect the existing water quality of the shallow aquifers within the RBPA well drilling and completion of the production and injection wells associated with the Project will use the best available technology in their development.

All known existing aquifers and aquitards will be geophysically logged during drilling, and the well will be completed to eliminate the possibility of cross-contamination between aquifers.

If any construction requires the use of dewatering activities, the wastewater will be disposed of in accordance with WDEQ WYPDES permits. Under no circumstances can the extracted waters be disposed of in an unregulated and unapproved method.

Water applied to roads for dust control purposes must be applied at a rate that will not cause excess water to runoff to surface drainages.

Water used for hydrostatic testing of the natural gas and helium pipelines will be discharged in compliance with WDEQ's General Permit for Temporary Discharge (Authorization for Temporary Discharges Under the Wyoming Pollutant Discharge Elimination System).

If reserve pit fluids are removed, they shall be disposed of in a DEQ approved facility.

Vegetation and Noxious Weed Mitigation

For all locations and access roads, the Operator shall promptly revegetate all disturbed areas not necessary for production with a BLM PFO-approved seed mixture. Revegetation will commence immediately after construction.

The Operator shall minimize airborne dust on access roads using water and/or a dust suppressant acceptable to BLM to reduce damage to roadside vegetation communities. The Operator will develop and maintain a weed management plan with the BLM PFO. Control of noxious or invasive weeds through chemical or biological means will be accomplished by certified applicators.

The Operator shall conduct all surface activities in accordance with the BLM PFO FEIS RMP and ROD (BLM 2008b).

Construction equipment, materials, and vehicles will be stored at construction sites or at specified construction yards.

Construction vehicles and equipment will be cleaned, power-washed, and free of soil and vegetation debris prior to entering Sublette County and when leaving areas within the RBPA with known concentrations of invasive or noxious weeds entry and use of access roads to prevent transporting weed seeds.

All personal vehicles, sanitary facilities, and staging areas will be confined to a limited number of specified locations to decrease chances of incidental disturbance and spread of weeds.

Prompt re-establishment of the desired vegetation in disturbed areas is required. Seeding will occur during the frost-free periods after construction. Certified "noxious weed-free" seed will be used on all areas to be seeded.

Seeding will be completed with seed mixtures of plant species indigenous to the area and approved by the BLM PFO or applicable Conservation District.

Pre-construction surveys will be conducted for weed infestations within the site boundaries and along access roads.

The Sublette County and Lincoln County Weeds and Pest Departments will be consulted to determine treatment for noxious weeds, if identified.

Revegetated areas will be monitored following seeding to evaluate the need for supplemental seeding and noxious weed control.

Water Resource Mitigation

The Operator shall develop and implement a comprehensive reclamation and weed monitoring and management plan. The plan shall be completed for BLM approval within six months of the issuance of the Decision Record.

The Operator will follow BLM stipulations by avoiding surface disturbances within 500 feet of surface water, riparian areas, wetlands, and 100-year floodplains unless it is determined through site-specific analysis, approved in writing by the BLM, that no practicable alternative to the Proposed Action exists.

All stream crossings will be analyzed on a Project-specific basis during the construction planning process and through CWA authorization and Section 404 permitting as necessary.

Implementation of site-specific BMPs and construction techniques to minimize the potential for indirect impacts.

Avoidance and minimization of permanent structures in surface water features.

After construction, all pipeline and transmission line ROWs will be restored back to preconstruction grade and functionality followed by reclamation and seeding per the BLM-approved reclamation plan.

Wetland mitigations, as required, to comply with the CWA and 'no net loss' policies and directives.

Channel crossings of ephemeral, intermittent, and perennial streams for pipelines will be located and designed in accordance to USACE Section 404 permits to protect channel stability and fish spawning habitat and to prevent increases in water velocity, which could lead to increased erosion and channel instability. Construction generally will be restricted until after spring runoff, when normal or low flows are established. The pipe will be buried at a depth sufficient to ensure the pipeline does not become exposed.

Special Status Species and Fish and Wildlife Resource Mitigation

Any new mitigation measures determined in consultation between BLM and the USFWS shall be implemented by the Operator, in accordance with the Endangered Species Act.

To protect avian species, including western yellow-billed cuckoo, the transmission line design for river crossings, plus three spans on either side, will include bird flight diverters installed on the high neutral line.

Transmission lines shall be constructed with avian-safe design standards and perch discouragers used on every pole to deter avian nesting and reduce the risk of electrocutions and collisions that could occur.

Water quality will be protected through the adherence to permit requirements and BMPs as described in the Section 4.4.

If populations of Ute ladies'-tresses are located, Project activities will not be authorized closer than 0.25 mile without concurrence of the USFWS and the BLM authorized officer.

All disturbance occurring within the high bank plus 50 feet is required to be reclaimed to meet the PFC standards.

Standard no surface occupancy stipulations will be applied within a 500-foot buffer of a riparian area, wetland, or stream channel, and 100-year floodplains unless otherwise determined through site-specific analysis, approved in writing by BLM AO.

For the protection of aquatic resources and Ute ladies'-tresses and its potential habitat, surface-disturbing activities listed above should be avoided in the following areas: a) identified 100-year floodplains; b) areas within 500 feet from perennial waters, springs, water wells, and wetlands; and c) areas within 100 feet from the inner gorge of ephemeral channels.

USFWS and WGFD consultation and coordination will be conducted for all mitigation activities relating to raptors and threatened and endangered species and their habitats, and all permits required for movement, removal, and/or establishment of raptor nests will be pursued if they meet the requirements of the USFWS Migratory Bird Treaty Act.

Permanent structures requiring repeated human presence will not be constructed within 1,000 feet (1,400 feet for ferruginous hawks; 2,600 feet for bald eagles) of active raptor nests.

BLM-approved Perch discouragers will be placed on every power pole.

In river crossings or wetland areas, three spans on either side will include bird flight diverters (design to be discussed) installed on the high neutral.

If while conducting operations, substantial unanticipated environmental effects to listed, proposed, or candidate species are observed (whether effects are direct or indirect), formal consultation with USFWS will be initiated immediately in addition to cessation of all such operations.

Avoid sensitive biological resources within the ROW. Avoidance areas will be clearly marked with wooden stakes 3 to 4 feet in height, which will be spray painted to indicate avoidance.

Mechanically graded areas will be seeded with a predetermined seed mixture identified by the BLM to restore the grass and forbs in the disturbed big sagebrush habitat;

Weed control measures will be implemented to reduce the spread of non-native/invasive plant species that may diminish big game foraging habitat in areas disturbed by construction.

To reduce the potential for wildlife/vehicle collisions, a speed limit of 35 miles per hour (mph) or lower will be established for BLM controlled roads. Posted speed limits will be based on the engineering design speed for the road, but in no case will exceed 35 mph.

Carpool or bus work crews during shift changes to reduce vehicle disturbance to wildlife.

Blade turnouts on both uphill and downhill sides of the road at 0.5- to 1.0-mile intervals and at known game crossings during winter road maintenance to allow wildlife escape routes.

Avoid routine maintenance flaring operations between November 15 and April 30 to reduce disturbance to wintering elk.

Limit motorized access to established roads when accessing the RRU 17-34 well site.

Limit snow plowing operations to only the main road to the plant site and RRU 17-34 well.

Avoid travel between dawn hours (6–8 a.m.) and dusk hours (4–6 p.m.) between November 15 and April 30.

Livestock Grazing Mitigation

All fences damaged by or removed for construction shall be repaired immediately if livestock are present in that or adjoining allotments, or before the beginning of the next grazing season if livestock are not present at the time the fence is damaged or removed. Alternate fencing may be implemented around facility construction sites on a case-by-case basis.

Project components shall be sited to avoid range improvements such as stock ponds, guzzlers, and other watering amenities, as well as any range condition monitoring sites/trend plots.

Fugitive dust dispersion from roads to adjacent vegetation shall be controlled by enforcing a 35 mph or lower speed limit on BLM-controlled roads, by watering, and/or by the use of other BLM-approved dust suppressants.

Interim reclamation for well pads and final reclamation for the Project-related ROWs will be implemented no later than the first growing season following the completion of individual Project components. Seed mixtures will be designed to re-establish pre-disturbance vegetation composition.

To reduce the potential for animal/vehicle collisions a speed limit of 35 mph or lower will be established for BLM-controlled roads. Posted speed limits will be based on the engineering design speed for the road, but in no case will exceed 35 mph.

Health and Safety Mitigation

The Operator shall conduct all drilling and operations of sour gas facilities in accordance with BLM Onshore Order 6.

Access to well heads will be strictly limited to authorized personnel equipped with emergency equipment.

All federal and state laws pertaining to the handling, storage, generation, or disposal of any hazardous substance or waste will be applied. BLM required mitigation measures include the following:

The Operator will coordinate emergency response planning with Sublette County and provide documentation regarding compliance with federal hazardous material regulations. Developed standards of operation will ensure that minimum standards, specifications, and regulations are implemented during Project design and construction, as well as during process operations.

Current MSDSs for all hazardous substances will be maintained and readily available on site. SARA Title III, also known as the Emergency Planning and Community Right-to-Know Act (EPCRA), requires that all chemicals present at the facility greater than the Threshold Planning Quantity (TPQ) be included on a list supplied to local response agencies or that all MSDSs be submitted to the emergency response agencies.

An SPCC plan will be developed to handle all oils within the RBPA in a safe manner by trained employees and contractors. The SPCC plan will also outline all methods necessary to retain and cleanup any oils when a release occurs.

Transportation Mitigation

The Operator will jointly develop and submit for BLM approval road maintenance and use agreements designating road development, maintenance, and use requirements. These agreements could identify responsibilities for necessary preventative and corrective road maintenance throughout the LOP. Maintenance responsibilities could include, but not be limited to, blading, gravelling or aggregate-surfacing, cleaning ditches and drainage facilities, dust abatement, noxious weed control, culvert maintenance and repair, or other requirements.

The Operator will implement the resource, mitigation, and monitoring measures found in the Transportation Plan.

All development activities along approved ROWs will be restricted to areas authorized in the approved ROW; however, ROW widths could be minimized where feasible.

The Operator will implement fugitive dust control measures on primary access roads and heavily used resource roads.

The Operator will deliver and store equipment and bulk supplies on well pads prior to seasonal stipulation periods to the extent feasible to reduce traffic.

Where feasible, the Operator will develop a computer-assisted field automation of well sites to reduce traffic to each site.

Any two-track roads or ATV trails created in conjunction with the development/construction of Project components will be closed and reclaimed immediately upon completion of that Project component. Seeding will be completed in the next seeding season.

The Project proponent will implement procedures to preclude future use on the closed and reclaimed roads and trails.

In consultation with BLM and WGFD, the Operator will install gates as appropriate and supply other needed material in crucial winter range and sage-grouse concentration areas to encourage compliance with traffic restrictions. After construction, the BLM will maintain the gates. Gate keys will be managed by the BLM. Gate closures will be consistent with traffic restrictions. Proponents will assist BLM with signage on or near the gate explaining the traffic restrictions.

The Operator will restrict OHV activity by employees and contract workers to the immediate area of authorized activity or existing roads and trails.

Visual Quality, Noise, and Light Mitigation

To reduce visual impacts, the Operator shall implement the following measures:

BLM-accepted environmental color will be used that blends with the surrounding landscape on any above ground structures, if located on BLM land and not requiring safety coloration.

The Operator will bury proposed infrastructure when appropriate and locate pipeline ROWs within existing ROWs whenever possible.

The Operator shall initiate revegetation as soon as possible after disturbance to reduce color and line contrasts from exposed soils and retain rocks, trees, drainage, and other natural features as best as practically possible.

The Operator shall shape cut and fill areas to appear as natural forms.

Existing roads will be used.

All topsoil shall be stockpiled and reused, and topographic screening and vegetation manipulation will be used to screen structures.

The Operator shall use project scheduling, and traffic control procedures and use low-profile tanks or structures wherever visual sensitivity is an issue and/or deemed appropriate by BLM.

All equipment will include reflector shields to deflect light towards the area where it will be needed, and aim lights as much as possible below the horizon.

The Operator shall use the minimum number of lights and locations to accomplish the job safely.

The Operator will be required to adhere to noise provisions in the WGFD MOA.

Air Quality Mitigation

PM_{10} Mitigation 1. The BLM shall require preparation and implementation of a construction Dust Control Plan. This plan shall include measures adequate to achieve 80% control efficiency for material entrained into the atmosphere from unpaved roads and disturbed soils. WDEQ can provide technical guidance on the adequacy of an applicant prepared dust plan.

PM_{10} Mitigation 2. Heavy equipment exhaust opacity shall not exceed an average of 20% on the Ringleman scale for any three minutes during a one hour period.

Project operations will not exceed applicable state and federal AAQS.

All drilling and contruction equipment engines (if applicable) shall meet EPA Tier2 emission limits or better.

Cultural and Paleontological Resource Mitigation

Should a new cultural resource site be encountered during construction or operations, the Operator will immediately discontinue operations and notify the BLM. The Operator will be responsible for the cost of evaluating and mitigating the site.

Where avoidance re-routes are not feasible, additional subsurface testing or other appropriate assessment of cultural resource sites for potential for Project impacts will be required.

A mitigation plan should be developed for prehistoric archaeological sites 48SU807 and 48SU2311 located in the direct APE of the Williams pipeline. Such a plan could include an archaeological monitor and/or avoidance fencing in the areas integral to the significance of the cultural properties.

An avoidance plan should be developed for the prehistoric archaeological site 48SU5130 in the APE of the 230-kV transmission line under Alternative 3. The plan could require an archaeological monitor and/or avoidance fencing in the areas integral to the significance of the cultural property.

In relation to crossing areas of substantial alluvial deposition in the Beaver Creek area, a subsurface testing plan (approximately 10-15 shovel tests along the centerline of any proposed project trenching) is needed to assess the potential for and to locate buried archaeological materials prior to construction. Archaeological monitoring in the form of trench inspection is further stipulated for this creek valley crossing during any permitted project pipeline installation.

Should any subsurface bones or other potential fossils be discovered by construction personnel on BLM-administered land anywhere within the RBPA, the BLM must be notified immediately, as stated in Appendix 3 of the Pinedale RMP ROD (BLM 2008b), and work in the area of the discovery shall cease until the BLM or a qualified and BLM-permitted paleontologist can assess the discovery, determine its significance, and make additional recommendations.

A field survey is required for lands affected by BLM actions, if they are underlain by Class 5 geologic units. All significant surficial fossils should be collected and housed in a BLM-approved repository. Further mitigation recommendations will be made based on the survey results.

BLM has identified information of a previously recorded fossil locality (UW 60018/UCMP V99087, mentioned above in Section 4.3.4) located on BLM-administered land in Section 14, T29N, R113W. Additional information should be obtained to accurately relocate this fossil locality.

If the cultural resource or paleontological resource site is determined to be significant by the BLM, and is within the APE of the Cimarex gas pipeline, appropriate mitigation such as surface collection of significant fossils (with associated construction monitoring) or site avoidance is required prior to and/or during construction activities around the site.

BLM-REQUIRED MONITORING*

Monitor slopes and look for signs of erosion, slumping, or slope movement.

Monitor for run-on and runoff during construction and correct drainage issues.

When soil erosion in upland soils is accelerated beyond natural levels, visual observations and surveyed erosion pins will be used to determine annual soil loss while land use operations are active and during annual site surveys.

If the water table shrinks beyond average precipitation fluctuations and soil erosion on stream banks and floodplains is increasing, visual observations and surveyed erosion pins will be used to determine the affected area while land use operations are active and during annual site surveys.

When soil compaction restricts water infiltration and plant growth, visual inspection and use of a penetrometer will be used to determine the depth and exceedance of compaction one to two times annually.

Critical erosion condition areas will be identified in soil surveys during the site-specific project analysis for the purpose of avoidance and special management.

Reinforced steel monopoles will be used on BLM-administered land in Alternatives 1 and 3. Ground disturbance associated with the construction of steel monopoles is expected to occur over a greater area and be deeper than that for the wooden H-frames; therefore, paleontological monitoring is required on BLM-administered lands for construction activities associated with the steel monopole installation where underlain by Class 5 geologic units.

Monitoring is required on BLM-administered lands for the construction of the portions of the Cimarex and Williams pipelines and the helium pipeline/fiber optic line underlain by Class 5 geologic units.

Monitoring is required on BLM-administered lands for in-line pulling and tensioning sites and two-track road areas underlain by the Class 5 geologic unit where subsurface disturbance is anticipated.

The SWPPP has specific requirements for monitoring of all disturbed areas and mitigation efforts that are applied in the form of BMPs. The SWPPP requires strict documentation of all monitoring and maintenance activities. These requirements will be followed throughout all phases of the Project development.

The ROW and other disturbed areas will be monitored for weed infestations, and new or expanding populations will be controlled or eradicated for the duration of the construction, operation, and reclamation phases.

Reclamation success will be monitored on an annual basis. Reclamation achievement will be evaluated using the standards agreed upon with the BLM PFO. Rehabilitation efforts will be repeated if it is concluded that the success rate is below an acceptable level as determined by the BLM PFO.

The Operator will collect reclamation monitoring data in an electronic format and submit the spatial data and all associated attributes to the BLM along with their annual reclamation monitoring report.

Continued monitoring and implementation of approved weed management plan is required.

Environmental inspections and monitoring as appropriate during and after construction.

If construction occurs during migratory bird breeding season, a survey for migratory birds (including western yellow-billed cuckoo and BLM sensitive bird species) shall be made just prior to construction. Activities will avoid impacts to nests and fledglings.

If during pre-construction or construction surveys, or while conducting operations, substantial unanticipated environmental effects to any threatened, endangered, or candidate species are observed (whether effects are direct or indirect), formal consultation with USFWS will be initiated immediately in addition to cessation of all such operations.

Pre-construction surveys to verify locations of occupied leks and to identify the presence of other leks within 0.5 mile of proposed pipeline and transmission line alignments.

Monitoring of perch discouragers, used to deter raptor nesting and reduce the risk of raptor electrocutions and collisions that could occur, and initiate adjustments as necessary to ensure effectiveness of perch discourages. A monitoring plan will be developed by the Operator and approved by the BLM within six months of the EA approval.

Pre-construction surveys for sensitive raptors and other species will be conducted in areas of potential habitat by a qualified biologist.

Monitoring of perch discouragers, used to deter raptor nesting and reduce the risk of raptor electrocutions and collisions that could occur, and initiate adjustments as necessary to ensure effectiveness of perch discourages. A monitoring plan will be developed by the Operator and approved by the BLM within six months of the EA approval.

The percentage of native winter range elk observed in the Riley Ridge Winter Range Complex will maintain a five-year running average of 40%, which is the five-year running average between 2003 and 2009 (Emmerich 2009b); a five-year average was selected due to the range and variability in the percent of native winter range elk observed in the Riley Ridge Winter Range Complex. In order to monitor the five-year running average, the Operator will be required to continue the current collared elk study for five years post-construction. (This is a continuation of the study being conducted under the MOA between WGFD and Cimarex. This requirement will extend the elk monitoring 2 to 3 years beyond the 2013 date in the MOA.).

Monitoring of the implementation of BMPs and the requirements of BLM On Shore Order 6 for sour gas operations, including the regular updating of the Emergency and Contingency Plan will be required to assure the safe handling and storage of all hazardous substances and safeguards.

All roads used to access the wells, pipelines, and other facilities will be maintained in their current condition or better. Continuous inspection will be performed, and preventative maintenance measures will be taken on a biannual basis. These measures may include grading, cleaning drainage structures, ensuring erosion control and slope stabilization, and closing roads during periods of excessive soil moisture.

As part of normal operational winter maintenance, the Operator will plow roads the minimum amount necessary to allow safe navigation. Plows will provide breaks in snow-piled berms along the road margins (knockouts) to allow free movement of wildlife across roads.

Refer to Pinedale Field Office Oil and Gas Development Social and Economic Monitoring Plan developed by Dr. Robert Winthrop. Monitoring reports will be submitted to the BLM and cooperating agencies annually.

Within 9 months of completion of project construction (except for drilling operations), Cimarex will provide to BLM a post-construction visual analysis comparing the simulated visual impact analysis to the actual effects. Study design and methods will be approved by BLM and will use the existing KOPs.

EXHIBIT B

Rands Butte Gas Development Project EA - Comments

Comment Number	DEA Page and Line #	Change made to FEA (yes or no)	Comment Text	Response to Comment
1	0	No	More specifically, we prefer Alternative 1 or Alternative 3 of the BLM listed alternatives.	BLM thanks you for the comment and it has been noted.
2	0	No	These [alternatives 1 or 3] are preferred over Alternative 2, which seems more likely to negatively impact Southern Sublette Counties incomparable historical and archeological treasures…	BLM thanks you for the comment and it has been noted.
3	0	No	and Alternative 4, which seems likely to further impair our air quality.	BLM thanks you for the comment and it has been noted.
4	0	No	… we feel all the alternatives are vastly superior to the No Action Alternative referenced in your call for comments. The absence of this project will negatively affect the local economy and, over the long term, make the land more likely to be utilized for less environmentally friendly and fiscally responsible purposes later.	BLM thanks you for the comment and it has been noted.
5	Page 383 (lines 11168-11174)	Yes	This paragraph makes it sound like the only way to mitigate livestock uses and management is through the reduction of permitted AUMs. The WDA does not support the reduction of AUMs. The WDA would encourage the full use of adaptive management be used, in other words, the entire tool box should be considered and exhausted before reductions in AUMs are considered, what about range improvement projects (stock waters, vegetation treatments...), off-site mitigation, operators provide alternative forage in replace of lost AUMs.	Changes have been made to section 4.7.3.7.1.1 of the FEA referencing BLM required mitigation for enhanced reclamation.
6	Page 383 (Lines 11175-11180)	No	The WDA appreciates the agreement between WGFD and Cimarex to address damages to livestock and livestock grazing operations.	BLM thanks you for the comment and it has been noted.
7	Page 389 (Lines 11399-11402)	Yes	We believe there is a need to clearly explain what interim reclamation is, what it means to soil stabilization is different than what it means to livestock grazing operations, and especially ecological. We would suggest itemizing specific criteria for how, top soil is managed, what is considered soil stabilization (weed free), functioning forage for both wildlife and livestock, etc.	The Operator is required to provide a detailed reclamation plan, including enhanced reclamation (see Section 4.7.4.8 and 4.5.8.1.1 of the FEA). In addition, Appendix G describes BLMs reclamation process and required noxious weed management measures Initial grass and forb production during reclamation is expected to offset loss of forage and will therefore not result in reduced AUM.
8	Page 389	Yes	(Other Mitigation Opportunities) In this section we believe that other livestock mitigation opportunities need to be identified, such as, the development of livestock water opportunities, rangeland restoration projects, vegetation treatment projects, and undesirable weed infestations. In addition, the possibility to do off-site mitigation that will benefit livestock grazing operations, as long as the affected permittee agrees with the mitigation plan.	Additional mitigation opportunities have been added to the FEA, as requested. Additionally, please see BLM-required mitigation measures on page 287-88 in Section 4.5.8.1.1 on Vegetation and Noxious Weeds.

Rands Butte Gas Development Project EA - Comments

Comment Number	DEA Page and Line #	Change made to FEA (yes or no)	Comment Text	Response to Comment
9	Page 390 Line 11425	No	There is no identified BLM required monitoring for the livestock grazing section. However, it states throughout this and the vegetation section that Standards for Healthy Rangelands and Guidelines for Livestock Grazing will be used. Assessments for Standards and Guidelines (S&G) have to be based on monitoring and land assessments. The WDA would encourage the development of a schedule for the S&G assessments, in addition we believe annual monitoring of reclamation areas should be completed (as suggested), as well as annual monitoring of range condition monitoring sites. This should include the creation of additional monitoring sites around the new development areas, to be monitored jointly with industry, BLM staff and permittees.	The RBPA only occupies a small portion of the total grazing allotments in the cumulative impact area, whereas the Standards for Healthy Rangelands and Guidelines for Livestock Grazing (Standards &Guidelines) will need to be conducted on entire allotments or at a minimum on individual pastures. It is not practical to conduct Standards & Guideline monitoring on minor portions of an allotment of pasture such as will be affected by the Rands Butte Project. As such, it is more appropriate to conduct these assessments under the allotment monitoring and evaluation process. Reclamation and monitoring of vegetation will be required for the RBPA and will take the take the Standards for Healthy Rangelands and Guidelines for Livestock Grazing into consideration.
10	Page 390 Lines 11430 - 11434	No	As previously mentioned, additional monitoring opportunities should include the creation of additional long-term trend monitoring sites of the various key areas surrounding the new development areas. These new monitoring sites should be used in conjunction with existing rangeland monitoring sites to develop trends and help in management decisions.	It is not practical to conduct Standards & Guideline monitoring on minor portions of an allotment of pasture such as will be affected by the Rands Butte Project. As such, it is more appropriate to conduct these assessments under the allotment monitoring and evaluation process. Reclamation and monitoring of vegetation will be required for the RBPA and will take the take the Standards for Healthy Rangelands and Guidelines for Livestock Grazing into consideration.
11		Yes	The WDA believes that the operator should meet with the permittees at least once a year to discuss issues, problem areas, things that went well from the past year, along with the plan for the next year.	BLM concurs
12		No	The WDA would encourage Pre-disturbance and post-disturbance vegetation monitoring would be used, in addition to site-specific soil surveys, to determine baseline site conditions, establish ecological site descriptions, monitor invasive or undesirable plant species, and monitor reclamation success.	Addressed in Section 4.5.8 Mitigation and Monitoring Opportunities (Vegetation Resources and Noxious Weeds).
13	Page 286 (Lines 8066 - 8070)	Yes	The first paragraph of the Cumulative Impacts section lists various historic causes of vegetation removal and spread of noxious weeds. The WDA insists that if livestock grazing is characterized as "These activities contribute to the removal of native vegetation and an increase in potential invasive and noxious weed species in the RBPA." That all causes are then listed as having removed native vegetation and caused the spread of invasive and noxious weeds, such as, wildlife, recreation activities, ATVs, etc. In additions we would Encourage the inclusion on how livestock grazing can be used as a tool to control weeds, and be used as a toll sic) to improve the vegetative community (Davies, et al. 2009[1] and Severson. 1990[2]).	Off-road vehicle use has been added to Section 4.5.7.

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Comment Number	DEA Page and Line #	Change made to FEA (yes or no)	Comment Text	Response to Comment
14	Page 288 (Line 8127 - Other Monitoring Opportunities)	No	The WDA has already recommended earlier in these comments that additional monitoring of vegetation should occur, including the creation of additional long-term monitoring sites, to be used in S&G assessments and annual monitoring efforts (See earlier comments regarding S&G and Monitoring).	See response to comment #9. A Reclamation Plan and vegetation monitoring will be required by BLM for all disturbed areas under BLM jurisdiction.
15	0	No	The Rands Butte project will foster economic growth in Sublette County, providing up to 38 long-term permanent jobs as well as significant revenue to Sublette County and the State of Wyoming.	Thank you for your comment.
16	0	no	The project will be a "state-of-the-art" facility, and most important, will have little or NO carbon footprint.	Thank you for your comment.
17	0	No	This project is a win-win for all of us	Thank you for your comment.
18	0	No	The environment is not harmed, little wildlife disruption, great long-term tax base and a large number of high-paying stable long-term jobs will be created.	Thank you for your comment.
19	0	No	The WGFD supports the preferred alternative. The vast majority of our comments were addressed.	Thank you for your comment.
20	0	No	While we wholeheartedly support the investigation and development of new technologies to reduce the introduction of greenhouse gases into the atmosphere, we are very concerned with the approach BLM is taking -- including the preparation of an EA for what is obviously a major federal action with the potential to cause significant impacts--and the absence of full and complete disclosure of the potential environmental consequences that may arise from this project.	The NEPA process provides for the preparation of an EA to determine if significant adverse impacts would occur from a federal action, which would precipitate the preparation of an EIS. The EA provides the full and complete analysis and disclosure of impacts from the Project and all connected and foreseeable future actions required under NEPA, and has determined that no significant impacts would occur with the BLM preferred alternative.
21	0	No	The EA notes that the acid gas injection well will be permitted under the Wyoming Oil and Gas Conservation Commission's Underground Injection Control (UIC) program as a Class II disposal well. See WOGCC regulations, Chapter 4, Section 5 - Underground Disposal of Water. On its face, this rule applies only to the "underground disposal of fresh water or of salt water, brackish water, or other water unfit for domestic, livestock, irrigation, or other general uses..." and therefore lacks many of the essential safeguards and sequestration of CO2.	Both the water injection well and the acid gas injection well are Class II injection wells governed by WOGCC. The water injection well is governed by Ch 4 section 5 of WOGCC rules, while the acid gas injection well is covered under Chapter 4 Section 7. BLM does not have jurisdiction for classification of well types, and WOGCC has determined that this is not a sequestration project . The process brings the mixed gas to the surface in order to recover helium and methane from the acid gas mixture. The acid gas stream is not further refined and is immediately re-injected to the source formation within unit boundaries. WOGCC Chapter 4, Section 7 rules specifically addresses injection well permit requirements, including numerous environmental and safety requirements. and the EA evaluates safety and environmental safeguards relative to the acid gas injection process.

Rands Butte Gas Development Project EA - Comments

Comment Number	DEA Page and Line #	Change made to FEA (yes or no)	Comment Text	Response to Comment
22	0	Personal communication to be added to Administrative Record	The Wyoming Environmental Quality Act ("Act"), §35-11-103 ©(xx), defines "geologic sequestration" to mean "the injection of carbon dioxide and associated constituents into subsurface geologic formations intended to prevent its release into the atmosphere[.]" It cannot be denied that Cimarex Energy company proposes to do exactly that. Further, Section §35-11-313(a) provides that "[t]he geologic sequestration of carbon dioxide is prohibited unless authorized by a permit issued by the department." Subsection (e) of this section provides that "[p]ermit requirements for geologic sequestration of carbon dioxide shall be as defined by department rules." As required by this section, the Department has promulgated draft rules governing the sequestration of CO2. See DEQ/WQD proposed rule, Chapter 24. An exception to the statutory permit requirement is provided for "the injection of carbon dioxide for purposes of a project for enhanced recovery of oil or other minerals...." W.S.§35-11-313(b). The "purpose and needs" statement in the Rands Butte EA clearly explains that the project is intended to "test the process of immediately re-injecting the unwanted gases back into the Madison Formation without further processing." EA at 5. Nowhere is it mentioned that the injection of CO2 is for the purposes of enhanced oil recover. Indeed, company officials and others were quoted in newspapers touting the benefits of the carbon sequestration aspects of the project, and up until recently the project had been proposed by the Department of Energy as a CO2 sequestration test project. See attached DOE Energy Lab newsletter, *Big Sky Carbon Sequestration Partnership--Development Phase, (April 2009).* It is clear that under the statutory provisions cited above, the acid gas injection component of the project described in the Rands Butte EA meets the definition of "geologic sequestration" of CO2 thereby requiring a permit from the Department of Environmental Quality. Apart from simply doing what the law requires, compliance with the DEQ's comprehensive regulatory framework helps to ensure that all environmental, financial and human health issues are properly addressed and mitigated.	See response to comment #24. Personal communication is documented between Scott Stinson of Cimarex, John Corra, Director of Wyoming DEQ and Don Likwartz, Director of WOGCC, in which the parties agreed that the project would be considered an oil and gas waste injection process regulated by WOGCC. Therefore, WDEQ regulations do not apply. WOGCC Chapter 4, Section 7 includes safeguards for environmental, financial, and human health.

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23	0	No	It must be noted, however, that should it ultimately be determined that the project falls outside the State's fledging carbon sequestration program, all the same environmental, technical and financial issues and concerns are present. Regardless of what it is called, the long-term storage and/or disposal of massive quantities of CO2 and H2S by underground injection is proposed. The question boils down to whether the regulatory requirements applicable to Class II injection wells (along with whatever additional controls BLM may require) provide adequate protection for the environment and human health.	WOGCC Chapter 4, Section 7 rules specifically addresses injection well permit requirements, including all financial and bonding requirements, liability, environmental and safety safeguards, requirements for monitoring, and regular reporting of the results of well integrity tests. The EA evaluates safety and environmental safeguards relative to the acid gas injection process above and beyond the WOGCC requirements, such as by evaluating the risk and impacts of accidental release of acid gas to the environment.
24	0	No	After a detailed review of this EA, the applicable provisions of the WOGCC UIC program, and the DEQ's proposed sequestration rule, we believe the answer is no, and have concluded that what is needed to ensure the highest degree of protection for the environment and human safety, is for the acid gas injection component of the proposed facility to be regulated by DEQ as a carbon sequestration project. Indeed, the law of Wyoming requires nothing less.	BLM does not have the jurisdiction or authority to dictate to the WOGCC and DEQ as to who should regulate the injection process. That is up to the individual agencies. The EA has evaluated and disclosed potential impacts of acid gas injection, regardless of the WOGCC and WYDEQ classification and permitting requirements.
25	1.3. PURPOSE AND NEED, Page 5 Lines 686-87	No	The EA states that "[t]he proposed Project has identified new technologies to overcome *problems* of gas separation and recovery and economic gases." (emphasis added). What kind of problems? The preceding sentence (lines 683-86) suggests there may be significant safety and/or environmental issues associated with this new technology, so an explanation of the kind and severity of any problem associated with this technology should be included in the revised environmental document. Where is the analysis of potential environmental impacts associated with containment of acid gas? The revised EA/EIS must include an analysis and discussion of issues and impacts related to acid gas containment. the storage and disposal (sequestration) of H2S and CO2 is a major element of the proposed action-as such, it deserved the hard look required by NEPA--BLM cannot simply "punt' the issue to the WOGCC and expect that its responsibilities under NEPA have been satisfied.	In the Purpose and Need discussion at lines 683-686, the nature of the problem is identified as, "Development of this reserve has been hampered by the presence of high concentrations of CO2, a greenhouse gas, and toxic H2S gas, that are, in combination, difficult and costly to separate, treat, and dispose of safely." Analysis of the potential impacts of acid gas injection are considered in each of the 18 resource impact topics evaluated in the EA Chapter 4, plus Appendices D and E, covering issues related to any potential accidental release of acid gas to the atmosphere. But most specifically, the potential impacts of acid gas injection is covered in Section 4.10, Health and Safety.
26	1.3. PURPOSE AND NEED, page 6 lines 708-09	Yes	The EA states the "the project would produce approximately 100 million cubic feet per year of industrial helium…" The Rands Butte Project scoping notice, however, states (at Page 2 of 14) that "the project may produce approximately 200 MMSCF per year of industrial helium..." This is a significant discrepancy; which number is correct and what is the reason for this discrepancy? If the larger number be correct, it would seem that environmental disclosure would have to be revised to account for any additional impacts associated with doubling the amount of helium to be processed.	The smaller number is correct. The EA evaluates the relative impacts of gas production, including helium at a final market volume of 100 MMCF per year. A higher relative volume of helium production would not have an effect on any of the resource issues identified.

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27	1.3. PURPOSE AND NEED, page 5	Yes	The purpose and need (scoping statement and EA at 5) includes testing the re-injection of CO 2 and H2S. What are test parameter? What specifically is being tested? What factors or results may indicate success or failure of the test? How will the test results be integrated into future decision making? Who has access to test results?	The Project would test technical questions of injection feasibility, efficiency, and economy of injecting liquefied acid gas. Operational issues such as evaluating the optimal thermal/pressure for injecting the gas, monitoring of the reservoir behavior. Resulting data will be provided to BLM, Unit partners, and WOGCC. The Cimarex Drilling Plan has been provided as Appendix H. The BLM Reservoir Management Group conducts annual reviews of Operator submitted Plans of Development (POD). These submissions are required to identify and discuss ongoing development and to determine if modifications are needed, per NEPA and federal conservation regulations. The public has access to these records.
28	1.4.1. BLM Actions, page 7, lines 746-52	Yes	Please explain how the "additional data" collected from the "initial well bore" will be incorporated into the NEPA analysis. We can find no reference in the EA to this data, and understand that the test well has not even been competed, (sic?) which obviously defeats the purpose of having a test well if the results are not available to inform this NEPA process. The revised EA/EIS should explain the consequences of the proceeding with the project in the absence of this information. How will BLM address the unavailability of this critical information?	Drilling completion was delayed due to big game winter stipulations and slower than anticipated drilling times. The data will not be available for consideration in the EA. However, once the well is completed, the information will be provided to the BLM and the WOGCC for review, per the permitting requirements.
29	1.5. FEDERAL AND OTHER RELEVANT REGULATIONS AND PERMITS, Table 1-1, page 11	Yes	cites to three WOGCC rules (Rule 326, 346 and Rule 315) that do not exist in the WOGCC regulations. This critical error should be explained and corrected.	References will be changed to reflect WOGCC's Rules and Regulations: Authorization for Flaring or Venting of Gas: Chapter 3, Section 40; Environmental Rules, including Underground Injection Control Program Rules for Enhanced Recovery and Disposal Projects: Chapter 4; Application for Permit to Drill or Deepen a Well: Chapter 3, Section 8; Permit to use earthen pits actually falls under Pollution and Surface Damage: Chapter 4, Section 1

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30	1.8. KEY ISSUES, Table 1-2, pages 14-16	No	Many "key issues" and concerns related to the environmental, technical and financial implication of long-term disposal/sequestration of H2S and CO2 brought to the attention of the BLM by Western Resource Advocates (WRA) in a letter dated October 30, 2008, have been ignored by BLM and omitted from the EA. The failure to address these issues is apparently based on an erroneous belief by BLM that Wyoming's geologic sequestration law does not apply--presumably because the proponent has characterized the underground acid gas injection component of the project simply as the routine disposal of fluids associated with oil and gas production activities. Thus BLM apparently believes it is excused from considering all of the implications and environmental impacts associated with the long-term storage and disposal of acid gas because the applicant will be required to obtain a Class II UIC permit from the WOGCC ("The WOGCC reviews and determines the ability of the target formation to retain the injectate based on well bore schematics and additional geologic information."EA at 82). As discussed below, this assumption is incorrect.	WOGCC Chapter 4 rules specifically address injection well permitting. Again, this is not a sequestration project. Both the BLM and the WOGCC require bonds and will review the data before the bond is released at the end of the project. Adequacy of the bond amounts are outside the scope of the NEPA process.
31	0	No	Ownership of pore space W.S. §34-1-152(a) provides that "the ownership of all pore space in all strata below the surface lands and waters of this state is declared to be vested in the several owners of the surface above the strata." Pore space is defined to mean "subsurface space which can be use as storage space for carbon dioxide or other substances." W.S. §34-1-152(d). It appears that BLM is the owner of the pore space into which both CO2 and H2S is proposed for injection. Consequently, the analysis should include a discussion of the implications of the federal government's ownership of this "resource" including issues related to ongoing liability, adequacy of bonding, and insurance requirements. To put it simply, what happens if something goes wrong with the operation, particularly during the indefinite period following reclamation and bond release? Who is responsible for long-term post closure stewardship of the site? Who bears the liability that may be present long after the company has ceased gas extraction and injection activities?	The United States is owner of the mineral estate in the Madison formation where the acid gas injection would occur. As stated before the Project does not constitute carbon sequestration therefore pore space is not a factor for this project. The United States would retain long-term responsibility for the post-closure, post- bond release, and post-lease stewardship of the site.

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Comment Number	DEA Page and Line #	Change made to FEA (yes or no)	Comment Text	Response to Comment
32	0	Yes, add additional references to regulations in Table 1-1	Scope of authorization granted by federal lease. Neither DOI regulations at 43 CFR Subpart 3161 nor the standard federal oil and gas lease explicitly address sequestration of CO2 or other substances. One threshold question that must be addressed by BLM in the environmental review is establishing the legal right of the proponent to re-inject and sequester CO2 and H2S from the federal leasehold. DOI regulations define "lease" as a contract "that authorizes exploration for, extraction of or removal of oil or gas." (emphasis added) 43 CFR §3160.0-5. On its face, sequestration of CO2 or any other gas is not authorized. Further, "[l]ease site means any lands...on which exploration for, or extraction and removal of, oil or gas is authorized under a lease." Id. Because neither definition encompasses sequestration of carbon dioxide or hydrogen sulfide, the BLM should explain the legal basis for the proposed sequestration component of the project. If the legal authority remains unclear upon examination by DOI, the BLM should consider an alternative that evaluates impacts from production of gas from the leasehold along with traditional treatment of CO2 and H2S using existing technologies and practices.	The Mineral Leasing Act, as amended and supplemented (30 U.S.C. Sec. 181 et seq.; 53 FR 17363), gives BLM authority over oil and gas drilling and recovery. Onshore Order #1 (43 CFR 3162) gives BLM authority to approve the drilling of wells. Per 43 CFR Subsection 3162.3-2, subsequent well operations provide for authorized officer review, approval, and oversight of proposals "for the redrilling, deepening, ... and conversion to injection." In the case of the proposed well, conversion would occur without the well being previously used for production. Under the Safe Drinking Water Act (Section 1422 and 1425) Underground Injection Control Program (UIC) (40 CFR Sections 144-147), primacy has been given to the State of Wyoming as regards permitting of underground injection, and the State of Wyoming has established the authority of WOGCC for the review and permitting of oil and gas disposal wells. As indicated previously, the WOGCC and DEQ have determined that the project does not constitute geologic carbon sequestration. Regardless of the classification of the injection well, the impacts of acid gas injection well drilling and operation are evaluated in the EA. The 1984 Riley Ridge EIS has evaluated and disclosed impacts of implementing traditional technology for the production of Madison formation gases from the Riley Ridge Unit. The analysis is incorporated by reference and an additional alternative is not needed. For example, please see Section 4.15.3.2.1.
33	0		Surface rights. The scope and extent of the lesse's right to use the surface of the lease is enumerated in 43 CFR Subpart 3101: "A lessee shall have the right to use so much of the leased land as is necessary to explore for, drill for, mine, extract, remove and dispose of [i.e., sell] all the leased resource in a leasehold..." 43 CFR §3101.1-2. Given the noticeable absence of an express authorization to sequester gases, we recommend that the environmental documentation explain the lessee's legal right to undertake the proposed sequestration activities citing to relevant legal authorities where appropriate. Related to the above issue, the regulations further provide that, "[o]perators shall have the right of surface use only to the extent specifically granted by the lease." 43 CFR §3164.3(a). Please identify the specific provision in the proponent's federal oil and gas lease that authorizes the sequestration of H2S and CO2.	Please see response to Comment #30.

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Comment Number	DEA Page and Line #	Change made to FEA (yes or no)	Comment Text	Response to Comment
34	0	No	Rents and Royalties. Will the proponent pay a royalty on the production of CO2? Will the proponent pay a rental for use of the federal leasehold for carbon and/or H2S sequestration? Please discuss.	As indicated previously, the project does not constitute carbon sequestration. Rents and royalties expected as a result of the Project are reported on page 421 of the DEA, and do not include royalties from the acid gas injection well, since it does not produce a resource. If the H2S and CO2 were being sold, rents and royalties would be paid. However they are not being sold. They are being reinjected back into the Madison formation and therefore royalties are not required.
35	0	No	Bond obligations and period of liability. It is apparent that neither the Mineral Leasing Act and the DOI's implementing regulation, including 43 CFR § subpart 3104 (bond requirements), envision sequestration activities taking place on a federal oil and gas lease; as a result, existing bond requirement appear to be grossly inadequate to fully protect the interests of the United States against potential long-term liability (financial and environmental) associated with this facility. We encourage BLM to carefully investigate all aspects of this issue and exercise its authority under 43 CFR §3104.5 to increase the bond to an amount sufficient to cover the "worst case" scenario so that U.S. taxpayers do not end up responsible for any long-term remediation or other unforeseen costs.	Thanks for your comment. Bonding is an administrative procedure, not a NEPA analysis issue. Bonding for the Cimarex leaseholds are and will be managed in accordance with 43 CFR.

Comment Number	DEA Page and Line #	Change made to FEA (yes or no)	Comment Text	Response to Comment
36	0	Yes	In order to properly safeguard the public interest, we suggest that BLM specifically request from the applicant the information that must be submitted to DEQ as part of the geologic sequestration permitting process and integrate it into the NEPA process . Having access to this information would allow BLM to make a better, more informed decision on the project application, result in a more accurate and useful environmental review, and in the end result in a much more secure, safe and environmentally sound project. • A description of the general geology of the area to be affected by the injection of carbon dioxide including geochemistry, structure and faulting, fracturing and seals, stratigraphy and lithology including petrophysical attributes; • A characterization of the injection zone and aquifers above and below the injection zone which may be affected including applicable pressure and fluid chemistry data to describe the projected effects of injection activities; • The identification of all other drill holes and operation wells that exist within and adjacent to the proposed sequestration site; • An assessment of the impact to fluid resources, on subsurface structures and the surface of lands that may reasonably be expected to be impacted and the measures required to mitigate such impacts; • Plans and procedures for environmental surveillance and excursion detection, prevention and control programs. For purposes of this section, "excursion" shall mean the detection of migration carbon dioxide at or beyond the boundary of the geologic sequestration site; • A site and facilities description, including a description of the proposed geologic sequestration facilities and documentation sufficient to demonstrate that the applicant has all legal rights, including but not limited to the right to surface use, necessary to sequester carbon dioxide and associated constituents into the proposed geologic sequestration site; • Proof that the proposed injection wells are designed at a minimum to the construction standards set forth by the department and the Wyoming oil and gas conservation commission; • A plan for periodic mechanical integrity testing of all wells; • A monitoring plan to assess the migration of the injected carbon dioxide and to insure the retention of the carbon dioxide in the geologic sequestration site; • Proof of bonding of financial assurance to ensure that geologic sequestration sites and facilities will be constructed, operated and closed in accordance with the proposed and provisions of this act and the rules and regulations promulgated pursuant to this act; • A detailed plan for post-closure monitoring, verification, maintenance and mitigation.	Again, this is not sequestration. It is not the purpose of NEPA to change existing rules and regulations. The geology of the area, potential impacts, and surrounding wells are described and evaluated in the EA. Additional review and citation of information obtained regarding the Exxon acid gas injection wells has been added to the FEA.

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37	2.2.1.3.Acid Gas Injection Well, page 26	Yes	The EA should describe in detail the WOGCC "specifications" (line 996) that apply to the construction and operation of the acid gas disposal well. This is especially important since all citations to WOGCC rules in Table 1-1 are incorrect.	Correct citation of applicable WOGCC rules have been added to Table 1-1 pertaining to the proposed production wells and acid gas injection well and produced water injection well. These rules are readily accessible to the public.
38	Figure 2-1, page 20 and Table 2-1 page 22	No	Both the schematic and the table for the No Action Alternative show a Compressor Station that is not included in any other alternative. Please explain why only this alternative requires a compressor station at this location.	The No Action alternative would not involve tying into the Hare's Ear Compressor, therefore a new compressor would be needed on non-federal land . This is described in Section 2.2.1.6 Compressor Station, page 27, lines 1036-39. Alternatives 1-4 involve gas pipeline tie-in at the Hare's Ear Compressor on BLM-administered land. No new compression is proposed as a BLM action with alternatives 1-4.
39	2.2.1.6, Compressor Station, page 27, lines 1036-39	No	The EA does not disclose the power source (i.e., gas turbine, electric or diesel) for this compressor. More information about this station should be included in the revised EA/EIS, including an explanation of why the compressor is not described in any other alternative.	The power source is unknown at this time. Because this alternative indicates no federal action, a compressor station would have to built since the pipeline would not tie into the existing Hare's Ear compressor station, which is on federal land and would, therefore, require a federal ROW grant to get the gas pipeline to the existing compressor station.
40	2.2.1.11. Helium Liquefaction Facility, pages 29-30	No	The EA does not indicate whether there would be any emissions of air pollutants from the "large outdoor tanks" and "vessels" associated with the HLF. The EA also fails to state that emissions would result from "specialized truck transport" (line 1129) of helium from this facility. All emission sources, including but not limited to mobile and non-road diesel engines, need to be identified and quantified to ensure proper environmental analysis, disclosure and discussion of mitigation options.	There will only be one truck/day moving product off-site. Emission point sources for the proposed plant are the plant vent(s) and oil/water separator. The proposed plant will vent impurities to the atmosphere from purification of helium rich feedstock, but these gases are predominantly nitrogen, helium, carbon dioxide, methane, hydrogen and water. Amounts are negligible; similar plants in other states have been exempted from AQ permitting. Because the emission amounts are expected to be negligible and the same for all alternatives, the level of impact is not relevant to NEPA. Mobile sources are listed as part of the calculations for Table 4-56.

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41	2.3.1.1. BLM Natural Gas Wells, pages 37-38	No	The EA (lines 1321-27) states that "Hydraulic fracture stimulation of the Madison Formation is not anticipated[]" yet BLM and company officials at the Mableton (sic), WY open house stated that fracking will occur. The EA should be revised to correct the obvious inconsistency. Additionally, the EA states in the same paragraph that "well completion would involve perforation or stimulation of productive zones." Isn't this fracking? How will these techniques impact the integrity of the receiving formation and its ability to contain acid gas? Also, will fracking fluid interact with acid gas in some way not anticipated? Will well stimulation stimulate or induce seismic activity? What chemicals are going to be used in the fracking process? How much fracking fluid will be injected underground?	The Project does not involve hydraulic "fracking". As stated in lines 1321-1324, page 37, "Well completion would involve perforation or stimulation of productive zones." Perforation is the process of creating holes in the well casing to allow the inflow of gas. Fracking uses high pressure and high fluid volume to create fractures and proppants to hold them open, thereby aiding in the flow of gas into the well bore. High pressure fracking would have a greater risk of increasing seismic activity than perforation and stimulation, which is conducted at much lower pressures. Again we emphasize that the Project does not use this process. Other Madison wells have drilled in the Riley Ridge area using equivalent perforation and stimulation techniques without inducing any recordable earthquakes in the area. Analysis of seismic impacts (Section 4.1) resulting from acid gas injection back into the Madison formation, including perforation and stimulation, is not anticipated to increase background seismic risk. BLM does require use of closed loop drilling systems where shallow aquifers or oil-based muds are used. The current drilling mud design and program and reserve pit system proposed by Cimarex are technically and environmentally acceptable drilling systems. A closed loop system would be used once the bore reaches the Madison formation.
42	0	Yes	What Tier engines will be used in the drill rigs? Due to serious air quality concerns in the area (recommended non-attainment for ozone) we recommend Tier 3 or higher.	The drill rigs are required to be Tier I. Cimarex has been using, and will continue to use a Tier II rig for drilling the 4 wells to the Madison, exceeding EPA requirements. Workover rig and rig to drill the water injection well will be Tier I.
43	0		What efforts are being made to offset or reduce emissions from drill rig engines?	No
44	0	No	What efforts are being made to offset or reduce emissions from other mobile and non-road engines related to this project?	See the AQ permit in Appendix C and Comment #86.
45	0	No	Why isn't BLM requiring "green completions" and other environmentally-preferable techniques (e.g.,. Closed mud systems) in this environmentally sensitive area?	BLM routinely requires use of closed loop drilling systems where shallow aquifers or oil-based muds are used. The current drilling mud design and program and reserve pit system proposed by Cimarex are technically and environmentally acceptable drilling systems. A closed loop system would be used once the bore reaches the Madison formation. As stated in the DEA page 37, lines 1321-1327, any possible flowback would be routed to the plant rather than being flared, which is a form of "Green completion."

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46	0	Yes, add mitigation to Section 4.4.8.1.1	What method will be used to dispose of water (10,000 to 15,000 barrels per well) used for drilling and completion operations? Where, and how will this water be disposed of?	Section 4.4.3.2.1, lines 7562-69: "While in use, this water would be stored in and circulated through an earthen reserve pit with an impermeable synthetic liner that would prevent seepage into the soil and possibly into any aquifers. Please refer to Section 2.3.1.1 of the DEA regarding reserve pit management. An additional BLM required mitigation measure has been added to specify that if reserve pit fluids are removed, they would have to be disposed of in a DEQ approved facility. In the FEA, a statement will be added that the drilling material from the reserve pits will be disposed of at a disposal facility approved by WDEQ.
47	pg 37, lines 1331-32	No	The EA at 37 (lines 1331-32 states that, "drilling operations would proceed at the rate of one well per year over a four-year period, with seasonal stipulations." We understand that a drill rig remained on-site (test well at RRU 17-34) this winter well past the stipulation cut off date--the EA must acknowledge that exceptions to stipulations are frequently granted and analyze the effects of drilling into winter months.	The processing of exceptions would be done in accordance with the Pinedale RMP. Individual exception requests are reviewed on a case-by-case and site-specific basis with each BLM office and determines granting, partially granting, or denying requests. Before considering an exception, the AO shall consult with appropriate federal , state, and local regulatory and resource agencies before granting or denying the exception. Criteria for the granting of Exception Waivers for the Pinedale Field Office are included in Appendix 8 of the Pinedale RMP. It is not possible to know in advance which of the evaluation criteria would be applicable to a specific exception request and therefore, cannot be evaluated at this time.
48	2.3.1.3. Acid Gas Injection Well, page 38	No	Under the BLM's proposed action, RRU 20-14 appears to be a standard production well that would be converted to an acid gas injection well. As the referenced article indicates, "the incidence of well failure is greater in the case of converted wells that in the case of wells drilled and completed for injection purposes." In any case, the EA should discuss the design standards to which the well will be constructed, and the potential environmental consequences of well failure. See *Review of failures for wells used for CO2 and acid gas injection in Alberta, Canada,* Stefan Bachu, Theresa L. Watson (2009), attached hereto.	According to the referenced technical paper, the proposed acid gas injection well at RRU 20-14 may have a lower potential for failure since it is not a converted well, but a new well with applicable design standards. As described in Section 2.3.1.3, lines 1369-1380, RRU 20-14 is a test well that was drilled and completed in 2009 and never used for production, unlike the referenced converted wells in Canada. The 20-14 well is the proposed acid gas injection well. Cimarex had not filed application with WOGCC for the injection well permit at the time of printing of the DEA. Well bore schematics for the 20-14 well have now been included in the FEA, Appendix A.The design requirements for H2S wells are governed by BLM Onshore Order #6. The American Petroleum Institute has developed standards and best practices for H2S design and operation. BLM reviews detailed drilling and casing plans as part of the APD process relative to those standards. Potential consequences of well failure have been evaluated in the DEA. Please refer to Appendix E and Section 4.1.3 as examples of evaluation of the consequences of well failure.

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49		Yes	How much acid gas will be injected into the acid gas injection well? This important information is inexplicably not included anywhere in the EA. Newspaper articles suggest that the quantities are significant--in fact, more than 3 million tons per year. Is this correct? The specific volumes of CO2 and H2S that will be disposed of via underground injection should be specified in the revised EA/EIS.	CO2 injection would range from 1.3 million tons/year (initial plant operation) to 2.6 mty (expanded plant operation). H2S injection would range from 0.1 mty (initial) to 0.19 mty (expanded). This information will be added to the FEA in Section 2.2.1.3.
50	Ea at 38 Lines 1375-80, Test well.	No	We understand that the test well at existing RRU 17-34 has been drilled, but not yet completed. How then will results from the test well be incorporated into this analysis, and the WOGCC injection well permitting process, as claimed on line 1378? If the data and results from the test well are unavailable, the BLM should acknowledge and discuss the consequences of proceeding in the absence of this critically important information. See 40 CFR §1502.22.	The RRU 20-14 test well is located at the existing well pad. The unavailability of data from the test well has been covered in response to Comment #28. However, the data will be reviewed and evaluated as part of the acid gas injection permit process.
51	EA page 38, line 1382	Yes	Given the gross lack of information, analyses and disclosure of environmental impacts that may result from storage/disposal and possible migration and/or escape of acid gas, the specific "permit requirements of the WOGCC" should be referenced and described in detail in the revised EA/EIS. The reviewer should not have to guess what specific requirements might apply--and incorrect/vague citations to WOCGG regulations are of no use.	The DEA at 232 provides summary of the analysis of potential effects on the Madison formation from acid gas injection. Additional information is also added based on your previous comments that clarifies expected effects of acid gas injection and provides the reader with well schematics. In addition, corrected WOGCC citations have been inserted in Table 1-1. WOGCC Rules, Chapter 4, Section 7, specifically addresses injection well permit requirements, including bonding requirements and liabilities. A brief discuss of mechanical integrity testing requirements has been added to the text, and the WOGCC Rules Chapter 4 is added to the references, and is readily available to the public.
52	2.3.1.9 Cimarex 230-kV Electrical Transmission Line, EA at 42; 2.3.1.10 Air Products 69-kV Transmission Line, EA at 44	No	To avoid/mitigate impacts to visual resources and sage-grouse, the EA should analyze the option to burying these electrical lines. The revised EA/EIS should include a detailed discussion of this option.	Because of increased resistance and heat build up with high voltage electrical transmission, it is not technically feasible to bury a 230-kV line, and burying the 69-kV line is limited to short distances. Sufficient airspace is required around each of 3 high voltage cables used in 3-phase power. The size of the below-ground chamber needed to provide the necessary airspace, and hence the size of the excavated trench, would result in significant adverse impacts to several resources.

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53	pg. 72	Yes	Cumulative impacts. The EA at 72 indicates that this area has been drilled extensively, and now will be subject to additional infill drilling (the LaBarge Platform Infill-1,000 wells). Map 2-5. The revised EA/EIS should consider the safety and environmental implications of sequestering acid gas in an area and/or formation that will be subject to extensive ongoing and future oil and gas development. For example, will additional drilling affect the integrity of the receiving formations and its ability to safely contain enormous quantities of toxic fluids indefinitely?	The proposal for drilling of the LaBarge platform does not indicate any future foreseeable development in the Madison or Nugget formation. The effects of potential development is considered for each resource as part of the cumulative effects analysis. As noted in section 3.2.3.1, the Nugget and the Madison formations are productive hydrocarbon reservoirs in the RBPA and are not a source of potable water. As identified in Section 2.2.1.14, the maximum water injection rate into the Nugget formation would be 850 barrels per day (4,772.4 cubic feet per day). Additional text will be added to Section 2.2 .1.3 providing the proposed AGI rate of acid gas injection back into the Madison of 141.2 MMSCFD when at full production, compared to the total gas withdrawal rate of 200 MMSCFD of raw gas. Section 4.1.7 evaluates the cumulative impacts of the project on produced water containment in the Nugget formation. It also provides information regarding relative impacts of acid gas injection from overpressuring the Madison formation. Additional text will be added to reiterate the quantitative mass balance equation supporting the analysis.
54	pg. 72, lines 2188-90	no	Reasonably foreseeable future energy development. The EA at 72 (lines 2188-90) states that "[the gas fields, including the Riley Ridge Unit, have not reached a full-field development stage, and the potential exists for future large-scale hydrocarbon development projects in the area." The revised EA/EIS must include a discussion and analysis of the environmental impacts that may result from full field development of the Riley Ridge Unit. This forward-looking analysis is essential, given that the gas processing technology being tested by Cimarex is designed and intended to "overcome problems of gas separation and recovery of economic gases[]" that have "hampered" development of the Madison Formation. EA at 5. It seems readily apparent that if the obstacles that have hampered development can be overcome, the field will most certainly be developed.	The Project does not include hydraulic fracking. As stated in lines 1321-1324, page 37, "Well completion would involve perforation or stimulation of productive zones." This is process doesn't involve fluids, and is not fracking.
55	3.2.2. Mineral Resources , pg. 79 and lines 2315-17	Yes	The EA at 79 states that "[the Riley Ridge Unit is the only area for proposed expansion of drilling and lease development in the RBPA at the time of this analysis, but all oil and gas fields are active and *may* be part of any analysis of cumulative effects." EA lines 2315-17 (emphasis added). We respectfully suggest that the word "shall" be inserted in place of "may" and the BLM analyze the cumulative impacts of reasonably foreseeable future development of this field to ensure the "hard look" required by NEPA.	Thank you for your comment. The word will be changed per your suggestion. Only those surrounding oil and gas units and fields with proposals for future drilling known to BLM can be fully evaluated in a cumulative impact analysis. CEQ guidance indicates that speculative future development doesn't meet the test of "foreseeable future" development.

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56	3.2.3.Leasable Resources, pg. 81, lines 3252-3254	Yes. See new text for Section 3.2.3.6	Existing disposal wells, EA at 81, lines 3252-3254. All agency records and monitoring reports related to the "[two existing H2S and CO2 disposal wells" should be summarized, made available to the public, and thoroughly analyzed in the revised EA/EIS. In addition, the revised EA/EIS should evaluated whether existing or proposed produced water disposal wells in the RBPA may influence or adversely affect the existing or proposed acid gas injection wells.	The location of 2 existing H2S disposal wells is indicated on Map-3-1. Section 3.2.3.6 considers the existing condition relative to injection wells. BLM will add to Section 3.2.3.6 an additional reference citation and discussion of an article by Huang, et al. which provides injection rates and additional modeling data on the dispersal of the Acid gas injection at these wells.
57	3.2.3.6. Disposal by Injection, pg 82, lines 2391-93	Yes	The EA at 82 (lines 2391-93) states that "[the WOGCC reviews and determines the ability of the target formation to retain the injectate based on well bore schematics and additional geologic information." BLM should understand NEPA's "hard look" requirement places upon BLM an independent duty to make this determination and to carefully evaluate the indirect, direct and cumulative impacts of the injection of all fluids produced in association with the proposed development, including especially, the disposal of large quantities of H2S and CO2.	The statement at 82 will be modified to read, "Under authority delegated by U.S. EPA, BLM and WOGCC will review and …"
58	3.2.3.6 Disposal by Injection, pg. 82, lines 2402-12	See response to comment # 56. Add Huang et al. report.	The EA at 82 (lines 2402-2412) discusses the disposal of produced water in the Nugget Formation and disposal of acid gas in the Madison Formation in the same paragraph. Discussing these two related, but distinctly different processes in the same paragraph is both confusing and misleading. With respect to disposal of acid gas in the Madison Formation, the EA claims (lines 2406-07) that "[t]he depth and character of the Madison reservoir allows it to receive and confine the injectate" since there is no "evidence of leakage" but fails to discuss what steps, if any, have been taken to affirmatively monitor and detect leakage from this formation. Isn't it possible that leakage could be taking place without detection? (The absence of an eye witness to a crime does not prove a crime has not be (sic?) committed). Stepping further out onto thin ice, the EA then asserts that since "ExxonMobil has been injecting gas into the Madison Formation 42 miles south of the RBPA since 2005[]... without evidence of leakage" the reader can reasonably conclude that injection into the proposed target formation is without concern. There are at lease (sic) two fundamental problems with this reasoning. First, the EA presents no evidence that the formation 42 mikes(sic) south is equivalent or similar to the proposed injection zone, and two, the EA fails again to discuss whether any efforts are actually made to detect leakage, such as monitoring or leak detection program. (Note that the citation on line 2412 to "WOGCC 2008" does not support the conclusion that leakage has not occurred).	Section 3.2.3.6 is titled "Disposal by Injection" Both injection processes are classified and permitted as wells for disposal by injection for oil and gas operations by BLM and WOGCC, and therefore do not present a contradiction. New text has been added to the FEA. See response to comment #56 for further clarification.

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59	3.17 Air Quality, pg. 200, lines 5568-70	Yes	The EA at 200 (lines 5568-70) inaccurately describes BLM's regulatory responsibilities and authorities concerning the protection of air quality on federal lands. BLM's authority to regulate and/or control activities that may adversely impact air resources is much broader that(sic) stated here. This section should be revised to correctly describe the extent and nature of the BLM's duties and responsibilities with respect to air quality. For example, BLM has broad legal authority to: 1) control or limit the number of drill rigs (and other nonroad emissions sources) operating at any given time on BLM surface/mineral estate; 2) require the use of Tier 3 or higher drill rig engines; 3) prohibit the installation and/or use of ancillary facilities, such as condensate tanks, that cause unnecessary or undue emissions; 4) limit numbers and hours of usage of heavy truck traffic and require car-pooling; 5) require ambient air monitoring; 6) require reductions of emissions from existing wellhead facilities; 6) require closed-loop systems and so-called "green completions"; 7) require ambient air monitoring and a range of other mitigation measures.	The referenced statement at page 200 correctly infers that BLM has limited authority in relation to the Clean Air Act. With that said, the following discussion for items 1-7 demonstrates that much of what the commenter suggests is already addressed in the EA. 1) Only one rig would be used for 3 of the production wells and the AGI well; the other well would require a workover rig only. The water injection well is a state well and not under BLM jurisdiction. 2) Cimarex has already committed to using a Tier 2 engine. 3) None proposed. 4) Cimarex has addressed carpooling in the transportation plan. BLM also requires carpooling for wildlife purposes. 5) The Upper Green River Basin is the most heavily monitored area in the state and Cimarex has already committed to putting in an air quality monitoring station. 6a) Offsets in the AQ permit include replacing pumps at a number of facilities. 6b) Technology is not available for wells of this depth. 7) Covered in AQ permit offset requirements. Appendix F contains the BLM Pinedale Field Office's Best Management Practices that detail mitigation measures that would be considered.
60	3.17 Air Quality Table 3-33, page 210	No	The revised EA/EIS should acknowledge that the EPA has proposed to establish a lower NAAQS for ozone to between 60-70 ppb. See 75 Fed. Reg. 2938-3052 (Jan. 19, 2010). EPA has also revised its Nox standard. See 75 Fed. Reg. 6474-6537 (Feb. 9 2010);	Yes, the EPA will announce a new standard; however they have postponed that determination until 2011. The new levels are unknown at this time and, therefore, not considered in this analysis. Additionally, Cimarex would not be drilling during the winter months when elevated ozone levels are detected.
61	3.17.3 Existing Air Quality. Table 3-34 page 205	No	contains numerous errors, including design values for ozone which greatly exceeded the 0.072 ppm shown here.	BLM has reviewed and confirmed the accuracy of the table in question.
62	3.17.3.2 Protecting Visibility in Important Natural Areas	No	The EA fails to acknowledge and describe causes of significant visibility impairment detected in several nearby wilderness areas including the Class I Bridger Wilderness area. See Pinedale Anticline ROD.	Figure 3-7 and Table 3-35 clearly identify sources of visibility reducing compounds in Class I areas near Pinedale, including the Bridger Wilderness Area.

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63	4.1.1. Impact Criteria, pg. 223, lines 6217-19	Yes. Add text per the comment response	The EA at 223 (lines 6217-19) states: "Since extraction of oil and gas resources in appropriate federal lease-holdings is an objective identified in the PFO RMP for the RBPA, including the Riley Ridge Unit, no impacts are anticipated from the extraction of gases (BLM 2008b)." This statement is patently absurd and should be removed from the text. The fact that an activity may be authorized by the RMP is no guarantee that the project will have no impacts; e.g. the Pinedale Anticline being the prime example of significant air impacts from permitted sources. In addition, and notwithstanding the above-comment, the sequestration of H2S and/or CO2 is not contemplated or discussed in, or authorized by, the Pinedale RMP.	If this statement were broadly made for the overall Rands Butte Project and for all resource values within the project area, you would be correct, that it is not a valid assertion. However, the statement is made in the Geology, Minerals, and Geohazard section of Chapter 4 and only pertains to the impacts to the minerals resource within the project area. The text is changed as follows to add clarity: "The federal portions Rands Butte Project are in conformance with the fluid mineral development objectives in the Pinedale RMP (BLM2008B). Other than the physical extraction of methane and helium, it is not anticipated that the Project would impact the minerals resource within the project area.
64	4.1.1. Impact Criteria, pg. 223, lines 6224-41	Yes	EA at 223 The geohazard risks associated with the injection of CO2 and H2s are not disclosed. Impact criteria for acid gas injection have not articulated. The EA lines 6224-41) presents risk criteria only for 1) slope and stability, 2) produced water containment and 3) seismic risk. Criteria for assessing the geohazard risk of long-term disposal/sequestration must be included in the revised EA/EIS.	Thank you for your comment. The following changes will be made to the FEA at Section 4.1.1. the bullet describing "Produced water containment" will be changed to " Disposal by Injection" New text has been added to section 4. 1.3.1 evaluating produced water injection and acid gas injection impacts.
65	4.1.2. No Action Alternative , pg. 223, lines 6247-49	No	The EA at 223 (lines 6247-49) states: Without federal action, any geohazard impacts resulting from non-federal actions associated with Cimarex gas development and processing would be speculative and outside of BLM authority to modify or change." This statement is incorrect. It is well-established NEPA law that the federal agency must analyze the effects of the no-action alternative, even where no federal action is contemplated or taken. To ensure a hard look at and thorough consideration of all project alternatives, the BLM must analyze the effects of the No Action Alternative presented in this EA. B>M must analyze the environmental impacts of the no-action alternative, even if the agency lacks regulatory authority over its components.	The statement has been removed.
66	Lines 6307-09	Yes	Despite these known significant risks, the EA concludes (lines 6307-08) that "[an earthquake with a magnitude of 6.5 would unlikely alter the current geological conditions of safe containment of the Nugget or Madison formations." Apparently this conclusion is based on a scientifically spurious premise that because the Nugget formation "has been shown to be very stable and to receive injected water safely" (line6309) it is somehow capable of withstanding a 6.5 magnitude or greater earthquake. Have these disposal wells been subjected to a 6.5 or greater seismic event to test this theory?	The stability of the Nugget and the Madison formation during an earthquake would depend on the depth of the epicenter as well as the magnitude and type of earthquake. Both formations occur at considerable depth and currently contain their gas and fluids, and have done so for more than 50 million years (See Section 3.2.1.2). The EA reports that faults occur in the Project Area and the area is located in an area where an earthquakes may occur, as stated in Section 3.2.4. BLM recognizes that man-made structures and wells may fail in the event of earthquakes, and has included additional analysis of the probability and possible impacts of such failure in Section 4.1.3.1.2. Well bore schematics for the proposed acid gas injection well and the water injection well are included in Appendix B which show casing depths.

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67		Yes	Again, understanding that a 6.5 magnitude or greater earthquake is possible at any time we disagree that a "no significant impact" conclusion can be reached from the facts presented, and challenge the BLM to subject this conclusion to rigorous and unbiased scientific scrutiny. The obvious questions presented by this superficial analysis include: 1) have there been any 6.5 earthquakes in the vicinity of the receiving formation since ExxonMobil began injecting H2S in 2005; and, 2) is the Madison Formation into which ExxonMobile has been injecting 42 miles south of the RBPA identical in every material way to the formation underlying the RBPA that would receive the proposed acid gas injections? These questions are particularly important given the fact that the authority cited by BLM in support of the conclusion (WOGCC 2009d) us to a nonexistent link. Is there any credible scientific support for BLM's conclusions?	Section 3.2.4.1 describes the local and regional seismic risk and earthquake probabilities. Reference to the historic highest magnitude earthquake in the area (4.3) has been added to this section. Despite minor earthquakes, sour gas drilling and operations have been continuous in the RBPA since 1986, with only one known human-caused accident that caused leakage of sour gas. Should a stronger earthquake occur, the possibility of a rupture or leakage of sour gas is acknowledged in the EA in Section 4.1.3.1.2. Several design features are described in Section 4.1.3.2.3 that would allow for rapid detection of leaks and automatic shut down of operations. Appendix E evaluates the potential effects should an earthquake occur of a magnitude capable of causing a full rupture at the wellhead or any other sour gas containing vessel. Based on the combined analysis of low probability of a damage causing earthquake occurring, low risk of any accidental sour gas leak reaching any residences or the general public, and the numerous safety features included in the project design, BLM has determined that seismic risk does not rise to the level of significance for the Project. Furthermore, since sour gas drilling and operations are expected to occur under No Action as well as with federal action alternatives, the level of risk from earthquake damage would still occur without federal action.
68	4.1.3.2.2. Produced water containment, pg 226, lines 6350-53	No	The EA at 226 (lines 6350-53) indicates that "water would be injected at pressures which are greater that the existing pore pressure of the formation, thereby allowing the injected water to displace the compressed native saline fluids." What happens to the "displaced" native saline fluids? Will the over-pressurized formation induce Seismicity or contaminate other aquifers? Where do the displaced fluids go?	Section 4.1.3.2.2 Discusses the availability of pore volume in the Nugget sandstone and discusses the volumes that have been successfully injected into the formation. Displaced fluids would move into other parts of the formation through pore spaces. The average porosity of the Nugget formation (8.5%) has been included in this section.

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69	page 227-228, line 6387-6410	No	1) 4.1.3.2.3 Seismic Risk. This discussion is confusing and should be revised to clarify risks and impacts from seismic activity. The EA at 228 indicates that sour gas facilities will be constructed to meet or exceed (which is it?) design standards established under the UBC for seismic zone 2, and that the "risk of an earthquake with a large enough magnitude to severely damage infrastructure designed and constructed to seismic Zone 2 standards is unlikely..." However, the EA goes on to state that "a major earthquake of magnitude greater than 6.5" could "damage project infrastructure and result in leaks of sour gas[]", but concludes that the risk of a damaging earthquake is "unlikely" due to "low probability of occurrence." This conclusion does not seem to square with information presented in earlier sections of the EA suggesting that the risk of damaging earthquakes is much greater. Considering the potential catastrophic consequences that could result from a massive release of H2S and/or CO2, either from damaged or destroyed surface infrastructure or from a breach in the receiving formation, the EA should be quite clear on this subject. 2) EA at 228, line 6401: What is a "moderate geohazard risk"? The term does not appear to be defined in the section describing Impact Criteria. 3) What magnitude earthquake will the sour gas facilities be designed and constructed to withstand? This is not clear in the existing discussion on page 228. (The EA simply states that a magnitude greater than 6.5 may exceed the seismic Zone 2 design standards for the project).	See response to comment # 68. A thorough discussion of regional and local seismic risk earthquake probability, Richter Scale, and UBC Seismic Zones is provided in Section 3.2.4.1. Section 4.1.3.1.2 clearly reports that the project occurs in UBC Zone 2, with a 10-20% probability of experiencing an earthquake of magnitude 6.5 or higher on the Richter scale within the next 50 years. The relative impacts of such an earthquake on the Nugget and Madison geological formations is discussed in Section 4.1.3.1.2. The relative impacts of a rupture or other leak of sour gas from wells or infrastructure (such as caused by an earthquake greater than 6.5) is evaluated in Section 4.10.3 and further supported by Appendices E and F. Well casing design schematics are provided in Appendix B.

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70	page 310-312, line 8851-8948	Yes	4.7.4 BLM Sensitive Species, EA at 310 to 335, Greater Sage-grouse. The analysis of impacts to greater sage-grouse and proposed mitigation measures are deficient in several important respects, including failure to properly assess the current stats of the species; failure to identify well-documented deficiencies in current management prescriptions (including inadequacy of timing and controlled surface use stipulations incorporated in the Pinedale RMP and Riley Ridge leases); and failure to support findings and conclusions in the EA with credible science. The EA/EIS should be revised to reflect recent changes in the status of this species, including the March 2010 decision by the USFWS to designate the species as a candidate for listing under the Endangered Species Act; March 2010 revisions to the DOI sage-grouse policy, including issuance of new instruction memorandum; and the most recent science that undermines and discredits the BLM's existing approach to sage-grouse conservation (relied upon in this EA). Most importantly, significant changes to project design and additional and effective mitigation measures must be incorporated to avoid significant impacts to this candidate species, and to comply with BLM WO and Wyoming sage-grouse conservation policies. We expressly adopt and incorporate by reference as if it were fully set forth below, the U.S. Fish and Wildlife Service's 12-month Findings for Petitions to List the Greater Sage-Grouse (*Centrocercus urophasianus*) as Threatened or Endangered, available online at: http://www.fws.gov/mountain%2Dprairie/species/birds/sagegrouse/FR03052010.pdf	See new discussion of most current Greater sage-grouse impact criteria and analysis of impacts in Sections 4.7.2.3 and 4.7.3.2.1.6. 1) The analysis of impacts to greater sage-grouse used latest sources and numbers provided by WGFD, which is the authoritative agency that conducts surveys. 2) Evaluation of Field Office Wide timing and surface use stipulations is a BLM policy question outside of the scope of this EA; however stipulations imposed through this EA are in full compliance with the requirements of BLM- Wyoming Instruction Memorandum (IM) 2010-012. It is also important to note that even though none of the RBPA occurs within any designated greater sage-grouse core areas, with the exception of alternative one no project components would be located closer than 0,6 mile of a lek, which exceeds the IM 2010-012 requirements. The season nesting stipulation also exceeds the IM requirements. 3) BLM disagrees and stands behind the significance criteria and impact analysis in this EA. 4) Draft EA was released in January 2010. The March 2010 decision by the USFWS has been referenced by FEA and the status of sage-grouse updated 5) Alternative 2/BLM's preferred alternative 3 incorporate significant changes to project design and effective mitigation measure in order to avoid significant impacts to this candidate species.
71	page 232, line 6509-6512	Yes.	4.1.7 Cumulative Impacts: The EA at 232 states that "[the CIAA for geological resources in the RBPA and the area within 1 mile boundary of the RBPA." what is the rationale for extending the CIAA one mile beyond the project area? Isn't it possible that acid gas injected into the Madison Formation could migrate well beyond the CIAA? Shouldn't this distance be based on consideration of the geologic characteristics present in the area and potential project impacts as opposed to what appears to be an arbitrary determination?	Changes have been made to section 4.1.7 to clarify that the CIAA for geologic injection would be the extent of estimated dispersal of the injectate.

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72	page 232, line 6540-6543	Yes	The EA at 232 states "The Project would not add any increased risk of over pressurizing the Madison Formation, and in fact would decrease formation pressure by extracting methane and helium gas from the formation; therefore, no cumulative risk of increased seismic risk is anticipated from proposed acid gas injection back into the Madison Formation." But wouldn't the injection of significant quantities of CO2 and H2S create a potential for localized areas of over pressurization within Madison Formation?	To address your comment and concerns, additional sections have been added to Section 4.1 on analysis of acid gas containment. Technical data regarding the geology and engineering of the proposed Acid Gas Injection Well has been added to Appendix B and H, including the maximum pressure calculations. The analysis shows that in the area of acid gas injection, would never exceed fracture pressure of the Madison Formation, and that overall pressure of the formation would decrease over the life of the project.
73	page 232-234, line 6546-6587	No	4.1.8 Mitigation and Monitoring Opportunities. EA at 232-33. It appears that no mitigation or monitoring opportunities for acid gas injection are identified. Please explain this omission	BLM has evaluated the design features that are listed in Section 2. 2.1.3, Section 4.10.3, and Appendices B, E, F and H (page 4). BLM has determined that these design features are sufficient to protect the safety of the Project for the public and that additional mitigation measures are not required.
74	page 275-278, line 7775-7877	No	We recommend that BLM require Cimarex to institute, as a condition of ROW and APD issuance, a comprehensive ground and surface water quality and quantity monitoring program. Given the age, status and location of this field, and the extensive development occurring in this area, the absence of critical water quality and quantity baseline data is inexcusable	Thank you for your comment. However, BLM disagrees with the recommendation since the anticipated effects of the Rands Butte Project on groundwater and surface water are minor with the implementation of various mitigation measures and management practices identified in the EA and Appendix F.
75	page 263, line 7309-7310	Yes	EA at 263. Impact criteria should be developed for potential impacts resulting from acid gas injection activities. The focus seems to be on produced water; e.g. "Given low volume of introduced water anticipated, no adverse impact would results: Line 7309. Please quantify the term "low volume"	New impact criteria and text have been added to Section 4.1, which includes impact criteria for acid gas injection.
76	page 264-265, line 7370-7404	No	Clearly, there are additional water quality issues associated with the injection of CO2 and H2S. Is there a danger of H2S or CO2 could escape from the receiving formation and enter the atmosphere and/or contaminate nearby aquifers? No monitoring or mitigation opportunities related to ground or surface water impacts from acid gas injection are identified. Please explain why such opportunities are not discussed.	Thank you for your comment. However, BLM disagrees with the recommendation since the anticipated effects of the Rands Butte Project on groundwater and surface water are minor with the implementation of various mitigation measures and management practices identified in the EA and Appendix G.
77	page 275, line 7764-7774	Yes	The cumulative, synergistic and/or secondary impacts of acid gas injection into the Madison Formation are not disclosed. Please explain why this analysis is lacking.	Acid gas injection well design, drilling, and operation would be reviewed and permitted according to federal requirements designed to protect groundwater. These are contained in BLM On Shore Order #6 and WOGCC Chapter 4. The cumulative, synergistic, and secondary effects of this well on surface water resources are considered in this section. The potential for cumulative effects on groundwater are considered to be negligible due to the great depth of groundwater and the protective casings required by federal and state review agencies. To our knowledge at this time, future foreseeable actions do not include injection into the Madison formation or Nugget formation. Additional text is added to clarify this determination.

Rands Butte Gas Development Project EA - Comments

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78	page 391, line 11476-80	No	4.10.1 Impact Criteria. The EA indicates that the life of project (LOP) is approximately 40 years, and discloses that some activities will be temporary, while "other activities would extend throughout the LOP." EA at 391, line 11476-78. The EA goes on to that that "[t]he generation, storage, and disposal of hazardous substances from these activities would be limited to each specific portion of the Project." Id., line 11479-80. By limiting analysis to a forty-year timeframe, the EA completely disregards all environmental and human health issues associated with the long-term and potentially indefinite sequestration of H2S and CO2. It should be obvious to BLM that the risks associated with the long-term storage and disposal of acid gas extend well beyond the LOP, potentially indefinitely. See e.g., Report to Congress, Framework for Geological Carbon Sequestration on Public Land, Department of Interior, attached hereto. The omission of any analysis of impacts that extends beyond the LOP is a serious and fatal in this document	The project does not constitute a carbon sequestration project. Regardless of the classification of the project, the Madison formation has contained acid gases for eons, and returning acid gases to the same zone and unit from which they were extracted does not constitute a new threat, or risk in general or when compared to No Action. BLM's practices and procedures for approving and witnessing well plugging (Onshore Order #2), in conjunction with WOGCC requirements in chapter 3, Section 18 and 23 for the safe plugging of wells, including AGI wells are designed to insure the protection of the public. The productive life of the project is estimated at 40 years, and the infrastructure would likely be aging and in need of re-evaluation and/or re-development--hence the reasonable life of the project is established at 40 years.
79	Section 4.10, page 390-402	No	The absence of any discussion of the long-term risks of carbon and H2S storage/disposal/sequestration is a serious, and frankly, inexcusable deficiency in the environmental disclosure. Moreover, health and safety hazards are analyzed in context of BLM's Onshore Order 6, which alone is not an appropriate tool for addressing health and environmental issues implicated by the intended permanent sequestration of CO2 and H2S.	The EA addresses the relative impacts of acid gas injection and includes a gas dispersion model in Appendix E which tests the ability of the Emergency and Contingency Plan (Appendix D) to protect the public. Other analysis is also evaluated regarding other potential health and safety risks to the public.
80	Section 4.10, page 390-402	No	The EA discusses the human health and safety risks related to an accidental release of H2S from facility infrastructure. See EA at 390-402. However, discussion of issues associated with the sequestering of H2S is limited to a couple paragraphs, neither of which addresses the specific risks or threats from this project. Moreover, issues concerning the sequestering, or long-term storage, of CO2, are not addressed at all.	The project does not propose sequestering CO2. Acid gas injection is evaluated for effects.
81	page 398, line 11664	No	Please explain how the "additional data" collected from the "initial well bore" will be incorporated into the NEPA analysis. We can find no reference in the EA to this data, and understand that the test well has not even been competed, (sic?) which obvio	See the response to comment 28

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82	page 398, line 11658-11662	Yes.	The EA asserts in the quoted section, above, that "no safety incidents have been reported regarding the injection or release of gas" but the news is filled with reports from Western Canada and elsewhere of sour gas well blowouts. See, e.g., Control efforts begin on Alberta gas well blowout, Alyssa Noel, Edmonton Sun (March 12, 2010), online at: http://www.edmontonsun.com/news/alberta/2010/03/08/12155851.html. The risks of well blowout are serious and must be considered in the revised EA/EIS. See U.S. Environmental Protection Agency. October 1993. Report to Congress on Hydrogen Sulfide Air Emissions Associated with the Extraction of Oil and Natural Gas. EPA 453/R-93-045, p. 111035.	The Cimarex Public Safety Plan has been added to Appendix D, as a result of your comment. Thank you for the article on acid gas safety, which was published after the Rands Butte Draft EA. See section 4.1 for additional impact criteria and analysis. The EA acknowledges in several places that the sour gas drilling and operations being contemplated are potentially hazardous to human health and safety. The EA at page 168 indicates that the PFO RMP has implemented a Hazard Management and Resource Restoration (HMRP), and also provides a lengthy listing of federal laws and regulations covering various aspects of a potentially hazardous project such as the Rands Butte Gas Development Project. Appendices D and E, and Section 4.1 provide detailed analysis and disclosure of both the level of risk associated with the project, and the relative impacts to human health and safety that could occur should a rupture or blow-out occur.
83		No	4.15.1 Impact Criteria. The EA establishes six distinct impact criteria (line 13550-56), but fails to analyze whether the project might cause or contribute to exceedances of (or otherwise trigger) many of those very same impact criteria. For example, the EA on 456 states that project-related activities would create significant air quality impacts if "PSD increments for Class 1 and Class II areas are exceeded", yet fails to include or reference an increment consumption analysis which obviously is required in order to determine whether air impacts are significant! Similarly, the EA identifies significant impacts if NAAQS or Wyoming AAQS are exceeded, but fails to explicitly acknowledge that these standards have already been exceeded, which under the impact criteria listed by BLM must result in a finding of significance. Likewise under the impact criteria identified by the BLM, the EA must find significance if "visibility in sensitive areas exceed 0.5 and one deciview (dv) change thresholds", yet fails to disclose that nearby sensitive Class 1 areas are suffering much more significant visibility impact of one dv in excess of 60 days. See, e.g., Pinedale ROD at 25.	The BLM does not agree that the PSD threshold would be exceeded. Additionally, BLM does not analyze the data; collection is for recording purposes only and only for point sources. Collection would not be required for the electrified plant. John Z has provided additional language (see text).

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84	0	No	Emissions of atmospheric pollutants from oil and gas development, production and transmission has caused significant degradation of air quality in Sublette County over the past 10 years, declining from what was arguably some of the cleanest air in the county to a condition that now requires a nonattainment designation for ozone. Despite Cimarex's efforts to reduce and/or offset emission from stationary sources at the M&HRF, the fact remains that because they are not offset, emissions from construction and operation of the facility will cause further declines in air quality. The revised EA/EIS should include a discussion of options to mitigate emission from non road engines used for drilling, fracking, well completion, construction, transportation of material, and the like.	The EA discloses visibility issues and acid deposition in Section 3.17.3.2, including a table of current acid deposition in Pinedale and Yellowstone National Park in Table 3-36. As indicated in response to Comment # 59, Cimarex is committed to measures that would reduce mobile source emissions including the use of Tier 2 drill rig engine, car-pooling during construction and operation, and uses a closed loop system and green completion, and drilling operations and construction will be conducted during seasons when ozone is less of a problem in Sublette County. Emissions from stationary sources are reduced by design features including having no condensate tanks, no existing well head emissions, and compliance with the offset program. In addition, the Project operations use electricity from the Rocky Mountain Power grid, which includes alternative wind energy.
85	page 454, line 13532-33	Yes	Although the EA at 454 acknowledges that the entire RBPA lies within a proposed nonattainment area for ozone, it fails to disclose other serious visibility impairment in the Wind River Mountains, particularly the Class 1 Bridger Wilderness, and concerns about nitrogen, ammonia and sulfur deposition in the high mountain lakes. The EA/EIS should be revised to accurately and completely describe the nature and characteristics of this impaired and very sensitive airshed.	The BLM disagrees. Although there are lakes in the Bridger Wilderness that are sensitive, impacts from this project alone are likely not detectable. However, text will be added in the NA description discussing this.
86	page 458, line13627-28	Yes	The EA assumes that if sources are permitted by DEQ, impacts will not be significant- this is clearly and demonstrably not the case. The EA states that "[any stationary sources of emissions from non-federal Project components must adhere to the Clean Air Act and operate under WDEQ Air Quality Permit provided in Appendix C. therefore, no adverse impacts would occur from stationary sources under the Non Action Alternative." EA at 458. Yet, the EA fails to acknowledge that all oil and gas production facilities in Wyoming are in fact permitted by DEQ/AQD and that those sources have significantly degraded air quality in Sublette County and elsewhere. The point is that the existence of an air quality permit does not assure that air quality impacts will remain below the significance threshold.	Additional text has been added to Section 4.15.2.
87	page 460, line 13693-13696	Yes	The consequences of accidental or unintended CO2 and H2S emissions (fugitive releases, leaks, etc.) from "sequestered" gas is not disclosed. The "analysis" of this issue is limited to the following: "Under Alternative 1, all CO2 produced by the proposed new wells would be re-injected back into the Madison Formation. This is a substation improvement in environmental protection compared to existing technologies evaluated in the Riley Ridge Gas Project EIS (BLM 1984)." EA at 460.	This is not a sequestration project. Additional text covering the analysis of acid gas containment has been added to Section 4.1. In addition, should an unforeseen event occur potential impacts due to leaks or other emissions of acid gas are discussed in Section 4.10 and in Appendix F ALOHA Hazardous Gas Dispersion Model.

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88	page 456, line 13564	No	The EA (at 456) acknowledges that "substantial amounts of NOx and CO" are created from well drilling rigs, and that "use of heavy equipment..would create substantial NOx, VOCs, and PM10" but fails to assess the direct, indirect and cumulative effects of these emissions.	Lines cited deal with impact criteria, not the analysis. Emissions are reported in Table 4-56, impacts discussed on pages 459-62, and quantified on page 462.
89	page 456, line 13547	No	The EA (at 456) defends its use of "qualitative analysis" of construction related impacts because, it argues, the ozone problem is confined to winter months when construction would not be taking place. First, it is not clear that timing limitations apply to the construction of all project related facilities, particularly those located on state and private lands, so there may well be some construction activities taking place year round. Second, the BLM's qualitative analysis ignores cumulative impacts of gas development proposed in nearby fields. Third, given the level of existing and projected development in the area, an area recommended for non-attainment for ozone, NEPA's hard look can only be satisfied by a quantitative analysis of air quality impacts.	1) Well pads are part of the existing infrastructure, the M&HRF site has already been cleared, and construction will only occur inside during the winter stipulation months. 2) Yes, the EOG infill will contribute to the emissions, but this project alone does not result in significant cumulative impacts. 3) From the PAPA SEIS: WDEQ-AQD announced on July 30, 2008, that evaluation of recent ozone monitoring data indicates Sublette County is not in compliance with the ozone standard. WDEQ-AQD has aggressively evaluated the elevated ozone levels in the past and secured voluntary compliance with industry to reduce volatile organic compounds (VOCs) and NOx emissions. As an on-going effort, the state has developed additional strategies to further reduce ozone levels.
90	page 458, line 13636	No	Table 4-56, The revised EA/EIS should explain why Federal well drilling emissions decrease from 35 tpy Nox in 2009 to 28 tpy in 2010, 18 tpy in 2011 and 17 tpy in 2012, when the EA states that "[drilling operations would proceed at the rate of one well per year over a four-year period." EA at 47. What accounts for the reduction of NOx emissions?	Calculations are based on assumption that drilling would proceed as follows: Year 1 - 1st new deep production well, Year 2 - 2nd new deep production well and water injection well, Year 3 - third new deep production well, Year 4 - workover of existing Madison well for fourth producer. the variability of either 1 or two rigs and the number of weeks rigs would operate would determine the final emission calculation. See also response to comment #64.
91	page 463, Section 4.15.8	Yes	Air quality mitigation measures proposed in the EA are inadequate and/or incomplete. For example there's no discussion of electric or natural gas powered drilling rigs, or benefits of advanced emission control technology on diesel drill rig engines. Additionally, the EA doesn't discuss the possibility of emission offsets from construction equipment, drill rigs, or other project facilities not yet permitted by the DEQ.	1) Text added to Other Mitigation Opportunities. Additionally, mitigation measures are already in place that cover offsets (see AQ permit in Appendix C and text added to Comment #86). 2)The BLM doesn't have an offset program of any kind and the DEQ interim program covers only stationary sources, therefore there is no regulatory authority that applies here. However, mitigation have been agreed to by Cimarex. The use of an "electric or natural gas powered drill rig" was not consider in the EA for several reasons: First, Cimarex retrofitted the rig to Tier 2 technology, which meets of exceeds the existing EPA standards. Second, NEPA does not mandated the consideration of mitigation greater than those that meet regulatory requirements Third and most important, there is not an electric or natural gas source at the well pad to use. Until the M&HRF is in operation the nearest source of natural gas is over 2.5 miles away across Class II VRM area with a contributing historic trail segment, and South Piney Creek and its associated riparian habitat. The nearest electric power source capable of powering the rig is over 5 miles away.

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92	page 462, section 4.15.7	No	The EA (at 462) erroneously claims that "long-term emissions from operations would be offset by terms of the DEQ permit[]" but fails to acknowledge that the DEQ permit applies only to the Methane and Helium Recovery Facility ("The Division considers well drilling and completions, pipeline construction and operations, electric transmission construction to be secondary emissions and not part of the Riley Ridge Plant. Therefore, Cimarex was not required to offset these emissions because they were not considered in the potential to emit for the Riley Ridge Plant." EA Volume 2, Appendix C, DECISION at 2.	The level of emissions from drilling and construction is reported in Table 4-56 and evaluated for each alternative. It is also clearly stated that the Project and all of its connected actions would be required to comply with the Clean Air Act and WDEQ air quality regulations. In Section 4.15.3, for example, it is reported that "Based on these generalized assumptions, Alternative 1 would contribute measurable amounts of mobile source pollutants." This section goes on to indicate that with adoption of aggressive dust abatement mitigation measures localized PM10 impacts of could be reduced to a level below significance.
93	0	No	The project is a massive and costly undertaking with numerous related components, any one of which could alone trigger the need for an EIS.	40 C.F.R. 1508.13, 1508.27(b)(1-10) indicates that the size and cost of a project do not constitute decision criteria for determining if an EIS is required. NEPA mandates that an EIS be prepared if significant adverse impacts are likely to result form implementation of the project.
94	0	No	The novelty of this project emphasizes the potential for significant environmental impacts, thus necessitating preparation of an EIS, not a simple EA. At a minimum, this project raises issues related to the intensity of the project based on the potential for affecting public health and safety; the ecological importance of the area; the highly uncertain and unique or unknown risks associated with the novel technology; the cumulative effects when combined with other proposed gas development activities (e.g. LaBarge Platform infill); and the potential for setting precedent for other similar future actions, or creating a decision in principle about these types of projects, all which are "intensity factors" under the Council on Environmental Quality's regulations, making it highly unlikely BLM can sustain any claim that this project "will not" have significant environmental effects, as is required to sustain a finding of no significant impact, allowing only an EA to be prepared. See 40 C.F.R. 1508.13, 1508.27(b)(1-10), (presenting CEQ regulations regarding when a finding of no significant impact is appropriate and the intensity factors that must be considered in determining if a project may significantly affect the human environment).	Refer to the response to comment 93. When compared with the future without federal action (No Action) the BLM preferred alternative would have reduced adverse impacts overall, due to the location of facilities, but also as a result of federal oversight during construction and operation of components such as the acid gas injection well. The EA finds that the BLM Preferred Alternative would <u>not</u> have significant direct, indirect, or cumulative impacts on the environment based on both objective and qualitative criteria. Where impacts have been identified, meaningful mitigation measures have been required that would reduce impacts to levels that are less than significant.
95	0	Yes	List of preparers. Please include in the revised document a list of preparers and their relevant professional experiences, credentials and qualifications. In order to ensure scientific integrity surrounding this process, the public has a legitimate right to now who wrote the EA along with their respective qualifications and credentials. 40 CFR 1502.17.	A list of preparers has been included in the FEA.

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96	0	No	In as much as this office would be apprehensive to support an action that could significantly impact our lessees' use of state land and/or curtail potential opportunities that would compromise the Board of Land Commissioners' ability to manage state trust lands for income generation as prescribed by its trust obligation, we have no specific concerns regarding this project at this time.	Thank you for your comment.
97	0	No	However, not with standing the federal NEPA process of federal approvals, the project proponents must comply with the Rules and Regulations adopted by the Board of Land Commissioners in accordance with W.S. 36-2-107 and W.S. 36-9-118, in the event it is necessary to develop on or traverse state lands.	Cimarex understands that approval of the project does not preclude them from following all other federal, state, and local laws and regulations.
98	0	No	Enclosure letter: DOI Report to Congress - Framework for Geological Carbon Sequestration on Public Land. From WRA letter.	Reference noted
99	0	No	Enclosure letter: Big Sky Carbon Partnership Project Fact Sheet. From WRA letter.	Reference noted
100	0	No	Enclosure letter: Energy Procedia: Review of Failures for Wells Used for CO2 and Acid Gas Injection in Alberta, Canada	Reference noted
101	0	No	While Trout Unlimited (TU) and Wyoming Wildlife Federation (WWF) support Cimarex, Inc.'s (the proponents) innovative effort to develop a cleaner and smaller footprint in the course of gas development, there are significant enough hazards and impacts associated with this pilot development Project, that we respectfully request the BLM to not issue a Finding of No significance (FONSI) and instead, prepare a full Environmental Impact Statement (EIS).	Thank you for your comment. Impact analysis in this EA demonstrates and concludes that, with appropriate mitigation and monitoring, the BLM preferred alternative (Alternative 3) would not result in significant impacts.
102	0	No	The DEA does not fully identify the potential issues and impacts that may be affected due to this new and distinctly different type of energy development Project. Part of the challenge in this Project is the presence of high concentrations of carbon dioxide (CO_2) and toxic hydrogen sulfide (H_2S). the presence of these two elements adds to the increase in cost to separate, treat and safely dispose. In fact, we have significant levels of concern that the BLM and the State of Wyoming do not have enough experience with this type of development project (the first of its kind in the state) and this is reflected in the lack of detail and discussion in the DEA.	The BLM and State of Wyoming have been reviewing, permitting, and monitoring sour gas operations in Wyoming for approximately 40 years. There have been multiple BLM and State of Wyoming permitted Madison (sour) gas projects in Wyoming, including the Exxon-Mobile Shute Creek Project and Wamsutter Project, ConocoPhillips (Burlington Resources) Lost Cabin Project, and many others. These projects include sour gas wells, acid gas injection wells, and sour gas plants. The Rands Butte Project tests incremental improvements in technology designed to address specific technical difficulties in the production of Madison Formation gas and improve the safety and efficiency of gas production in the Riley Ridge Unit.

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103	0	Yes. New text to 4.1, plus Appendix H.	Carbon sequestration is a relatively new phenomena in the energy development world and the available literature stresses the importance and numerous requirements for assuring that containment integrity of carbon sequestration not be compromised (see "CO2 Geological Storage Field Development - Application of Baseline Monitoring and Verification Technology". 2009. Simone, Alessandra, et al. Shell International Exploration & Production. www.sciencedirect.com.) Furthermore, impacts to the surrounding subsurface and surface habitat using this new CO2 reinjection process has elements of risk that are just now being observed (see "Detection of surface deformation related with CO2 injection by DinSar at In Salah, Algeria." 2009. Onuma, Takumi and Shiro Ohkawa, Japan Petroleum Exploration Co., www.sciencedirect.com). this information should have red flags associated with it based on the DEA's discussion with respect to earthquakes and seismic zone activity, since the Project is located in the Wyoming Overthrust Belt, and active and known historic faulting area (DEA page 82, 3.2.4). The singular action of the CO2 reinjection becomes more complicated and dangerous with the addition of the other mentioned gases, ultimately making this project a very high risk endeavor. Long-term containment of CO2 can have significant environmental impacts and because of this relative novel and innovative technology, the public should have some measure of assurance that a thorough, comprehensive evaluation and analysis is completed on this proposed Project by the BLM and other regulatory authorities.	As stated previously, the Project does not involve carbon sequestration. Additional text has been added to Section 4.1 regarding the impacts of acid gas injection. Based on the analysis, the pressure of the Madison formation underlying the Riley Ridge Unit is anticipated to steadily decline over the 40 year life of the Project due to simultaneous withdrawal of water, methane, and helium for economic production from the same formation.
104	0	No	Because the BLM has decided to produce an EA rather than an EIS, we are without the added benefit of a review and evaluation of this Project from the Environmental Protection Agency (EPA). Rands Butte has the potential to impact a large portion of western Wyoming from a human health and hazard perspective, from a wildlife and fisheries perspective, and from both air and water quality perspectives	EPA has requested and received a copy of the EA. In addition to public comment opportunities on the DEA, pubic scoping was held at the outset of the project, affording the concerned public opportunities to identify issues and concerns as alternatives for the Project.

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105	0	No	The EPA is also in the scoping process for evaluating supplemental information to the agency's proposed 2008 rule that is considering a new class of injection well that ensures geologic sequestration activities do not endanger drinking water sources. An evaluation is ongoing for a more comprehensive regulatory framework to manage the sequestration of CO_2. Therefore, we feel that this Project is a major federal action and according the NEPA Section 102(2)C an EIS must be prepared for proposed major Federal actions significantly affecting the quality of the human environment. The amount of time, substantial planning for this Project (the proponents have stated they have been planning this Project for more than a decade and the DEA took more than 2 years to prepare), the significant resources and expenditures outlaid, all support the need for an EIS rather than an EA.	BLM does not have jurisdiction for classification of well types. EPA has delegated authority to WDEQ. WDEQ, in conjunction with WOGCC they have determined that this is not a sequestration project. BLM requires applicants to comply with all applicable federal, state, and local laws and regulations. Should EPA promulgate additional regulatory requirements for the type of injection well proposed by Cimarex prior to their filing application for the well, the BLM would require Cimarex to comply.
106	0	No	Finally, please note that all of the key issues identified, for instance, in Table 1-2 (DEA, pgs. 14-16) are much more relevant to oil and gas impacts but do little in the way of defining issues that might be affected by the parameters of this particular complex Project. Some of these include issues and/or impacts from acid gas injection wells, acid gas flowlines, helium extraction and pipeline flows, carbon sequestration, and the entire toxic chemical combinations associated with this carbon dioxide reinjection Project. There is no mention of toxic air emissions potential, seismic activity which may affect this project's stability, human health safety, or water contamination issues associated with toxic chemical releases in the key issues and concerns.	The issues and subtopics listed in Table 2-1 (13 general issues and 39 specific subtopics) were identified during scoping as requiring detailed analysis in the EA. The issues and subtopics have been addressed in the EA. In particular, Table 1-2, Page 16 lists "Health and Human Safety : The potential for accidental release of hazardous and toxic substances to the environment" as a key issue identified during scoping. Project components, such as acid gas injection wells and flow lines, are not issues. They are considered in combination for their potential direct and indirect impact on resources and issues. Seismic risk was not included in the list of resource issues, but was addressed in detail in the analysis of environmental consequences based on agency concerns. The issue of carbon sequestration was included in public scoping comments, but was not carried forward due to a determination by BLM that the Project did not constitute carbon sequestration based on technical criteria and regulatory decisions. Regardless of terminology, potential impacts of injection of carbon dioxide has been evaluated in the EA.
107		No	Socioeconomics: the discussion did not include the town of La Barge. The discussion was also lacking in impacts to local businesses that might be impacted from the accidental and/or continuous release of toxic gases from the complex chemical mixtures used in the (comment incomplete). Letters submitted to the BLM and DEQ reflect a high level of concern from local agricultural and other businesses that might be affected from the hazards associated with this Project (see Volume 2, Appendix B, DEA).	The focus of the socioeconomic section was at the county level. All surrounding communities were discussed in both Chapter 3 and 4. Hazards of toxic gas releases were analyzed and discussed in Section 4.10 Health and Safety. Appendix D contains the Emergency Contingency Plan and Appendix E contains the ALOHA Hazardous Gas Dispersion Model. The hazards have been found to be minimal.

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108	Page 14, line 872, Table 1-2	Yes	Air Quality: Key issue response for air quality in Table 1-2 is incorrectly identified as occurring in Section 4-17. That should read Section 4-15.	Thank you for your comment. Section numbers updated
109	0	No	Air Quality: It is well known that this Project exists in the heart of an area known for its increasing and persistent trend in high ozone levels and air pollution emissions. In our scoping comments, we specifically requested installation of air quality monitors on the western portion of the Project boundary (within the Riley Ridge area of the Bridger-Teton National Forest) as well as a monitor established immediately east and outside of the Project boundary and prior to the Jonah and Pinedale Anticline boundary. We consider this an important aspect of monitoring the air quality conditions, especially in light of the non-attainment designation likely to occur this year and the addition of the new LaBarge Platform gas project now under EIS development.	The proponent is installing an AQ monitoring station on the western edge of the project area, upslope of the M&HLF and the well pad for the source and injection wells. With the existing monitoring stations at Boulder, Juel Springs and Daniel South, neither BLM nor WDEQ have a need for an additional down wind station at this time.
110		No	Air Quality: We additionally feel that based on future development scenarios proposed by the proponent where new gas wells may be developed, all efforts to gather baseline air quality data will result in a planned and proactive action toward maintaining Sublette County's air quality and the rest of the State's air quality.	No new wells are proposed at this time. See response to comment 54.
111	Page 14, line 872, Table 1-2	Yes	Potential conflicts with Livestock Management Operations: Please note that key response in Table 1.2 for conflicts with livestock management is incorrectly identified as occurring in Section 4.11. That should read 4.9	Thank you for your comment. Section numbers updated
112	0	No	Potential conflicts with Livestock Management Operations: Livestock operations have the potential to be impacted through water depletion issues and air quality issues in addition to those mentioned in the key issues list. Changes in flow and water quality affect not just cattle but the hay meadows depended on the waters from this significant watershed. We request that a more thorough evaluation be conducted than that which are discussed	Although the indirect impacts to livestock due to water depletion are not expressly discussed, Section 4.4.3.2 Surface Water analysis determine that implementation of mitigation measures and BMPs required and recommended would result in no significant short-term or long-term effects. Similarly, pollutant emissions are largely short-term and construction-related and would not result in significant impacts. Table 4-13 lists the Wyoming State Engineer's Office (WSEO) permitted sources for water extraction for the Rands Butte Project. Three of the permitted sources are located on perennial streams. The fourth is from an irrigation canal. All of the permits only provide for the use of "Surplus" water and require Cimarex contact the District Water Commissioner for final approval before conducting the extraction.

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113	0	Yes	Potential conflicts with Livestock Management Operations: Reference to the material produced by the Governor's Brucellosis Coordination Team on herd health and recommendations should be documented. This information, in addition to that which has already been identified, is important in maintaining protection measures for the livestock industry as well as the elk herds. With the increased likelihood of the elk herd from the Riley Ridge area being disturbed and subsequent loss of winter habitat due to this project, the ranching community will bear the cost of this action. A more thorough analysis, including economic costs associated to both the livestock industry and the Wyoming Game and Fish Department must be addressed.	Reference added as a citation to Section 3.11.1 and will include examples of recommendations that could potentially be implemented in the area such as: establishing a five-year pilot project that institutes a seroprevalence reduction program within the Pinedale Elk Herd unit or evaluating elk herd unit population objectives on a rotating five-year cycle. The EA concludes that the Rands Butte Project would not result in increased risk of brucellosis to cattle from project actions. Consequently, economic analysis of impacts that are not projected is not required. To help insure impacts to cattle do not occur BLM has included mitigation and development of an adaptive management strategy that addresses unanticipated big game-livestock commingling issues that may occur in the future.
114	Page 14, line 872, Table 1-2	Yes	Sensitive Soils: Please note that key issues response in Table 1.2 for potential impacts to sensitive soils is incorrectly identified as Section 4.3. It should read Section 4.2	Thank you for your comment. Section numbers updated
115	0	No	Sensitive Soils: Lack of appropriate and up-to-date soils data and inventory information is a significant issue and needs to be addressed. This is extremely important since the incomplete soils information that does exist identifies this area as containing sensitive and highly erodible soils. Development within these areas is not advised and, in fact, are areas that will be avoided according to the Pinedale RMP (Record of Decision Pinedale RMP, 2008. Appendix 3, page A3-16). As earlier mentioned, studies suggest that topographic features of the area can be impacted, including surface upheaval where CO_2 reinjection occurs (Onuma, T. et al, 2009).	BLM disagrees with this comment. While it's true that comprehensive soil data does not exist for the entire RBPA, sufficient data are available to make decisions and for reclamation planning. BLM will require a reclamation plan and the use of adequate BMPs to ensure that soil stability is retained and/or returned.
116	0	No	Sensitive Soils: Concerns about reclamation and revegetation in this area should be a high priority. The project location has built-in erosion hazards. A field trip visit to the first well site on Riley Ridge in October 2008 by TU found several erosion barriers not in place. The soils and plant life within this area are indicative to the nature of the harsh climate. The BLM should require a full soil inventory and reclamation plan that considers the complete soils analysis. Currently, this is not being done.	Reclamation and revegetation is a high priority for the project area and a reclamation plan is required by BLM. The well site has a Storm water Pollution Protection Plan in effect, and has been inspected by a third-party contractor and is in compliance. Refer to the response to comment 115 concerning additional soils inventory.

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117	Pg. 235	No	Sensitive Soils: The DEA discusses the limiting features of the soils within the Project area that make successful reclamation and revegetation a challenge (page 235, Section 4.2.1). Critical native elk winter range and sage grouse habitat will be the most impacted within this project and have the most to lose. Runoff and erosion from poorly reclaimed surfaces will also impact the coldwater streams in this area, most notably Spring Creek and Beaver Creek, which contain pure conservation populations of Colorado River cutthroat trout. Because of the deadly effects sedimentation and erosion have on CRCT and their lack of ability to survive when a water body experiences such impacts, we ask that this section also include discussion on how to prevent this from occurring. This is particularly important due to the sensitive status of CRCT have on a federal and state level.	Mitigation measures have been required by BLM to reduce disturbance and potential impacts, including boring under perennial streams. Please see BLM required and other soils mitigation and monitoring opportunities in Section 4.2.8 and surface water opportunities in Section 4.4.8
118	Page 14, line 872, Table 1-2	Yes	Wetland and Riparian Areas: Please note that key issues response in Table 1.2 for potential impacts to wetlands and riparian areas is incorrectly identified as Section 4.7 and 4.7.1. It should read Section 4.6.	Thank you for your comment. Section numbers updated
119	Section 4.6.1, Page 289,	No	There is an incorrect assumption in the first paragraph of 4.6.1 (page 289) that impacts would occur primarily from construction and periodic maintenance activities. Because so little is known about reinjection of carbon dioxide and the groundwater issues associated with any contamination in this area, future analysis should be completed that includes such discussion. A produced water reinjection well identified in the proponent's plan is fairly close to streams and wetland habitat. Hazardous issues discussed in this section only identify traditional oil and gas development impacts and do not contain any discussion of accidental hazardous chemical mixing of waters, the complex contamination issues associated with wetland pollution and the impacts that these may have on fisheries, irrigation meadows, wildlife, and livestock.	Appendix E considers potential effects of H2S releases on wildlife. Section 4.4.3.1.2 discuss impacts to groundwater from the produced water injection well on state land, including the design features intended to protect fresh groundwater zones, including the zones that contribute to the surface water resources. Section 4.10 considers such impacts of the acid-gas injection well
120	0		There is a lack of discussion of cumulative impacts associated with wetland contamination. The paragraph on page 296 (line 8343) discusses reasonably foreseeable developments as consistent with these ongoing land uses but in the next sentence states that the BLM-PFO has no applications for future development. Elsewhere in the document, reference is made to the LaBarge Platform project proposal that contains four company's projects. Additional development scenarios include the South Jonah project east of this project in the Pinedale Field Office. The BLM should have a more thorough discussion as it relates to the increase in development within the PFO.	EnCana has withdrawn their request to BLM to conduct an environmental assessment for Normally Pressured Lance (South Jonah). They are re-evaluating the proposal. The LaBarge Platform parameters have changed since the initial scoping, consequently the project was just recently re-scoped. It this time the proponents proposed action is not fully developed, therefore is not possible develop the cumulative impacts more than they currently are in the Rands Butte EA.

Comment Number	DEA Page and Line #	Change made to FEA (yes or no)	Comment Text	Response to Comment
121	Pg. 290	No	Finally, though the discussion on page 290 claims that there are no wetlands or floodplains present in the facility location or well pad locations, water travels downhill and wetlands and riparian areas serve as filters for a variety of elements. This section needs to expand to include this discussion.	See response to comment #117. Additionally, a SWPP Plan will be put into place to further reduce the possibility of impacts to wetlands. Sections 4.2 (Soils) and 4.4 (Groundwater and Surface Water Resources) discuss impacts associated with downslope soil movement (erosion) and sedimentation.
122	Page 15, line 872, Table 1-2	Yes	Surface Water and Groundwater Resources: Please note that key issues response in Table 1.2 for potential impacts to surface water and groundwater resources is incorrectly identified as Section 4.5. It should read Section 4.4.	Thank you for your comment. Section numbers updated
123	0		Surface Water and Groundwater Resources: As mentioned earlier, there is a lack of discussion of this particular Project's potential impacts from this carbon sequestration and helium development project and the numerous chemical mixing components on the environment. TU requested that a groundwater study be completed prior to any further actions on this project due to the numerous streams and watershed issues that would be affected should any unfortunate event occur from this pilot project. The discussion in the DEA is a generic discussion as it applies to oil and gas development in general. For this reason along, we ask for an EIS.	Again, we state that this is not a carbon sequestration project. The EA provides sufficient groundwater information relative to the depths, thickness, and reception capacity on the Nugget formation for produced water and Madison formation for acid-gas injection relative to useable fresh water-bearing formations closer to the ground surface to BLM's impact analysis. The EA at Section 3.5.3.1 states the Nugget formation injection depth would be 12,000 feet below ground surface. The top of the Madison formation lies 15,880 feet below the surface. There are several hydrocarbon bearing formations between Nugget and the fresh water zones. As noted in section 3.2.3.1, the Nugget and the Madison formations are productive hydrocarbon reservoirs in the RBPA and are not a source of potable water in the RBPA. As identified in Section 2.2.1.14, the maximum water injection rate into the Nugget formation would be 850 barrels per day (4,772.4 cubic feet per day). Additionally, the drilling mud, well casing, and casing cementing programs specified in the drilling plan, see Appendix H are designed to isolate, seal and protect fresh water-bearing zones. Further, the requirement to line the reserve and other surface pits with an impermeable membrane is also design to protect fresh water zones.
124	0		Surface Water and Groundwater Resources: In TU's scoping comments, we asked for a full groundwater analysis prior to the approval of this project and to have the inventory for the entire Riley Ridge Project Area. Currently such data does not exist. Due to the nature of this project, we feel this is a vital component that would serve the proponents, the State, the BLM, and the public well. Too much is at stake to not have this kind of inventory. Research on geological storage of CO_2 indicates that breach of containment takes two possible forms: seepage where mitigation of CO_2 moves beyond the anticipated seal, and leakage, where the integrity of the well bore is at stake (Simone, A. et al., 2009).	See response to comment 124.

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125	Section 4.4, pages 263-275	No	Surface Water and Groundwater Resources: There is a complete lack of fisheries discussion in this surface water section. The CRCT is a recognized sensitive species both with BLM and the WGFD and the only salmonid native to the upper Colorado River basin, which the upper Green River belongs. The 2006 CRCT Conservation Agreement is developed to implement conservation measures for the CRCT and to prevent its potential listing under the Endangered Species Act. The BLM is a cooperating partner in this effort and since the CRCT occupies less that 7% of its historic range in Wyoming, all efforts should be made that protect and mitigate for impacts to its habitat. The two streams that contain pure conservation populations of CRCT exist within this Project area (Spring Creek and Beaver Creek).	Impacts to Colorado River Cutthroat trout and their habitats are thoroughly evaluated and discussed under the BLM Sensitive Species Section 4.7.4
126	Page 15, line 872, Table 1-2	Yes	Wildlife Habitats: Please note that key issues response in Table 1.2 for potential impacts to wildlife habitats is incorrectly identified as Section 4.9. It should read Section 4.8.	Thank you for your comment. Section numbers updated
127	Sections 4.7.4 and 4.8, page 310 and 336	No	Wildlife Habitats: Once again, our concern with the DEA's generality to oil and gas impacts is reaffirmed with the wildlife and fisheries discussion in this section. Further the literature references need to be updated and include the latest mule deer, antelope, and sage grouse research conducted in the Pinedale resource area. The 2006 Hall Sawyer reference should be updated to reflect the study years 2007-2009. The data from the antelope study conducted by the Wildlife Conservation Society (Berger, et al. 2006-2009) should also be included. And the sage grouse study that includes impacts from oil and gas development occurred in 2006 (Matt Holloran) should also be included. Discussion should also include elk mitigation impacts from displacement and the potential brucellosis discussion from the wildlife viewpoint, as noted below	1) The DEA used the most current and relevant scientific literature applicable to this project. The DEA also referenced the WGFD 2009 Recommendations for Development of Oil and Gas Resources within Important Wildlife Habitats and the BLM 2010 Greater sage-grouse habitat management policy on Wyoming BLM administered lands including the federal mineral estate. Both of these documents include a through literature review of development impacts to wildlife resources. Thus these reviews do not need to be repeated in their entirety within the DEA. 2) Potential impacts related to displacement of elk and the spread of brucellosis are discussed within Section 4.8 and Section 4.9. 3) The wildlife studies on Pinedale Anticline have limited applicability to the Rands Butte Project. The development activity on Pinedale Anticline (4399 wells with road, pipeline, and other associated infrastructure) is exponentially greater than the project components for Rands Butte.

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128	Section 4.8 and 4.9, pages 336-389	No	Wildlife Habitats: We are particularly concerned about the impact of this propose Project on elk and elk habitat in the Piney Herd Unit. We are aware of the studies which have been carried out and the results of those studies. None of those results do anything to alleviate the concerns voiced from the outset about 150-200 elk now wintering on native winter range being displaced from the Riley Ridge area. As noted in our scoping comments, this displacement will result in these elk wintering on private lands or on a nearby feedground (with the resulting impacts associated with disease transmission and commingling with livestock). With recent and ongoing concerns about the spread of brucellosis and the risk to Wyoming associated with losing its brucellosis-free status, it would indeed be irresponsible for the BLM or the State of Wyoming to be complicit in this effort.	Significance criteria, impacts, mitigation and monitoring for potential displacement of elk from native winter range is discussed in section 4.8. The potential spread of brucellosis to livestock is discussed in section 4.9. Other than the potential significant impact to greater sage-grouse from the power line placement in Alternative 1, significant impacts to wildlife resources are not anticipated from the federal or non-federal actions associated with the Rands Butte Project. Mitigation and monitoring requirements are in place for adaptive management strategies and habitat improvement projects to adjust to future changes.
129		No	Wildlife Habitats: Likewise, we remain concerned about the impacts of this proposed project on habitat for a number of other sensitive wildlife species, including, but not limited to sage grouse, raptors and Canada lynx. Given the habitats involved in the proposed project area, the number of species affected could be significantly larger and could include species identified in Wyoming's State Wildlife Action Plan. In the absence of more information from an EIS, the potential for unacceptable impacts remains significant.	The Threatened and Endangered Species and Special Status Species Section (7.4), the BLM sensitive species section (4.7.4) and the Wildlife and Fisheries Resources Section (4.8) discusses potential short- and long-term impacts to all Threatened, Endangered, Special Status Species, BLM sensitive species and wildlife and fisheries species and their habitats within and near the project area. Impacts by alternative are calculated and disclosed. Mitigation and monitoring requirements and opportunities are disclosed. Cumulative Impacts are also discussed. Additionally, consultation with the USFWS regarding Threatened, Endangered, and Candidate species has been initiated.
130	Page 15, line 872, Table 1-2	Yes	Threatened and Endangered Species: Please note that key issues response in Table 1.2 for potential impacts to threatened and endangered species is incorrectly identified as Section 4.8. It should read Section 4.7.	Thank you for your comment. Section numbers updated
131		Yes	Threatened and Endangered Species: We would like to see a more comprehensive discussion that includes potential long-term impacts described from the Rands Butte project rather than the generic format described here. The sage grouse discussion needs to be updated to include the latest candidate species listing and the USFWS decision (March 2010). This discussion should include alternatives that differ from those offered since any of the transmission project involve presentation of opportune perching habitat. We would like to suggest that in addition to the elk mitigation studies that have been coordinated for this Project, a sage grouse study that researches the species survival both before and after transmission line construction be implemented.	See Section 4.7.2 for discussion of the new status of the Greater sage-grouse. As outlined under the required mitigation, perch deterrents will be installed on all transmission lines and monitoring of the effectiveness of these devices will be monitored and adapted as necessary. Refer to the response to comment 70 for additional information.
132	0	Yes	Sensitive Wildlife Species: Please note that key issues response in Table 1.2 for potential impacts to sensitive species is incorrectly identified as Section 4.8.2. It should read 4.7.4.	Thank you for your comment. Section numbers have been updated

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133	Section 4.7.4, page 310	No	Sensitive Wildlife Species: There is a noticeable lack of discussion on BLM sensitive species (Section 4.7.4) for species of greatest conservation need, sagebrush obligates, and aquatics. Due to the number of species that exist in the Project area that fall under these three categories, we request a more thorough discussion and mitigation plan. This is particularly important as it relates to the Rands Butte project rather than your typical oil and gas project. There remains a high level of concern that should a toxic gas leak occur (and one did occur from a gas well blowout in this general area a few decades ago that resulted in the death of several big game species, Wyoming Game and Fish Department conversation, 2009) wildlife and fish species (in addition to livestock and human lives) would be affected much more than that well blowout occurrence several decades ago. As already noted in the DEA and in these comments, this project involves more hazardous chemicals than the initial sour gas well.	1) The BLM sensitive species section (4.7.4) and the Wildlife and Fisheries Resources Section (4.8) discusses potential short- and long-term impacts to all BLM sensitive species and wildlife and fisheries resources in the project area. Impacts by alternative are calculated and disclosed. Mitigation and monitoring requirements and opportunities are also disclosed. 2) In Appendix E, the Aloha model evaluates possible area of affect for any partial or complete rupture and toxic gas release. And discloses potential threats to wildlife that may be present near the project.
134	page 335, line 9753	No	Sensitive Wildlife Species: In the Monitoring discussion in Section 4.7.4.8.2.1 (line 9753, page 335), all the species that will require a preconstruction survey needs to be identified. Further stream and creek crossing should not occur during CRCT spawning periods.	BLM stipulations limiting stream channel work from June 1-August 15 will apply and are show in Table 4-20, page316.
135	Section 4.7.4.1, page 310-314, line 8850-9024	No	Sensitive Wildlife Species: The significance criteria defines conditions resulting from surface impacts to wildlife habitats but there lacks an adequate wildlife implementation plan for threshold exceedance to big game, sensitive species, or special status species. We request that the BLM develop such a plan for this Project.	The significance criteria is based on criteria established by the BLM and the WGFD. If impacts exceed these thresholds, mitigation may be applied to reduce these thresholds as established by the BLM and WGFD. Please refer to the mitigation opportunities for a complete list of mitigation applied to this project. Please also refer to each alternative which has design features incorporated to reduce impacts to wildlife species. The BLM's preferred alternative, Alternative 3, does not exceed significance thresholds for wildlife species.
136	0	No	Recreation Resources: This section has not been identified under the Key Issues table on page 14 of the DEA. Yet this area is considered by the Wyoming Game and Fish Department, the Forest Service (BTNF) and the BLM as a high recreation resource area. Local businesses that cater to hunting, angling, hiking, outfitting and guiding, snowmobiling, and more depend on the availability of these resource areas. The main access road in this area connects the public from BLM lands to forest service lands. Consideration should be given to development activities in this area that may be hazardous to the public and the timing of certain activities that would be coordinated with he presence of large numbers of people, such as hunting season.	BLM has characterized the relatively limited recreation potential of the RBPA in Chapter 3. Evaluation of the relative impacts of the alternatives on recreation opportunities, compared to No Action, is provided in Section 4.13, finding that impacts on recreation would be reduced with the BLM preferred alternative. BLM required mitigation and monitoring is specified in 4.13.8.

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137	0	No	We request that a more economic evaluation be developed which addresses the potential impact should outdoor recreation activities be limited or decreased. This evaluation should include impacts to the local businesses affected as well as impacts to the Wyoming Game and Fish Department. Changes in big game migration patterns and population levels should be included in this discussion.	Although not separately listed, recreation is a component in the "Employment by Industry" discussion in the socio-economic section of Chapter 3. As stated in the response to comment 136, Chapter 3 characterizes recreation potential in the project area as limited. The project area occupies very small portions of the various hunt areas it intersects. Additionally, the primary access in to the project area is through controlled access on private land. Further, neither WGFD nor BLM collect recreation use data for such small areas. It is not practical to conduct a recreation-based economic evaluation on such a small portion of the various hunt and use areas, where access is clearly limited now and in the future.
138	0	Yes	The DEA has outdated reference in several instances to the Pinedale RMP management implications and should be extended to include the Pinedale Resource Management Plan ROD (2008)	The Final RMP and ROD are cited throughout.
139	0	No	The summary of the consequences of the various alternatives, including Alternative 3, do not provide sufficient depth as it relates to this specific Project. The DEA does not supply adequate and specific mitigation and monitoring guidelines for this Project. Instead, the Pinedale RMP ROD Mitigation Guidelines (Appendix 3) is offered as the defining document. While the ROD Mitigation Guidelines will provide general mitigation options and guidelines, it does not begin to cover specific issues which should be required with this innovative but dangerous Project.	The summary of the consequences is intended to be general since it summarizes approximately 270 pages of detailed impact analysis. Chapter 4 identifies over 60 specific BLM required mitigation and monitoring requirements.
140	0	No	We also feel that BLM needs to take a harder look at the impacts associated with this world class endeavor. Therefore, we remain committed to seeking an EIS which would provide the extra hard look at this enterprising project.	Thank you for your comment.
141	0	No	I'm voicing concerns of this project that lateral comments sent in earlier. This project has and will continue to disrupt land parcels consisting of private and public lands and the numerous animals both wild and domestic, disturb, disrupt and impact the natural and practiced movement of wildlife not just in a migratory point but in a year round habitat range used by numerous species of big game, birds both non-game and game status birds, raptors large and small predators of many species and the endangered cutthroat trout including the greenback cutthroat that are present in the beaver and spring creek drainage's.	The project is in conformance both the current and proceeding PFO RMP's concerning oil and & development, as well as wildlife and livestock management in the RBPA. The project is also in conformance with much of the analysis and many of decisions in the 1984 Riley Ridge EIS for H2S development from the Madison formation. The EA discusses short-term and long-term fish and wildlife impacts as well and anticipated affects to private land.
142	0	No	The pipeline and powerline will multiply the disturbance not just in the area of placement but the surrounding area will become affected.	Thank you for your comment. The EA discusses both the direct impacts of the pipeline and power line construction and addresses the cumulative impacts of these actions over a broader cumulative impacts analysis area (CIAA).

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143	0	No	The project will disrupt and impede the historic operation of numerous cattle ranches in the immediate areas that use both public and private lands, Along with disruption of these cattle operations many BLM allotments and their lease as of these lands held by permits.	Please see pages 221 through 229 for analysis of short-term, long-term, direct and indirect impacts of the alternatives on cattle operations, and mitigation measures required to offset adverse impacts. Also refer to the response to comment 141
144	0	No	As of this date our ranch has experienced multiple elk encroachment in areas that we have NEVER experienced these animals. The activity involved has dispersed the elk herd that have been using this area exclusively.	Thank you for your comment. The EA discusses the potential impacts associated with elk displacement. See Sections 4.8 and 4.9.
145	0	No	It appears that the approval of this project by the state of Wyoming has given Cimarex the right or permission to chase any and all wildlife from this area including state school sections BLM lands and private lands, as we have witnessed numerous attempts to chase and harass the elk herd that has tried to return to the area for the last years time frame. With the dispersal of these elk has caused some commingling of these elk and our cattle herd. No government agency or company representative has stepped to the plate and approached us to ask or input or ask our concerns about this problem. The major concern is the commingling of these elk and our cattle has increased the possibilities of a brucellosis infection in our cattle herd. Knowing our cattle herd health status from the testing done privately w have worries of the infection of our herd caused by the dispersal of elk from this area that have used historically.	Thank you for your comment. The EA process for the Rands Butte project has afforded the public, including surrounding landowners, opportunities to vet issues. Two public meetings were held. Additionally, there were two formal comment periods. Further, the EA discusses the anticipated impacts associated with wildlife to livestock transfer.
146	0	Yes, Add Public Protection Plan to Appendix D	This project will rely on untested and unproven methods. No agency or company rep has ever mentioned the safety plan in the time frame needed to exit the area. Concerns of the likelihood of an accident or the possibility of a sour gas well blow out such as the well in this area that blew out in 1979. The safety procedures of that company was blow out first notification last. No safety plan has ever been presented for our family and employees for the safety of our people when we are about the ranch and away from the main ranch compound where communication contact is at a minimal if at all. With private property as close as 1 mile this a real safety concerns that if not informed of the correct evacuation plan the fear of a wrong move and wind change might mean death. This fact has our concern levels at the maximum for a safety factor.	The Cimarex Public Protection Plan has been added to the Draft Emergency and Contingency Plan in Appendix D.
147	0	No	We don't like the idea of exchanging dollars for safety and for the profits towards a few tightly connected company and ex-government officials and the large profits to and for a foreign company have shelved the safety of the surrounding neighbors and the livelihoods of the people in the immediate area behind profits and concerns for the safety of the local population.	Thank you for your comment.

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148	page 77, line 2268	Yes	In summary, the draft document is well written and well illustrated. There are only minor editorial matters that may be in need improvement in the final, e.g. Figure 3-2, Madison structure map (Cimarex 2008) is illegible and needs to be replaced	Noted. Map changed.
149	0	No	First, the BLM has no decision jurisdiction over the connected actions and facilities under consideration for development on State of Wyoming or private lands, such as the proposed M&HRF. In spite of the BLM's lack of jurisdiction over the non-Federal components, NEPA still requires connected actions be analyzed. Accordingly they are addressed in the Rands Butte EA to determine and disclose potential impacts from the entire proposed project and potential cumulative effects from these interdependent connected actions, along with other reasonable and foreseeable future federal and non-federal actions in the general project area. The document points this out, bit it might be expanded and strengthened for the benefit of the general public's understanding.	Thank you for your comment. The Pinedale Field Office has reviewed the connected action information in the EA and feels that the discussion is sufficient.
150	0	No	Second, the project is evaluated in the EA within the context of existing Federal regulations with some vague reference to test future technologies and techniques, i.e., geologic carbon sequestration? However, there are potential future changes in the offering that will potentially change the stated assessment of the proposed action should it be desired to qualify it as a sequestration facility, i.e., geologic carbon sequestration. Future federal geologic carbon sequestration regulations may require different requirements for resource conservation, safety, monitoring (i.e.. reservoir leaking), verification and remediation that might change environmental assessment outcomes. The document does not seem to identify, discuss or strive to make some assessment of these distinctions. This lack of clarity may confuse or create unnecessary concerns among the public. Note: the document does recognize that the State of Wyoming has claimed primacy over pore space for geologic carbon sequestration. However, there is no current resolution over Federal versus State primacy with this issue in split estate situations.)	Under their authorities delegated by EPA, both WOGCC and WDEQ have reviewed the Rands Butte Project and have determined that it does not constitute a carbon sequestration project. Therefore the concept of pore space doesn't apply. Evaluation of theoretical future proposals would be speculative and outside the scope of this NEPA analysis.
151	0	No	Third, under the "Affected Environment" there are potential issues of fluid mineral drainage and mineral trespass that are not identified or discussed in the document that potentially involve Federal mineral resource estate vs. the adjacent state section and M&HRF injection operations. If this is not an issue than it should be so declared. If it is possible, then it should be discussed and explained.	The Project falls within the Riley Ridge Unit, comprised of federal and state mineral leases. No information has been identified that indicates that the proposal would generate a mineral trespass or drainage issue. Should it occur, mineral trespass would be reviewed and regulated by WOGCC and BLM Reservoir Management Group.

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152	0	Yes	Fourth, the Draft does touch briefly on the importance of Helium as a mineral resource. However, the scope of the project and the significance of the Federal decision might be better communicated and served if the fact that this project , according to Cimarex, will be the largest Helium production operation in the world.	Add to Purpose and Need: In 2003, the BLM identified the Riley Ridge area as a major helium-bearing gas field with 60,951 MMscf of reserves, out of U.S. total measured reserves of 99,772 MMcf (BLM 2003). This makes the Riley Ridge account for approximately 61% of the measured US total reserve. Exxon is currently the only producer from this reserve, producing approximately 1.4 Billion cubic feet (Bcf) per year out of an annual average US production of 3.8 Bcf per year, or approximately 36%. The Rands Butte production is estimated to add approximately 100 MMcf per year, or approximately 2.5%, to the US production volume.
153	0	Yes. Add to 3.17.3.4 and 4.15.1.1.1	Fifth, incorporation of a climate change statement is recommended as per WO direction. Climate change and green house gas (GHG) reduction is a both a public concern and a concern at the federal level, although at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change. (Note: California, in conjunction with several environmental organizations and several other states, sued to force the USEPA to regulate GHGs as a pollutant under the CAA (Massachusetts vs. EPA el al., US Supreme Court No. 05-1120. Argued November 29, 11 2006-Decided April 2, 2007). The court ruled that GHGs do fit within the CAA's definition of a pollutant, and that the USEPA does have the authority to regulate GHGs. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting GHG emissions. Global climate change is a cumulative impact: a project participated in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs.)	New text is added to Section 3.17.3.4: In 2007, the Supreme Court ruled that GHGs fit within the CAA's definition of a pollutant, and that the USEPA has the authority to regulate GHGs (US Supreme Court No. 05-1120, April 2, 2007). At the time of this EA there are no promulgated federal regulations limiting GHG emissions. Global climate change is a cumulative impact and projects participate in this potential impact through incremental contribution of GHGs. New text is added to Section 4.15.1.1.1: As stated in Section 3.17.3.4, global climate change is a cumulative impact. Tabular information on potential CO2 mobile source emissions are reported for each alternative during the construction phase in Table 4-56. Operation of the M&HRF, HLF, pipelines, and transmission line for the Project will result in less than the anticipated emissions shown in Table4-56. These would also result from mobile sources.
154	0		First and foremost, the magnitude of the project clearly requires an EIS because of the obviously significant impacts which will occur.	CEQ guidance indicates that significance is determined through scientific analysis of the duration, intensity, and context of impacts compared with No Action.
155	0	No	It is also clear from the NEPA analysis that there is no rational basis to conclude that it is necessary for the BLM to permit any of these actions on BLM lands.	The No Action Alternative is evaluated which would preclude all federal actions relative to the proposed alternative. BLM has identified the BLM preferred alternative based on it's lower overall impacts on the human and physical environment.

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156	0	No	The EA determines that the project will not have any "significant impacts" but the EA is devoid of any quantitative thresholds of significance. Without these thresholds defined the BLM has no way of comparing the expected impacts with the significance thresholds.	Qualitative measures are used frequently as significance criteria in the EA since the precise measure of many resource values is virtually impossible to estimate under a future scenario. This is particularly true of indirect impacts to habitats, noise, wildlife, visual quality, etc.. Quantitative thresholds of significance have been applied for several resources such as acres of disturbance per section, or distance from lek perimeters, or likelihood of exceedance of air quality or water quality standards. For other resources it is stated that the impacts are proportional to the acres of disturbance, but no threshold of significance is identified since the there are no clear objective criteria identified in the literature that would help determine how much impact is too much.
157	0	No	The area is currently failing standards for rangeland health (43 CFR 4180). The previous assessment indicated significant watershed degradation by the current oil and gas development. This issue was ignored by the EA.	Existing bare ground and developed or disturbed land in the RBPA have been identified on page 121. Short-term, long-term, indirect, and direct effects on vegetation resources have been evaluated as being proportional to the quantified number of acres of disturbance for each alternative. Cumulative effects have also been discussed.
158	2.8		Section 2.8 utilizes the same faulty logic as proponents for drilling in the ANWR. The BLM only states actual bulldozed acres and ignores the issues of habitat fragmentation and degradation.	Impact criteria and impact analysis in Section 4 include discussions of indirect as well as direct impacts to soils, vegetation, and other resources.
159	0	No	"Erosion hazards of these soils are slight to severe and the reclamation potential is generally poor to fair. The steep slopes, short growing season, calcareous surface horizons, and high landslide potentials limit management opportunities in these areas." Neither is the information provided in the EA is shown above factored into the analyses and mitigation, the EA fails to discuss the relationship between these soil properties and the current experience with similar development within the area, Such analysis is critical for an honest and informed decision-making process.	Tables 4-6 through 4-9 show depict disturbance levels by soil type, as well as the erosion hazard and reclamation opportunities, The Section 4.2 text provides additional information on the impacts to the soils resource. It also acknowledges the project would have adverse impacts. The Section also provides mitigation to keep the impacts below the significance criteria thresholds.
160	0	No	The EA states "Further on-site evaluation of soils described using this data is recommended to determine construction suitability and erosion susceptibility." But without this information the NEPA document cannot provide the information necessary to comply with NEPA disclosure requirements.	As reported in Section 3.3.2, approximately one-third on the of the RBPA has detailed soil mapping. The other two-thirds also has soils data adequate for analysis, but it is just not as high of a resolution as the other third. BLM has determined that adequate soils data was available to evaluate the relative effects of the alternatives. The statement is suggesting that additional on-site evaluation take place prior to construction.

Comment Number	DEA Page and Line #	Change made to FEA (yes or no)	Comment Text	Response to Comment
161	Section 3.3.4	No	Section 3.3.4 likewise lays out clearly the highly sensitive nature of the soils within the area yet somehow comes to the conclusion that, despite the experience regarding these issues throughout the oil and gas development surrounding this area, that somehow significant impacts, though they are being displayed elsewhere surrounding this area, would not come about now. This is illogical and unsupported by either experience, literature or common sense.	The conditions and variables that contribute to erosion hazards have been identified in Section 3.2. These have been discussed and incorporated into the impact evaluation and mitigation measures in Section 4.2. Tables 4-6 through 4-9 show depict disturbance levels by soil type, as well as the erosion hazard and reclamation opportunities, The Section 4.2 text provides additional information on the impacts to the soils resource. It also acknowledges the project would have adverse impacts. The Section also provides mitigation to keep the impacts below the significance criteria thresholds.
162	0	No	The NEPA document fails to accurately display these soil properties with the proposed actions overlaying. This is of course critical information and informed decision-making process.	Maps 3-3 and 3-4 provide soil units overlaid with proposed project facilities in the RBPA. Tables 4-6 through 4-9 show depict disturbance levels by soil type, as well as the erosion hazard and reclamation opportunities, The Section 4.2 text provides additional information on the impacts to the soils resource.
163	0	No	The EA states that archaeological surveys have been completed but fails to provide any information regarding total acreage covered or a map of survey areas in comparison to the project area. Later on in the EA it states that surveys "are being conducted to identity cultural resources." Which of these is correct.	NEPA does not require that infinite level of data is needed to prepare an environmental assessment. It only requires sufficient data to support the analysis and any subsequent decisions. Archaeological surveys were conducted for approximately 92% of the affected area at the time of the DEA. This is sufficient for BLM to project the anticipated impacts to cultural resources from the project. Additionally, the EA includes mitigation to designed to protect any cultural sites that may be discovered during project construction. A completed Cultural Resource Survey Report will be provided to the Decision-maker prior to the FEA and final text will be updated.
164	0	No	The EA states "A complete Class III (intensive) cultural resource inventory report by a BLM-permitted third-party contractor is in progress and will be submitted to inform final BLM decisions regarding the mitigation measures" but this information is critical to the analysis is hand. You cannot have a valid NEPA analysis without this information, In addition, this information must be disclosed to the public prior to decision not afterwards.	See the response to comment 163. National Historic Preservation Act, Section 106 provisions require that the all information pertinent to the decision be made available to decision makers, but the CRM Survey Report and detailed findings (i.e. maps and site locations) are not included in public documents.
165	0	No	In the effects section, the BLM lays out a few qualitative descriptions of what would be significant impacts, yet the NEPA analysis fails to specifically address those "thresholds". In fact, the text frequently indicates significant impacts but the final result is never significant. This seems arbitrary.	Significant impacts that cannot be mitigated have been identified for Alternative 1. For other alternatives, adverse impacts have been identified for some resources, which can be mitigated.
166	0	No	Sections often list mitigation measures but frequently these will be developed in the future and so neither the public nor the decision-maker has the ability to examine them or their effectiveness. This violates NEPA.	The comment does not provide the specific mitigation measures the commenter is concerned about; consequently the comment is deem non-substantive.

Comment Number	DEA Page and Line #	Change made to FEA (yes or no)	Comment Text	Response to Comment
167	0	No	Many of these mitigation and monitoring measures look good on paper but are essentially worthless. An example of such is line 6954 where no monitoring is actually required to determine if the water table is shrinking and thus, the actions described later on in that section will never be implemented because no monitoring is required that would trigger those actions. So it looks good on paper but is worthless in reality.	The referenced statement does not specify thy monitoring techniques, but does require water table monitoring to determine fluctuations greater than average. It also requires stream bank and floodplain monitoring for increased erosion.
168	0	No	The EA states "The inability to revegetate disturbed areas with pre-disturbance or suitable alternative native species would also be considered a significant impact." yet the EA completely ignores the experience within and surrounding the analysis area where such revegetation failures are the norm not the exception.	Thank you for your comment. You are correct, the EA does not specifically analyze past reclamation failures Big Piney-LaBarge area, nor does it analyze past reclamation successes area. Reclamation procedures, processes, and standards have improved substantially through lessons learned on the Pinedale Anticline and in the Jonah. The BLM-Pinedale Field Office recognizes the importance of successful reclamation and as such has hired a full-time reclamation specialist to review operators reclamation plans for adequacy to help insure that significance criteria like the one referenced are not exceeded.
169	0	No	The analyses are cursory, general, fail to take into account current knowledge, fail to gather the needed data for accurate analyses, fail to examine the assumptions and analyses of previous NEPA to determine flaws and inaccuracies and learn from past mistakes, underestimate all impacts and overestimate all "benefits".	Chapter 3 contains substantial data and current conditions. The comment does not provide specific information where BLM failed to consider applicable current knowledge, failed to gather essential data, failed to examine assumptions and analyses in previous NEPA documents (nor does it even specify what those previous documents are), or where BLM underestimated impacts and overestimated benefits; consequently the comment is deem non-substantive.
170	0	No	Don't outsource the NEPA process--Universally we find outsourced NEPA whether they be RMPs or site specific are more expensive and of poorer quality when outsourced. The contractor nearly always has a conflict of interest since most of their business is doing analyses for industry so if they were honest they would never be hired by industry to do their NEPA for them again.	Thank you for your comment.
171	0	No	The area in question has failed 5 of the 6 Rangeland health Standards. BLM can not permit activities that violate Rangeland Health Standards.	The failure of a grazing allotment to meet the healthy rangeland .standard, does not preclude projects from being implemented. The soils, water resources, and riparian, mitigation measures, as well as the reclamation requirements are designed to help insure that the Rands Butte Project does not add to the healthy rangeland concerns.
172	0	No	The BLM needs to stop cutting things into small pieces and start thinking holistically. All fields in the FO need to be managed under one set of rules. PAWG, JIO etc need to be merged to cover the whole FO.	This is a broad land use planning level comment and is not germane to this EA. It also fails to recognize that there is not a "one size fits all" scope for all oil and gas projects in the FO, nor is there a one size fits all" approach to addressing all oil and gas related projects within the FO.

Rands Butte Gas Development Project EA - Comments

Comment Number	DEA Page and Line #	Change made to FEA (yes or no)	Comment Text	Response to Comment
173	0	No	1,000 new wells I n a non-attainment zone, now that is a very bright idea, Pretty basic here. How can BLM allow continued expansion when the amount already permitted has created a toxic sewer of our air and violates the CAA?	Comment not substantive. The Rands Butte Project proposes 4 new wells.
174	0	No	Phased development-finish nuking PAPA and Jonah and when those fields are exhausted then allow them to finish destroying LaBarge.	Not substantive since the Rands Butte Project does not propose phased development.
175	0	No	Only allow directional drilling. No new pads no new roads.	Not substantive since the Rands Butte Project proposes only directional drilling, and will not construct new roads or well pads.
176	0	No	$1 Billion in off-site mitigation.	Comment is noted.
176	0	No	The Wyoming State Geological Survey (WSGS) has reviewed the Draft EA for the proposed Rands Butte Gas Development project. We have reviewed the document as it pertains to geology, minerals, energy, water, hazards, paleontology, etc., looking for any potential conflicts between resources. The WSGS has no comments or concerns relative to this document at this time and will review the EA when available.	Thank you for the comment.
	Page 6	No	The EA (at 6) states that "the Project would result in a maximum production of approximately 39 million cubic feet per day (MMSCFD) of dehydrated natural gas." 1) "dehydrated" means "processed", yes?	Processed would probably have been a better word here, but in this sentence: yes dehydrated means processed
177	Page 6	No	2) if the answer to #1 is yes, why is there such a large disparity in the numbers?	The sentence in the Scoping Notice is in error: it should have stated "of raw gas" instead of "processed natural gas".
178	Page 6	No	3) both statements refer to natural gas (Methane) correct?	No, as stated in the response to question 2, the wording in the scoping notice should have been "raw gas" which is a combination of methane, C02, H2S, Helium, and water
179	Page 6	No	4) if the raw (unprocessed) gas composition in the Madison Formation is as stated in the EA at 81 (69.4% CO2; 18% methane; 7.5% nitrogen; 4.5% H2S; and 0.6% helium), can you tell me the total volume of raw/ unprocessed gas that would be processed at the facility each day? I don't see this number anywhere in the EA.	As described on page 30, lines 1160-1169, 200 MMCFD is the expected raw gas production from 3 production wells and maximum stream of raw production capability of the M&HRF. As noted in the comment, the raw gas is composed of carbon dioxide, hydrogen sulfide, methane, helium, water, and other minor components. 39 MMCFD of processed methane is the expected natural gas outflow from the M&HRF, as indicated in line 1166.
180	Page 6	Yes	5) How much acid gas will be re-injected each day? Again, I don't see this information in the EA.	See comment #49
181	Various	Yes	Reviewed document for common typographical errors. Listed - see e-mail. Hyphens in the wrong place, missing letters.	Thank you for the comments, Corrections have been made.

Rands Butte Gas Development Project EA - Comments

Comment Number	DEA Page and Line #	Change made to FEA (yes or no)	Comment Text	Response to Comment
182	line 5371, 5387, 5401	Yes	Elevation units: Average elevations listed in feet. Should be meters.	Thank you for the comments, Corrections have been made
183	line 1831	Yes	no figure 2-3.	Thank you for the comments, corrections have been made.
184	line 14745	Yes	5th bullet: only 8 leks.	Thank you for the comments, corrections have been made.
185	line 14813	Yes	5th bullet: only 8 leks.	Thank you for the comments, corrections have been made.
186	Page 9	No	Page 9, Table 1-1. We find this table to be well done and of great value showing the public the complex and complicated system needed to obtain all approvals for this project.	Thank you for your comment
187	Page 17	Yes	Page 17. Alternatives. General Comment: Although the numerous tables in each alternative which break down impacts by project components are a great help, a summary table comparing each of the alternatives with their direct and indirect impacts by resource would also be of value and we suggest adding one in the Final document.	Comment noted and additional summary table (Table 4-65) added.
188	Page 160 Section 3.10.1	Yes	Page 160 Section 3.10.1. There is no mention of the Sublette County Land Use Plan in this section. The Sublette County plan primarily focuses on public and not private land and as such be mentioned. We believe all facets of this project are compatible with the goals of the Sublette County Land Use Plan and should be stated as such.	This document and its relevant provisions will be included in the FEA.
189	pg. 174	No	Page 174 Transportation: There is no mention in this section on current BLM road status or condition. Are these roads open, restricted or closed to use? What is their current condition and what will the end status be?	The BLM does not have this information available yet. One of the RMP objectives is to complete an inventory, but it hasn't been completed.
190	Pg. 406	No	Page 406 Transportation: Although 23 miles of BLM ROW's are listed, what is the impact to the public using these roads? Will they be open to public use, restricted or closed? Also what is the ultimate disposition envisioned for these roads upon abandonment of the project? Rehab, closure, upgrade etc.	Use of BLM roads will not change from present; most cross private land and are, therefore, restricted. There is a locked gate to the project area that prevents the public from reaching the plant area. Roads will be maintained during the LOP and abandoned per BLM rules and regulations.
191	Page 521	Yes	Page 521 Glossary and Acronyms: Please add CIAA to the list.	Thank you for the comments, corrections have been made.
192	0	Yes	Under the status of Candidate the FWS encourages the action agency to "conference" on the species in question, the same as how we treat the yellow-billed cuckoo. I recommend that we add sage grouse to the BA so that the Service knows what is going on. At some point the BLM may put together a programmatic BA with specific conservation measures. For now I would put in all the COAs for sage grouse that we are implementing in the project and the call would be "not likely to jeopardize the continued existence of sage grouse" because I don't think we can have a "no effect" call. Basically by putting it into the BA know the Service can keep track of how we are managing grouse and show whether it needs to be listed in the future. I think we could just cut and paste the impacts analysis from the EA.	Adjustment Made to the BA

Comment Number	DEA Page and Line #	Change made to FEA (yes or no)	Comment Text	Response to Comment
193	0	Yes	Under the status of Candidate the FWS encourages the action agency to "conference" on the species in question, the same as how we treat the yellow-billed cuckoo. I recommend that we add sage grouse to the BA so that the Service knows what is going on. At some point the BLM may put together a programmatic BA with specific conservation measures. For now I would put in all the COAs for sage grouse that we are implementing in the project and the call would be "not likely to jeopardize the continued existence of sage grouse" because I don't think we can have a "no effect" call. Basically by putting it into the BA know the Service can keep track of how we are managing grouse and show whether it needs to be listed in the future. I think we could just cut and paste the impacts analysis from the EA.	Adjustment Made to the BA
194	0	Yes add schematic to Appendix A, new material to Appendices D & H, and new section 4.1.3.1.2.	The "purpose and needs" statement in the Rands Butte EA clearly explains that the project is intended to "test the process of immediately re-injecting the unwanted gases back into the Madison Formation without further processing." EA at 5. Nowhere is it mentioned that the injection of CO2 is for the purposes of enhanced oil recover. Indeed, company officials and others were quoted in newspapers touting the benefits of the carbon sequestration aspects of the project, and up until recently the project had been proposed by the Department of Energy as a CO2 sequestration test project. See attached DOE Energy Lab newsletter, Big Sky Carbon Sequestration Partnership--Development Phase, (April 2009). It is clear that under the statutory provisions cited above, the acid gas injection component of the project described in the Rands Butte EA meets the definition of "geologic sequestration" of CO2 thereby requiring a permit from the Department of Environmental Quality. Apart from simply doing what the law requires, compliance with the DEQ's comprehensive regulatory framework helps to ensure that all environmental, financial and human health issues are properly addressed and mitigated.	As stated previously, the Project does not involve carbon sequestration. New geological and engineering information is added to Appendix H. A schematic of the proposed acid gas injection well has been added to Appendix A, and the Cimarex Public Safety Plan has been added to Appendix D. In addition, a new section has been added (Section 4.1.3.1.2) which evaluates and discloses potential impacts from Acid Gas Injection.

EXHIBIT C

TOWN OF MARBLETON
10700 HWY 189
P. O. Box 4160
Marbleton, WY 83113
(307) 276 3815 fax (307) 276-3950
e-mail marbletontown@hotmail.com

February 4th 2010

Field Manager
BLM Pinedale Field Office
PO Box 768
1625 West Pine Street
Pinedale, Wyoming 82941

RE: 1790 (LLWYD01000)
2800
Proposed Rand's Butte Gas Development Project

To Whom It May Concern:

This letter is in response to the BLM's request for public comment regarding the Rand's Butte Gas Development Project. As a duly incorporated municipality very near the proposed project, the Town of Marbleton has a natural interest in plans of this development. I, and the Town Council of the Town of Marbleton, have been carefully cognizant of the proposals and have watched, with particular attention, as the plans have been developed.

As elected representatives of the Town of Marbleton, I join the Town Council in voicing our support for the project. More specifically, we prefer Alternative 1 or Alternative 3 of the BLM listed Alternatives. These are prefered over Alternative 2, which seems more likely to negatively impact Southern Sublette Counties incomparable historical and archeological treasures, and Alternative 4, which seems likely to further impair our air quality. Nevertheless, we feel all the Alternatives are vastly superior to the No Action Alternative referenced in your call for comments. The absence of this project will negatively affect the local economy and, over the long term, make the land more likely to be utilized for less environmentally and fiscally responsible purposes later. We also feel that the groundbreaking carbon sequestration/injection proposal may become an essential tool for the future control of H2S and CO2 emissions.

We have watched as Cimarex has developed the existing portions of the proposed project, and have been more than satisfied with the responsible way that Cimarex has behaved. At every step, Cimarex has been responsive and reasonable to the needs to the surrounding environs, including Marbleton. We have also observed the extremely reasonable fashion in which they mitigated and minimized potentially negative impacts to our environs.

Needless to say, our citizens, as a whole, love the natural surroundings and outdoor activities afforded us here in Southwest Sublette County, and we would not be advocating this position were we unsure of Cimarex's intentions or if they had a questionable history with the environment.

In summary, I and the Marbleton Town Council urge that the proposed project be approved as soon as the law permits. We would support the FONSI and look forward to a continuing relationship with Cimarex and the BLM.

Sincerely,

Jim Robinson, Mayor
Town of Marbleton,
Sublette County, Wyoming

February 25, 2010

Field Manager
Pinedale Field Office
Bureau of Land Management
P.O. Box 768
Pinedale, WY 82941

Pinedale Field Office Manager:

Following are the Wyoming Department of Agriculture's (WDA) comments pertaining to the Draft Environmental Assessment (DEA) for the Rands Butte Gas Development Project, located within the Pinedale Field Office (FO) of the Bureau of Land Management (BLM).

Our comments are specific to our mission: dedication to the promotion and enhancement of Wyoming's agriculture, natural resources, and quality of life. As this proposed project affects our agriculture industry, our natural resources, and the welfare of our citizens, it's important you continue to inform us of proposed actions and decisions and continue to provide us the opportunity to express pertinent issues and concerns.

Section 4.9.1 - Livestock and Range Resources

Page 383 (Lines 11168 – 11174) This paragraph makes it sound like the only way to mitigate livestock uses and management is through the reduction of permitted AUMs. The WDA does not support the reduction of AUMs. The WDA would encourage the full use of adaptive management be used, in other words, the entire tool box should be considered and exhausted before reductions in AUMs are considered, what about range improvement projects (stock waters, vegetation treatments…), off-site mitigation, operators provide alternative forage in replace of lost AUMs. Do not always leap to the conclusion that AUMs need to be reduced because Standards and Guides are not being met. These decisions need to be based on site specific monitoring data and an evaluation of management strategies needs to occur. If the cause of S&G not being met is not due to livestock grazing directly then do not punish the livestock industry for something beyond their control. For example, an area may not meet S&G because of weeds…do not reduce AUMs for livestock grazing for this reason.

Page 383 (Lines 11175 – 11180) The WDA appreciates the agreement between the WGFD and Cimarex to address damages to livestock and livestock grazing operations.

Page 389 (Lines 11399 – 11402) We believe there is a need to clearly explain what interim reclamation is, what it means to soil stabilization is different than what it means to livestock grazing operations, and especially ecological function. We would suggest itemizing specific criteria for how, top soil is managed, what is considered for soil stabilization (weed free), functioning forage for both wildlife and livestock, etc.

Page 389 (Other Mitigation Opportunities) In this section we believe that other livestock mitigation opportunities need to be identified, such as, the development of livestock water opportunities, rangeland restoration projects, vegetation treatment projects, and undesirable weed infestations. In addition, the possibility to do off-site mitigation that will benefit livestock grazing operations, as long as the affected permittee agrees with the mitigation plan.

Page 390 (Line 11425) There is no identified BLM required monitoring for the livestock grazing section. However, it states throughout this and the vegetation section that Standards for Healthy Rangelands and Guidelines for Livestock Grazing will be used. Assessments for Standards and Guidelines (S&G) have to be based on monitoring and land assessments. The WDA would encourage the development of a schedule for the S&G assessments, in addition we believe annual monitoring of reclamation areas should be completed (as suggested), as well as annual monitoring of range condition monitoring sites. This should include the creation of additional monitoring sites around the new development areas, to be monitored jointly with industry, BLM staff and permittees.

Page 390 (Lines 11430 – 11434) As previously mentioned, additional monitoring opportunities should include the creation of additional long-term trend monitoring sites of the various key areas surrounding the new development areas. These new monitoring sites should be used in conjunction with existing rangeland monitoring sites to develop trends and help in management decisions.

The WDA believes that the operator should meet with the permittees at least once a year to discuss issues, problem areas, things that went well from the past year, along with the plan for the next year.

The WDA would encourage Pre-disturbance and post-disturbance vegetation monitoring would be used, in addition to site-specific soil surveys, to determine baseline site conditions, establish ecological site descriptions, monitor invasive or undesirable plant species, and monitor reclamation success.

Section 4.5 - Vegetation Resources and Noxious Weeds

Page 286 (Lines 8066 – 8070) The first paragraph of the Cumulative Impacts Section lists various historic causes of vegetation removal and spread of noxious weeds. The WDA insists that if livestock grazing is characterized as “These activities contribute to the removal of native vegetation and an increase in potential invasive and noxious weed species in the RBPA.” That all causes are then listed as having removed native vegetation and caused the spread of invasive and noxious weeds, such as, wildlife, recreation activities, ATVs, etc. In addition we would

encourage the inclusion on how livestock grazing can be used as a tool to control weeds, and be used as a toll to improve the vegetative community (Davies, et al. 2009[1] and Severson. 1990[2]).

Page 288 (Line 8127 – Other Monitoring Opportunities) The WDA has already recommended earlier in these comments that additional monitoring of vegetation should occur, including the creation of additional long-term monitoring sites, to be used in S&G assessments and annual monitoring efforts (See earlier comments regarding S&G and Monitoring).

We appreciate the opportunity to comment on the Draft Environmental Assessment. We encourage continued attention to our concerns, and we look forward to being involved in the development and completion of the Final EA.

---

[1] Davies, K.W., T.J. Svejcar, and J.D. Bates. 2009. Interaction of historical and non-historical disturbances maintains native plant communities. Ecological Applications. 19:1536-1545.

[2] Severson, K.E. 1990. Summary: Livestock grazing as a wildlife management tool. In: Can Livestock be used as a tool to enhance wildlife habitat. General Technical Report. RM-194 p. 3-6. U.S. Forest Service, Rocky Mountain Experiment Station, Fort Collins, CO.

BOARD OF COUNTY COMMISSIONERS
Sublette County, Wyoming
P.O. Box 250
PINEDALE, WY 82941
www.sublettewyo.com

March 2, 2010

Brian W. Davis
Field Manager
BLM Pinedale Field Office
PO Box 768
Pinedale, WY 82941

RE: Comments on Rands Butte Energy Development Project EA

Dear Mr. Davis:

Please accept these as comments from Sublette County regarding this project. Sublette County supports Alternative 3, the preferred alternative. We feel that BLM has correctly found that no significant impact will occur under this alternative and that BLM has followed the NEPA process to perform a comprehensive analysis and full disclosure to the public.

The Rands Butte project will foster economic growth in Sublette County, providing up to 38 long-term permanent jobs as well as significant revenue to Sublette County and the State of Wyoming.

We encourage BLM to complete the Rands Butte EA in a timely manner in order to allow the project to proceed in accordance with the preferred alternative.

Thank you for the opportunity to comment.

Sincerely,

William W. Cramer

William W. Cramer
Chairman

Merry Gamper/PFO/WY/BLM/DOI
02/19/2010 04:33 PM

To Bill Lanning/PFO/WY/BLM/DOI@BLM
cc
bcc
Subject Fw: Rands Butte

Merry E Gamper
Supervisory Natural Resource Specialist
Bureau of Land Management, Pinedale Field Office
1625 West Pine
PO Box 768
Pinedale, WY 82941
(307)367-5313(p)
(307)367-5329(f)

"How soon not now becomes never"
----- Forwarded by Merry Gamper/PFO/WY/BLM/DOI on 02/19/10 04:32 PM -----

"David J. Bell" <davidj_bell@msn.com>
02/18/10 06:57 AM

To <pinedale_wymail@blm.gov>
cc
Subject Rands Butte

Dear Bill and Members of the BLM Staff,

I am writing in support of the Rand's Butte Cimarex project.

The location is excellent for this type of project. Little wildlife disruption will occur, and mitigation of the disruption should be easily accomplished.

The project will be a "state-of-the-art" facility, and most important, will have little or NO carbon footprint. This project is a win-win for all of us. The enviroment is not harmed, little wildlife disruption, great long-term tax base and a large number of high-paying stable long-term jobs will be created.

Thanks for the opportunity to provide a letter in strong SUPPORT of this project.

Sincerely,

David J. Bell
P.O. Box 1738
Pinedale, WY

307-360-7604
davidj_bell@msn.com

WYOMING GAME AND FISH DEPARTMENT

5400 Bishop Blvd. Cheyenne, WY 82006

Phone: (307) 777-4600 Fax: (307) 777-4610

Web site: http://gf.state.wy.us

GOVERNOR
DAVE FREUDENTHAL

DIRECTOR
STEVE K. FERRELL

COMMISSIONERS
ED MIGNERY – President
FRED LINDZEY – Vice President
CLARK ALLAN
AARON CLARK
JERRY GALLES
MIKE HEALY
CLIFFORD KIRK

March 22, 2010

WER 11757
Bureau of Land Management
Pinedale Field Office
Draft Environmental Assessment
Support Facilities for the New
Methane and Helium Recovery Facility
Rands Butte
Cimarex
Sublette County

Bill Lanning
High Desert District
Bureau of Land Management
Pinedale Field Office
PO Box 768
Pinedale, WY 82941

Dear Mr. Lanning:

We would like to withdraw our previous Rand's Butte comment letter dated March 10, 2010. The Wyoming Game and Fish Department supports the preferred alternative. The vast majority of our concerns were addressed.

I apologize for any inconvenience.

Sincerely,

for John Emmerich
Deputy Director

JE: MF: gfb

cc: USFWS
Scott Smith, Pinedale Region
Hilda Sexauer, Pinedale Region

WESTERN RESOURCE
ADVOCATES

Delivered via Email

March 12, 2010

Field Manager
BLM Pinedale Field Office
PO Box 768
Pinedale, WY 82941

RE: DRAFT ENVIRONMENTAL ASSESSMENT - Rands Butte Gas Development Project, EA # WY-100-EA09-43

Dear Field Manager:

Please accept the following comments submitted in response to the above-referenced EA on behalf of Western Resource Advocates, Wyoming Outdoor Council, Greater Yellowstone Coalition, Upper Green River Alliance, The Wilderness Society and the Sierra Club. We appreciate the opportunity to share our concerns and questions, and look forward to continued participation in the environmental review process. In that regard, we would appreciate being advised of any additional public comment opportunities associated with this proposal and provided written notification of the availability of any additional environmental documents including revised or supplemental analyses and decision records.

Cimarex Energy Company proposes to develop a natural gas and helium resource development project on federal, state and private lands located on Rands Butte, in the southern Wyoming Range. Project components include a new Methane and Helium Recovery Facility (M&HRF) which would process sour gas from the Riley Ridge Unit; a helium liquefaction facility approximately 3 miles south of Big Piney; four federal gas wells with an estimated production of 200 million cubic feet per day of raw gas; a federal acid gas injection well for the disposal of hydrogen sulfide (H2S) and carbon dioxide (CO2) byproduct gas; acid gas and raw gas flowlines; construction and operation of a high voltage 230-kV overhead electrical transmission line; produced water disposal wells and associated flowlines; natural gas pipeline; helium pipeline; underground electrical distribution lines; access roads; an overhead 69kV transmission line; snow control structures; buried fiber optic data transmission cable; and the installation of an air quality monitoring and weather station.

As explained in the Rands Butte EA, "[t]he primary need for the Project is to implement and test new technological advances in the safe processing of federal gas reserves

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within the Madison Formation underlying the RBPA. The complex gas mixture of the Madison Formation is composed of H2S, CO2, natural gas, helium and other gases. The project would test a new cryogenic gas processing technology to separate economical gases from CO2 and H2S, and it would also test the process of immediately re-injecting the unwanted acid gases back into the Madison Formation without further processing." EA at 5.

Apart from all of the obvious and significant environmental impacts to lands, wildlife, air and water quality, etc., we have additional concerns and questions about the environmental and human health consequences of long-term storage and disposal of hydrogen sulfide (H2S) and carbon dioxide (CO2) byproduct gas (hereinafter "acid gas"). While we wholeheartedly support the investigation and development of new technologies to reduce the introduction of greenhouse gases into the atmosphere, we are very concerned with the approach BLM is taking --including the preparation of an EA for what is obviously a major federal action with the potential to cause significant impacts--and the absence of full and complete disclosure of the potential environmental consequences that may arise from this project.

The EA notes that the acid gas injection well will be permitted under the Wyoming Oil and Gas Conservation Commission's Underground Injection Control (UIC) program as a Class II disposal well. See WOGCC regulations, Chapter 4, Section 5 - Underground Disposal of Water. On its face, this rule applies only to the "underground disposal of fresh water or of salt water, brackish water, or other water unfit for domestic, livestock, irrigation, or other general uses..." and therefore lacks many of the essential safeguards that are included in the State of Wyoming's new proposed rule governing the injection and sequestration of CO2. See DEQ/WQD Water Quality Rules and Regulations, proposed Chapter 24, online at http://deq.state.wy.us/wqd/events/public%20notices/UIC/Ch%2024%20Draft%20for%20WWAB%20Feb%2026%202010%20wo%20TOC.pdf. For the reasons stated below, we believe BLM is taking an incorrect and environmentally-irresponsible approach. Instead of deferring to the WOGCC permitting process as a surrogate for NEPA disclosure, BLM must understand that it has a clearly defined legal obligation to independently analyze the potential environmental consequences of the proposed project, along with developing measures to mitigate any adverse impacts.

The Wyoming Environmental Quality Act ("Act"), §35-11-103(c)(xx), defines "geologic sequestration" to mean "the injection of carbon dioxide and associated constituents into subsurface geologic formations intended to prevent its release into the atmosphere[.]" It cannot be denied that Cimarex Energy Company proposes to do exactly that. Further, Section §35-11-313(a) provides that "[t]he geologic sequestration of carbon dioxide is prohibited unless authorized by a permit issued by the department." Subsection (e) of this section provides that "[p]ermit requirements for geologic sequestration of carbon dioxide shall be as defined by department rules." As required by this section, the

Department has promulgated draft rules governing the sequestration of CO2. See DEQ/WQD proposed rule, Chapter 24.

An exception to the statutory permit requirement is provided for "the injection of carbon dioxide for purposes of a project for enhanced recovery of oil or other minerals..." W.S. §35-11-313(b). The "purpose and needs" statement in the Rands Butte EA clearly explains that the project is intended to "test the process of immediately re-injecting the unwanted gases back into the Madison Formation without further processing." EA at 5. Nowhere is it mentioned that the injection of CO2 is for purposes of enhanced oil recovery. Indeed, company officials and others were quoted in newspapers touting the benefits of the carbon sequestration aspects of the project, and up until recently the project had been proposed by the Department of Energy as a CO2 sequestration test project. See attached DOE Energy Lab newsletter, *Big Sky Carbon Sequestration Partnership--Development Phase*, (April 2009).

It is clear that under the statutory provisions cited above, the acid gas injection component of the project described in the Rands Butte EA meets the definition of "geologic sequestration" of CO2 thereby requiring a permit from the Department of Environmental Quality. Apart from simply doing what the law requires, compliance with the DEQ's comprehensive regulatory framework helps to ensure that all environmental, financial and human health issues are properly addressed and mitigated.

It must be noted, however, that should it ultimately be determined that the project falls outside the State's fledging carbon sequestration program, all of the same environmental, technical and financial issues and concerns are present. Regardless of what it is called, the long-term storage and/or disposal of massive quantities of CO2 and H2S by underground injection is proposed. The question boils down to whether the regulatory requirements applicable to Class II injection wells (along with whatever additional controls BLM may require) provide adequate protection for the environment and human health. After a detailed review of this EA, the applicable provisions of the WOGCC UIC program, and the DEQ's proposed sequestration rule, we believe the answer is no, and have concluded that what is needed to ensure the highest degree of protection for the environment and human safety, is for the acid gas injection component of the proposed facility to be regulated by DEQ as a carbon sequestration project. Indeed, the law of Wyoming requires nothing less.

Our specific comments on the EA follow.

1.3. PURPOSE AND NEED, page 5, lines 686-87: The EA states that "[t]he proposed Project has identified new technologies to overcome *problems* of gas separation and recovery of economic gases." (emphasis added). What kind of problems? The preceding sentence (lines 683-86) suggests there may be significant safety and/or environmental issues associated with this new technology, so an explanation of the kind

and severity of any problem associated with this technology should be included in the revised environmental document.

1.3. PURPOSE AND NEED, page 6, lines 708-09: The EA states that "the project would produce approximately 100 million cubic feet per year of industrial helium ..." The Rands Butte Project scoping notice, however, states (at Page 2 of 14) that "the project may produce approximately 200 MMSCF per year of industrial helium..." This is a significant discrepancy; which number is correct and what is the reason for this discrepancy? If the larger number be correct, it would seem that environmental disclosure would have to be revised to account for any additional impacts associated with doubling the amount of helium to be processed.

1.3. PURPOSE AND NEED, page 5: The purpose and need (scoping statement and EA at 5) includes testing the re-injection of CO2 and H2S.

- What are test parameters?
- What specifically is being tested?
- What factors or results may indicate success or failure of the test?
- How will the test results be integrated into future decisionmaking?
- Who has access to test results?

1.4.1. BLM Actions, page 7, lines 746-52: Please explain how the "additional data" collected from the "initial well bore" will be incorporated into the NEPA analysis. We can find no reference in the EA to this data, and understand that the test well has not even been competed, which obviously defeats the purpose of having a test well if the results are not available to inform this NEPA process. The revised EA/EIS should explain the consequences of proceeding with the project in the absence of this information. How will BLM address the unavailability of this critical information?

1.5. FEDERAL AND OTHER RELEVANT REGULATIONS AND PERMITS, Table 1-1, page 11, cites to three WOGCC rules (Rule 326, 346 and Rule 315) that do not exist in the WOGCC regulations. This critical error should be explained and corrected.

1.8. KEY ISSUES, Table 1-2, pages 14-16: Many "key issues" and concerns related to the environmental, technical and financial implications of long-term disposal/ sequestration of H2S and CO2 brought to the attention of BLM by Western Resource Advocates (WRA) in a letter dated October 30, 2008, have been ignored by BLM and omitted from the EA. The failure to address these issues is apparently based on an erroneous belief by BLM that Wyoming's geologic sequestration law does not apply--presumably because the proponent has characterized the underground acid gas injection component of the project simply as the routine disposal of fluids associated with oil and gas production activities. Thus BLM apparently believes it is excused from considering all of the implications and environmental impacts associated with the long-term storage and disposal of acid gas because the applicant will be required to obtain a Class II UIC permit from the WOGCC ("The WOGCC reviews and determines the ability

of the target formation to retain the injectate based on well bore schematics and additional geologic information." EA at 82). As discussed below, this assumption is incorrect.

It is important to emphasize again that regardless of how the proposed underground injection of acid gas is characterized; i.e., sequestration, emplacement, storage, disposal, etc., the issues and concerns raised in WRA's supplemental scoping letter, such as long term bonding, environmental safeguards, financial assurances, etc, must be addressed in the environmental review. These issues are again presented to BLM for consideration and analysis in the revised EA/EIS:

Ownership of pore space. W.S. §34-1-152(a) provides that "the ownership of all pore space in all strata below the surface lands and waters of this state is declared to be vested in the several owners of the surface above the strata." Pore space is defined to mean "subsurface space which can be used as storage space for carbon dioxide or other substances." W.S. §34-1-152(d). It appears that BLM is the owner of the pore space into which both CO2 and H2S is proposed for injection. Consequently, the analysis should include a discussion of the implications of the federal government's ownership of this "resource" including issues related to ongoing liability, adequacy of bonding, and insurance requirements. To put it simply, what happens if something goes wrong with the operation, particularly during the indefinite period following reclamation and bond release? Who is responsible for long-term post closure stewardship of the site? Who bears the liability that may be present long after the company has ceased gas extraction and injection activities?

Scope of authorization granted by federal lease. Neither DOI regulations at 43 CFR Subpart 3161 nor the standard federal oil and gas lease explicitly address sequestration of CO2 or other substances. One threshold question that must be addressed by BLM in the environmental review is establishing the legal right of the proponent to re-inject and sequester CO2 and H2S from the federal leasehold. DOI regulations define "lease" as a contract "that authorizes exploration for, extraction of or removal of oil or gas." (emphasis added) 43 CFR §3160.0-5. On its face, sequestration of CO2 or any other gas is not authorized. Further, "[l]ease site means any lands ... on which exploration for, or extraction and removal of, oil or gas is authorized under a lease." Id. Because neither definition encompasses sequestration of carbon dioxide or hydrogen sulfide, the BLM should explain the legal basis for the proposed sequestration component of the project. If the legal authority remains unclear upon examination by DOI, the BLM should consider an alternative that evaluates impacts from production of gas from the leasehold along with traditional treatment of CO2 and H2S using existing technologies and practices.

Surface rights. The scope and extent of the lessee's right to use the surface of the lease is enumerated in 43 CFR Subpart 3101: "A lessee shall have the right to use so much of the leased land as is necessary to explore for, drill for, mine, extract, remove and

dispose of [i.e., sell] all the leased resource in a leasehold..." 43 CFR §3101.1-2. Given the noticeable absence of an express authorization to sequester gases, we recommend that the environmental documentation explain the lessee's legal right to undertake the proposed sequestration activities citing to relevant legal authorities where appropriate. Related to the above issue, the regulations further provide that, "[o]perators shall have the right of surface use only to the extent specifically granted by the lease." 43 CFR §3164.3(a). Please identify the specific provision in the proponent's federal oil and gas lease that authorizes the sequestration of H2S and CO2.

Rents and Royalties. Will the proponent pay a royalty on the production of CO2? Will the proponent pay a rental for use of the federal leasehold for carbon and/or H2S sequestration? Please discuss.

Bond obligations and period of liability. It is apparent that neither the Mineral Leasing Act and the DOI's implementing regulations, including 43 CFR § subpart 3104 (bond requirements), envision sequestration activities taking place on a federal oil and gas lease; as a result, existing bond requirement appear to be grossly inadequate to fully protect the interests of the United States against potential long-term liability (financial and environmental) associated with this facility. We encourage BLM to carefully investigate all aspects of this issue and exercise its authority under 43 CFR §3104.5 to increase the bond to an amount sufficient to cover the "worst case" scenario so that U.S. taxpayers do not end up responsible for any long-term remediation or other unforeseen costs.

Carbon sequestration permit requirements. As noted above, the State of Wyoming has enacted a comprehensive statutory framework for the sequestration of CO2. Among other things, the law prohibits the geologic sequestration of CO2 unless authorized by a permit issued by the DEQ. W.S. §35-11-313(a). Because permit requirements for geologic sequestration of CO2 "shall be defined by department rules" (W.S. §35-11-313(e)), and because those rules have not yet been written, the proposed facility cannot legally begin sequestering CO2 until after the rules have been promulgated and a permit is obtained.

In order to properly safeguard the public interest, we suggest that BLM specifically request from the applicant the information that must be submitted to DEQ as part of the geologic sequestration permitting process and integrate it into the NEPA process. Having access to this information would allow BLM to make a better, more informed decision on the project application, result in a more accurate and useful environmental review, and in the end result in a much more secure, safe and environmentally sound project.

- A description of the general geology of the area to be affected by the injection of carbon dioxide including geochemistry, structure and faulting, fracturing and seals, stratigraphy and lithology including petrophysical attributes;

- A characterization of the injection zone and aquifers above and below the injection zone which may be affected including applicable pressure and fluid chemistry data to describe the projected effects of injection activities;

- The identification of all other drill holes and operating wells that exist within and adjacent to the proposed sequestration site;

- An assessment of the impact to fluid resources, on subsurface structures and the surface of lands that may reasonably be expected to be impacted and the measures required to mitigate such impacts;

- Plans and procedures for environmental surveillance and excursion detection, prevention and control programs. For purposes of this section, "excursion" shall mean the detection of migrating carbon dioxide at or beyond the boundary of the geologic sequestration site;

- A site and facilities description, including a description of the proposed geologic sequestration facilities and documentation sufficient to demonstrate that the applicant has all legal rights, including but not limited to the right to surface use, necessary to sequester carbon dioxide and associated constituents into the proposed geologic sequestration site;

- Proof that the proposed injection wells are designed at a minimum to the construction standards set forth by the department and the Wyoming oil and gas conservation commission;

- A plan for periodic mechanical integrity testing of all wells;

- A monitoring plan to assess the migration of the injected carbon dioxide and to insure the retention of the carbon dioxide in the geologic sequestration site;

- Proof of bonding or financial assurance to ensure that geologic sequestration sites and facilities will be constructed, operated and closed in accordance with the purposes and provisions of this act and the rules and regulations promulgated pursuant to this act;

- A detailed plan for post-closure monitoring, verification, maintenance and mitigation.

2.2. NO ACTION ALTERNATIVE

2.2.1.3. Acid Gas Injection Well, page 26. The EA should describe in detail the WOGCC "specifications" (line 996) that apply to the construction and operation of the acid gas

disposal well. This is especially important since all citations to WOGCC rules in Table 1-1 are incorrect.

Figure 2-1, page 20 and Table 2-1, page 22: Both the schematic and table for the No Action Alternative show a Compressor Station that is not included in any other alternative. Please explain why only this alternative requires a compressor station at this location.

2.2.1.6, Compressor Station, page 27, lines 1036-39: The EA does not disclose the power source (i.e., gas turbine, electric or diesel) for this compressor. More information about this station should be included in the revised EA/EIS, including an explanation of why the compressor is not described in any other alternative.

2.2.1.11. Helium Liquefaction Facility, pages 29-30: The EA does not indicate whether there would be any emissions of air pollutants from the "large outdoor tanks" and "vessels" associated with the HLF. The EA also fails to state that emissions would result from "specialized truck transport" (line 1129) of helium from this facility. All emission sources, including but not limited to mobile and non-road diesel engines, need to be identified and quantified to ensure proper environmental analysis, disclosure and discussion of mitigation options.

2.3 ALTERNATIVE 1 (PROPOSED ACTION)

2.3.1.1. BLM Natural Gas Wells, pages 37-38: The EA (lines 1321-27) states that "Hydraulic fracture stimulation of the Madison Formation is not anticipated[]" yet BLM and company officials at the Marlbeton, WY open house stated that fracking will occur. The EA should be revised to correct the obvious inconsistency. Additionally, the EA states in the same paragraph that "well completion would involve perforation or stimulation of productive zones." Isn't this fracking? How will these techniques impact the integrity of the receiving formation and its ability to contain acid gas? Also, will fracking fluid interact with acid gas in some way not anticipated? Will well stimulation stimulate or induce seismic activity? What chemicals are going to be used in the fracking process? How much fracking fluid will be injected underground?

- What Tier engines will be used in the drill rigs? Due to serious air quality concerns in this area (recommended non-attainment for ozone) we recommend Tier 3 or higher.

- What efforts are being made to offset or reduce emissions from drill rig engines?

- What efforts are being made to offset or reduce emissions from other mobile and non-road engines related to this project?

- Why isn't BLM requiring "green completions" and other environmentally-preferable techniques (e,g,. closed mud systems) in this environmentally sensitive area?

- What method will be used to dispose of water (10,000 to 15,000 barrels per well) used for drilling and completion operations? Where, and how, will this water be disposed of?

The EA at 37 (lines 1331-32) states that, "drilling operations would proceed at the rate of one well per year over a four-year period, with seasonal stipulations." We understand that a drill rig remained on-site (test well at RRU 17-34) this winter well past the stipulation cut off date--the EA must acknowledge that exceptions to stipulations are frequently granted and analyze the effects of drilling into winter months.

2.3.1.3. Acid Gas Injection Well, page 38. Under BLM's proposed action, RRU 20-14 appears to be a standard production well that would be converted to an acid gas injection well. As the referenced article indicates, "the incidence of well failure is greater in the case of converted wells than in the case of wells drilled and completed for injection purposes." In any case, the EA should discuss the design standards to which the well will be constructed, and the potential environmental consequences of well failure. See *Review of failures for wells used for CO2 and acid gas injection in Alberta, Canada,* Stefan Bachu, Theresa L. Watson (2009), attached hereto.

How much acid gas will be injected into the acid gas injection well? This important information is inexplicably not included anywhere in the EA. Newspaper articles suggest that the quantities are significant--in fact, more than 3 million tons per year. Is this correct? The specific volumes of CO2 and H2S that will be disposed of via underground injection should be specified in the revised EA/EIS.

EA at 38, lines 1375-80, Test well. We understand that the test well at existing RRU 17-34 has been drilled, but not yet completed. How then will results from the test well be incorporated into this analysis, and the WOGCC injection well permitting process, as claimed on line 1378? If the data and results from the test well are unavailable, the BLM should acknowledge and discuss the consequences of proceeding in the absence of this critically important information. See 40 CFR §1502.22.

EA page 38, line 1382: Given the gross lack of information, analyses and disclosure of environmental impacts that may result from storage/disposal and possible migration and/or escape of acid gas, the specific "permit requirements of the WOGCC" should be referenced and described in detail in the revised EA/EIS. The reviewer should not have to guess what specific requirements might apply--and incorrect/vague citations to WOGCC regulations are of no use.

2.3.1.9 Cimarex 230-kV Electrical Transmission Line, EA at 42; 2.3.1.10 Air Products 69-kV Transmission Line, EA at 44. To avoid/mitigate impacts to visual resources and sage-grouse, the EA should analyze the option of burying these electrical lines. The revised EA/EIS should include a detailed discussion of this option.

2.8. PROJECT AND ACTIVITIES POTENTIALLY CONTRIBUTING TO CUMULATIVE IMPACTS

Cumulative impacts. The EA at 72 indicates that this area has been drilled extensively, and now will be subject to additional infill drilling (the LaBarge Platform Infill-1,000 wells). Map 2-5. The revised EA/EIS should consider the safety and environmental implications of sequestering acid gas in an area and/or formation that will be subject to extensive ongoing and future oil and gas development. For example, will additional drilling affect the integrity of the receiving formations and its ability to safely contain enormous quantities of toxic fluids indefinitely?

Reasonably foreseeable future energy development. The EA at 72 (lines 2188-90) states that "[t]he gas fields, including the Riley Ridge Unit, have not reached a full-field development stage, and the potential exists for future large-scale hydrocarbon development projects in the area." The revised EA/EIS must include a discussion and analysis of environmental impacts that may result from full field development of the Riley Ridge Unit. This forward-looking analysis is essential, given that the gas processing technology being tested by Cimarex is designed and intended to "overcome problems of gas separation and recovery of economic gases[]" that have "hampered" development of the Madison Formation. EA at 5. It seems readily apparent that if the obstacles that have hampered development can be overcome, the field will most certainly be developed.

3.0. AFFECTED ENVIRONMENT

3.2.2. Mineral Resources. The EA at 79 states that "[t]he Riley Ridge Unit is the only area for proposed expansion of drilling and lease development in the RBPA at the time of this analysis, but all oil and gas fields are active and *may* be part of any analysis of cumulative effects." EA lines 2315-17 (emphasis added). We respectfully suggest that the word "shall" be inserted in place of "may" and that BLM analyze the cumulative impacts of reasonably foreseeable future development of this field to ensure the "hard look" required by NEPA.

3.2.3. Leasable Resources. Existing disposal wells, EA at 81, lines 2352-2354. All agency records and monitoring reports related to the "[t]wo existing H2S and CO2 disposal wells" should be summarized, made available to the public, and thoroughly analyzed in the revised EA/EIS. In addition, the revised EA/EIS should evaluate whether existing or proposed produced water disposal wells in the RBPA may influence or adversely affect the existing or proposed acid gas injection wells.

3.2.3.6. Disposal by Injection. The EA at 82 (lines 2391-93) states that "[t]he WOGCC reviews and determines the ability of the target formation to retain the injectate based on well bore schematics and additional geologic information." BLM should understand NEPA's "hard look" requirement places upon BLM an independent duty to make this determination and to carefully evaluate the indirect, direct and cumulative impacts of the injection of all fluids produced in association with the proposed development, including especially, the disposal of large quantities of H2S and CO2.

3.2.3.6. Disposal by Injection. The EA at 82 (lines 2402-2412) discusses the disposal of produced water in the Nugget Formation and disposal of acid gas in the Madison Formation in the same paragraph. Discussing these two related, but distinctly different processes in the same paragraph is both confusing and misleading. With respect to disposal of acid gas in the Madison Formation, the EA claims (lines 2406-07) that "[t]he depth and character of the Madison reservoir allows it to receive and confine the injectate" since there is no "evidence of leakage" but fails to discuss what steps, if any, have been taken to affirmatively monitor and detect leakage from this formation. Isn't it possible that leakage could be taking place without detection? (The absence of an eye witness to a crime does not prove a crime has not be committed). Stepping further out onto thin ice, the EA then asserts that since "ExxonMobil has been injecting gas into the Madison Formation 42 miles south of the RBPA since 2005[] . . . without evidence of leakage" the reader can reasonably conclude that injection into the proposed target formation is without concern. There are at lease two fundamental problems with this reasoning. First, the EA presents no evidence that the formation 42 mikes south is equivalent or similar to the proposed injection zone, and two, the EA fails again to discuss whether any efforts are actually made to detect leakage, such as a monitoring or leak detection program. (Note that the citation on line 2412 to "WOGCC 2008" does not support the conclusion that leakage has not occurred).

3.17. Air Quality. The EA at 200 (lines 5568-70) inaccurately describes BLM's regulatory responsibilities and authorities concerning the protection of air quality on federal lands. BLM's authority to regulate and/or control activities that may adversely impact air resources is much broader that stated here. This section should be revised to correctly describe the extent and nature of BLM's duties and responsibilities with respect to air quality. For example, BLM has broad legal authority to: 1) control or limit the number of drill rigs (and other nonroad emission sources) operating at any given time on BLM surface/mineral estate; 2) require the use of Tier 3 or higher drill rig engines; 3) prohibit the installation and/or use of ancillary facilities, such as condensate tanks, that cause unnecessary or undue emissions; 4) limit numbers and hours of usage of heavy truck traffic and require car-pooling; 5) require ambient air monitoring; 6) require reductions of emissions from existing wellhead facilities; 6) require closed-loop systems and so-called "green completions"; 7) require ambient air monitoring and a range of other mitigation measures.

3.17. Air Quality. Table 3-33, page 210. The revised EA/EIS should acknowledge that the EPA has proposed to establish a lower NAAQS for ozone to between 60-70 ppb. See 75 Fed. Reg. 2938-3052 (Jan. 19, 2010). EPA has also revised its NOx standard. See 75 Fed. Reg. 6474-6537 (Feb. 9, 2010);

3.17.3. Existing Air Quality. Table 3-34, page 205, contains numerous errors, including design values for ozone which greatly exceeded the 0.072 ppm shown here.

3.17.3.2. Protecting Visibility in Important Natural Areas. The EA fails to acknowledge and describe causes of significant visibility impairment detected in several nearby wilderness areas including the Class I Bridger Wilderness area. See Pinedale Anticline ROD.

4.0 ENVIRONMENTAL IMPACTS

4.1.1. Impact Criteria. The EA at 223 (lines 6217-19) states: "Since extraction of oil and gas resources in appropriate federal lease-holdings is an objective identified in the PFO RMP for the RBPA, including the Riley Ridge Unit, no impacts are anticipated from the extraction of gases (BLM 2008b)." This statement is patently absurd and should be removed from the text. The fact that an activity may be authorized by the RMP is no guarantee that the project will have no impacts; e.g. the Pinedale Anticline being the prime example of significant air impacts from permitted sources. In addition, and notwithstanding the above-comment, the sequestration of H2S and/or CO2 is not contemplated or discussed in, or authorized by, the Pinedale RMP.

4.1.1. Impact Criteria. EA at 223. The geohazard risks associated with the injection of CO and H2s are not disclosed. Impact criteria for acid gas injection have not been articulated. The EA lines 6224-41) presents risk criteria only for 1) slope and stability, 2) produced water containment and 3) seismic risk. Criteria for assessing the geohazard risk of long-term disposal/sequestration must be included in the revised EA/EIS.

4.1.2. No Action Alternative. The EA at 223 (lines 6247-49) states: "Without federal action, any geohazard impacts resulting from non-federal actions associated with Cimarex gas development and processing would be speculative and outside of BLM authority to modify or change." This statement is incorrect. It is well-established NEPA law that the federal agency must analyze the effects of the no-action alternative, even where no federal action is contemplated or taken. To ensure a hard look at and thorough consideration of all project alternatives, the BLM must analyze the effects of the No Action Alternative presented in this EA. BLM must analyze the environmental impacts of the no-action alternative, even if the agency lacks regulatory authority over its components.

4.1.3.1.2. Seismic Risk. The EA at 225 (lines 6281-82) reveals that 'the RBPA is in a tectonically active area with complex faulting, and earthquakes of moderate magnitude

are possible." The EA acknowledges that results from the Probabilistic Seismic Hazards Analysis (PSHA) model used by the USGS "demonstrate an approximately 10 to 20% probability of a 6.5 magnitude earthquake occurring within a 50-year time period." EA at 228, lines 6297-99. The EA goes on to state that "[t]hese statistical probabilities indicate that the chance of an earthquake of magnitude 6.5 or greater occurring at some point during the life of the Project (LOP) is possible at any time." Lines 6304-06).

Despite these known significant risks, the EA concludes (lines 6307-08) that "[a]n earthquake with a magnitude of 6.5 would unlikely alter the current geological conditions of safe containment of the Nugget or Madison formations." Apparently this conclusion is based on a scientifically spurious premise that because the Nugget formation "has been shown to be very stable and to receive injected water safely" (line 6309) it is somehow capable of withstanding a 6.5 magnitude or greater earthquake. Have these disposal wells been subjected to a 6.5 or greater seismic event to test this theory?

Similarly, the EA concludes (lines 6309-13) that--

> "[t]he depth and character of the Madison Formation reservoir has been proven to receive and confine injected gases. Since 2005, ExxonMobil has been injecting sour gas (H2S) into the Madison Formation 42 miles south of the RBPA. As of September 2008, 23.6 bcf of gas has been successfully and safely injected into the Madison Formation (WOGCC 2009d). * * * Therefore, no significant adverse impacts would be anticipated from Alternative 1 related to the proposed geological containment of either produced water or re-injection of acid gases that originated in the Madison Formation."

EA at 225-26.

Again, understanding that *a 6.5 magnitude or greater earthquake is possible at any time,* we disagree that a "no significant impact" conclusion can be reached from the facts presented, and challenge the BLM to subject this conclusion to rigorous and unbiased scientific scrutiny. The obvious questions presented by this superficial analysis include: 1) have there been any 6.5 earthquakes in the vicinity of the receiving formation since ExxonMobil began injecting H2S in 2005; and, 2) is the Madison Formation into which ExxonMobile has been injecting 42 miles south of the RBPA identical in every material way to the formation underlying the RBPA that would receive the proposed acid gas injections? These questions are particularly important given the fact that the authority cited by BLM in support of the conclusion (WOGCC 2009d) is to a nonexistent link. Is there any credible scientific support for BLM's conclusions?

4.1.3.2.2. Produced water containment. The EA at 226 (lines 6350-53) indicates that "water would be injected at pressures which are greater that the existing pore pressure of the formation, thereby allowing the injected water to displace the compressed native

saline fluids." What happens to the "displaced" native saline fluids? Will the over-pressurized formation induce seismicity or contaminate other aquifers? Where do the displaced fluids go?

Acid Gas Containment. According to the Purpose and Need statement (EA at 5), the testing of new technologies for the processing and disposal of acid gas is an integral and fundamental component of this project. Indeed, the BLM's Scoping Notice states: *"Reinjection of hydrogen sulfide and carbon dioxide needs to be tested to determine if it can reliably protect human and reduce greenhouse gas emissions traditionally associated with development of the Madison Formation."* (emphasis added). Given that, where is the analysis of potential environmental impacts associated with containment of acid gas? The revised EA/EIS must include an analysis and discussion of issues and impacts related to acid gas containment. The storage and disposal (sequestration) of H2S and CO2 is a major element of the proposed action- as such, it deserves the hard look required by NEPA--BLM cannot simply "punt" the issue to the WOGCC and expect that its responsibilities under NEPA have been satisfied.

4.1.3.2.3. Seismic Risk. This discussion is confusing and should be revised to clarify risks and impacts from seismic activity. The EA at 228 indicates that sour gas facilities will be constructed to meet or exceed (which is it?) design standards established under the UBC for seismic zone 2, and that the "risk of an earthquake with a large enough magnitude to severely damage infrastructure designed and constructed to seismic Zone 2 standards is unlikely..." However, the EA goes on to state that "a major earthquake of magnitude greater than 6.5" could "damage project infrastructure and result in leaks of sour gas[]", but concludes that the risk of a damaging earthquake is "unlikely" due to "low probability of occurrence." This conclusion does not seem to square with information presented in earlier sections of the EA suggesting that the risk of damaging earthquakes is much greater:

> Based on this record of faulting and past tectonic activity, there is the possibility of tectonic activity (earthquakes) of significant magnitude to occur in the region, potentially resulting in structural damage of well facilities, gas plants, and pipelines. Using the USGS (2009a) earthquake probability model, one can estimate the probability of a future earthquake in a particular area with some confidence level. Figure 3-5 displays a calculated probability for an *earthquake of magnitude 6.5 or greater* on the Richter Scale to occur in the RBPA and the greater region in the next 50 years. *The probability of this event occurring is between 10 to 20%.* Probabilities are based on a statistical model since earthquakes are very difficult to predict. *An earthquake of this magnitude could occur at any time.*

EA at 85 (emphasis added).

Considering the potentially catastrophic consequences that could result from a massive release of H2S and/or CO2, either from damaged or destroyed surface infrastructure or from a breach in the receiving formation, the EA should be quite clear on this subject.

EA at 228, line 6401: What is a "moderate geohazard risk"? The term does not appear to be defined in the section describing Impact Criteria.

What magnitude earthquake will the sour gas facilities be designed and constructed to withstand? This is not clear in the existing discussion on page 228. (The EA simply states that a magnitude *greater than 6.5* may exceed the seismic Zone 2 design standards for the project.)

4.7.4. BLM Sensitive Species, EA at 310 to 335, Greater Sage-Grouse. The analysis of impacts to greater sage-grouse and proposed mitigation measures are deficient in several important respects, including failure to properly assess the current status of the species; failure to identify well-documented deficiencies in current management prescriptions (including inadequacy of timing and controlled surface use stipulations incorporated in the Pinedale RMP and Riley Ridge leases); and failure to support findings and conclusions in the EA with credible science. The EA/EIS should be revised to reflect recent changes in the status of this species, including the March 2010 decision by USFWS to designate the species as a candidate for listing under the Endangered Species Act; March 2010 revisions to DOI sage-grouse policy, including issuance of new instruction memorandum; and the most recent science that undermines and discredits the BLM's existing approach to sage-grouse conservation (relied upon in this EA). Most importantly, significant changes to project design and additional and *effective* mitigation measures must be incorporated to avoid significant impacts to this candidate species, and to comply with BLM WO and Wyoming sage-grouse conservation policies.

We expressly adopt and incorporate by reference, as if it were fully set forth below, the U.S. Fish and Wildlife Service's 12-Month Findings for Petitions to List the Greater Sage-Grouse (Centrocercus urophasianus) as Threatened or Endangered, available online at:
http://www.fws.gov/mountain%2Dprairie/species/birds/sagegrouse/FR03052010.pdf

4.1.7. Cumulative Impacts

The EA at 232 states that "[t]he CIAA for geological resources is the RBPA and the area within 1 mile of the boundary of the RBPA." What is the rationale for extending the CIAA one mile beyond the project area? Isn't it possible that acid gas injected into the Madison Formation could migrate well beyond the CIAA? Shouldn't this distance be based on consideration of the geologic characteristics present in the area and potential project impacts as opposed to what appears to be an arbitrary determination?

The EA at 232 states: "The Project would not add any increased risk of over-pressurizing the Madison Formation, and in fact would decrease formation pressure by extracting methane and helium gas from the formation; therefore, no cumulative risk of increased seismic risk is anticipated from proposed acid gas injection back into the Madison Formation." But wouldn't the injection of significant quantities of CO2 and H2S create a potential for localized areas of over pressurization within the Madison Formation?

4.1.8. Mitigation and Monitoring Opportunities

EA at 232-33. It appears that no mitigation or monitoring opportunities for acid gas injection are identified. Please explain the omission.

4.4 GROUNDWATER AND SURFACE WATER RESOURCES

According to EA section 3.5, little baseline data exists relative to groundwater and surface water quality and quantity in the RBPA. Given the history of gas development in this area, it is difficult to understand why BLM hasn't required (or performed) monitoring of surface and ground water resources in this area. For example:

3.5.2.2. Surface Water Flow. "Research showed no evidence that any stream flow gauging stations have ever been operated within the RBPA; therefore, limited stream flow data is available." EA at 109.

3.5.2.4. Surface Water Quality. "No data were found from within the RBPA during a search of the EPA Storage and Retrieval (STORET) Water Quality Database for the Green River watershed (EPA 2009a); therefore, water quality can only be approximated in the RBPA." EA at 112.

3.5.3.3. Groundwater Use. "In general, limited information is available on well yield, aquifer properties, water quality, and recharge and discharge relationships for groundwater resources in the Green River Basin." EA at 116.

3.5.3.5. Groundwater Quality in the Green River Basin. "Searches of the USGS National Water Information System database (USGS 2009b) for groundwater sampling events reveals limited groundwater sampling has occurred within the Green River Basin and Sublette County, with very limited data near the RBPA. Data were retrieved for major cations, major ions, dissolved solids, pH, and several other parameters that serve as useful indicators of the quality of water. An additional search of the EPA STORET water quality database for Sublette County does not return any groundwater quality results from wells within the county." EA at 116.

We recommend that BLM require Cimarex to institute, as a condition of ROW and APD issuance, a comprehensive ground and surface water quality and quantity monitoring

program. Given the age, status and location of this field, and the extensive development occurring in this area, the absence of critical water quality and quantity baseline data is inexcusable.
Other issues--

EA at 263. Impact criteria should be developed for potential impacts resulting from acid gas injection activities. The focus seems to be on produced water; e.g. "Given low volume of introduced water anticipated, no adverse impact would result." Line 7309. Please quantify the term "low volume."

The analysis of potential impacts related to acid gas injection is limited to a single paragraph mentioning the potential for cross-contamination of aquifers:

> The No Action Alternative would include drilling and completion of natural gas production wells into the Madison Formation and a single H2S/CO2 injection well that would also be completed into the Madison Formation. The location of these wells is assumed to be on state land with No Action. Groundwater impacts could occur through potential cross contamination of aquifers by drilling through the Wasatch and Fort Union formations on the way to the Madison Formation. *Potential for contamination of groundwater resources could also occur through cross contamination during the re-injection of H2S.*

EA at 264-65 (emphasis added).

Clearly, there are additional water quality issues associated with the injection of CO2 and H2s. Is there a danger that H2S or CO2 could escape from the receiving formation and enter the atmosphere and/or contaminate nearby aquifers?

No monitoring or mitigation opportunities related to ground or surface water impacts from acid gas injection are identified. Please explain why such opportunities are not discussed.

The cumulative, synergistic and/or secondary impacts of acid gas injection into the Madison Formation are not disclosed. Please explain why this analysis is lacking.

4.10 HEALTH AND SAFETY

4.10.1. Impact Criteria. The EA indicates that the life of project (LOP) is approximately 40 years, and discloses that some activities will be temporary, while "other activities would extend throughout the LOP." EA at 391, lines 11476-78. The EA goes on to state that "[t]he generation, storage, and disposal of hazardous substances from these activities would be limited to each specific portion of the Project." Id., lines 11479-80. By limiting analysis to a forty-year timeframe, the EA completely disregards all

environmental and human health issues associated with the long-term and potentially indefinite sequestration of H2S and CO2. It should be obvious to BLM that the risks associated with the long-term storage and disposal of acid gas extend well beyond the LOP, potentially indefinitely. See, e.g., Report to Congress, Framework for Geological Carbon Sequestration on Public Land, Department of the Interior, attached hereto. The omission of any analysis of impacts that extends beyond the LOP is a serious and fatal flaw in this document.

The absence of any discussion of the long-term risks of carbon and H2S storage/ disposal/sequestration is a serious, and frankly, inexcusable deficiency in the environmental disclosure. Moreover, health and safety hazards are analyzed in context of BLM's Onshore Order 6, which alone is not an appropriate tool for addressing health and environmental issues implicated by the intended permanent sequestration of CO2 and H2S.

The EA discusses the human health and safety risks related to an accidental release of H2S from facility infrastructure. See EA at 390-402. However, discussion of issues associated with the sequestering of H2S is limited to a couple paragraphs, neither of which addresses the specific risks or threats from this project. Moreover, issues concerning the sequestering, or long-term storage, of CO2, are not addressed at all. The EA states:

> An important issue related to the injection of acid-gas is the long-term containment of the waste within the desired depository structure. Maintenance of the structural integrity of the formation is of considerable importance to eliminate the potential of structural leakage to undesirable formations such as overlying aquifers. Injected gas must be held in place by some type of overlying low permeable materials such as shales or evaporates. A cap rock is defined as a lithologic unit capable of impeding upward movement (Nelson et al. 2005). Injected gas may also be held in place within aquifer material which has a very small hydrodynamic gradient, thereby limiting the movement of the gas out of the formation.
>
> Within western Canada, acid-gas injection has been occurring for over 15 years into deep saline aquifers or depleted oil or gas reservoirs. Within that time period, no safety incidents have been reported regarding the injection or release of the gas (Bachu et al. 2008). Acid-gas injection is considered a zero-emission process when all of the recovered waste material is re- injected to the subsurface.
>
> The project is not anticipated to result in any adverse impacts if the materials are handled according to safety standards outlined for each hazardous substance.

EA at 398.

What, specifically, are the applicable "safety standards" for "each hazardous substance" involved in this project? Also, since CO2 is not considered a hazardous substance, what safety standards apply?

The EA asserts in the quoted section, above, that "no safety incidents have been reported regarding the injection or release of the gas" but the news is filled with reports from Western Canada and elsewhere of sour gas well blowouts. See, e.g., Control efforts begin on Alberta gas well blowout, Alyssa Noel, Edmunton Sun (March 12, 2010), online at: http://www.edmontonsun.com/news/alberta/2010/03/08/13155851.html. The risks of well blowout are serious and must be considered in the revised EA/EIS. See U.S. Environmental Protection Agency. October 1993. Report to Congress on Hydrogen Sulfide Air Emissions Associated with the Extraction of Oil and Natural Gas. EPA-453/R-93-045, p.III-35.

4.15. AIR QUALITY

4.15.1. Impact Criteria. The EA establishes six distinct impact criteria (lines 13550-56), but fails to analyze whether the project might cause or contribute to exceedances of (or otherwise trigger) many of those very same impact criteria. For example, the EA at 456 states that project-related activities would create significant air quality impacts if "PSD increments for Class I and Class II areas are exceeded", yet fails to include or reference an increment consumption analysis which obviously is required in order to determine whether air impacts are significant! Similarly, the EA identifies significant impacts if NAAQS or Wyoming AAQS are exceeded, but fails to explicitly acknowledge that these standards have already been exceeded, which under the impact criteria listed by BLM must result in a finding of significance. Likewise, under the impact criteria identified by BLM, the EA must find significance if "visibility in sensitive areas exceed 0.5 and one deciview (dv) change thresholds", yet fails to disclose that nearby sensitive Class 1 areas are suffering much more significant visibility impact of one dv in excess of 60 days. See, e.g., Pinedale ROD at 25.

Emissions of atmospheric pollutants from oil and gas development, production and transmission has caused significant degradation of air quality in Sublette County over the past 10 years, declining from what was arguably some of the cleanest air in the country to a condition that now requires a nonattainment designation for ozone. Despite Cimarex's efforts to reduce and/or offset emissions from stationary sources at the M&HRF, the fact remains that because they are not offset, emissions from construction and operation of the facility will cause further declines in air quality. The revised EA/EIS should include a discussion of options to mitigate emissions from nonroad engines used for drilling, fracking, well completion, construction, transport of material, and the like.

Although the EA at 454 acknowledges that the entire RBPA lies within a proposed nonattainment area for ozone, it fails to disclose other serious air quality problems afflicting the region, such as serious visibility impairment in the Wind River Mountains, particularly the Class I Bridger Wilderness, and concerns about nitrogen, ammonia and sulfur deposition in the high mountain lakes. The EA/EIS should be revised to accurately and completely describe the nature and characteristics of this impaired and very sensitive airshed.

The EA assumes that if sources are permitted by DEQ, impacts will not be significant--this is clearly and demonstrably not the case. The EA states that "[a]ny stationary sources of emissions from non-federal Project components must adhere to the Clean Air Act and operate under WDEQ Air Quality Permit provided in Appendix C. Therefore, no adverse impacts would occur from stationary sources under the No Action Alternative." EA at 458. Yet, the EA fails to acknowledge that all oil and gas production facilities in Wyoming are in fact permitted by DEQ/AQD and that those sources have significantly degraded air quality in Sublette County and elsewhere. The point is that the existence of an air quality permit does not assure that air quality impacts will remain below the significance threshold.

The consequences of accidental or unintended CO2 or H2S emissions (fugitive releases, leaks, etc.) from "sequestered" gas is not disclosed. The "analysis" of this issue is limited to the following: "Under Alternative 1, all CO2 produced by the proposed new wells would be re-injected back into the Madison Formation. This is a substantial improvement in environmental protection compared to existing technologies evaluated in the Riley Ridge Gas Project EIS (BLM 1984)." EA at 460.

The EA (at 456) acknowledges that "substantial amounts of NOx and CO" are created from well drilling rigs, and that "[u[se of heavy equipment ... would create substantial NOx, VOCs, and PM10[]" but fails to assess the direct, indirect and cumulative effects of these emissions.

The EA (at 456) defends its use of "qualitative analysis" of construction related impacts because, it argues, the ozone problem is confined to winter months when construction would not be taking place. First, it is not clear that timing limitations apply to the construction of all project related facilities, particularly those located on state and private lands, so there may well be some construction activities taking place year round. Second, the BLM's qualitative analysis ignores cumulative impacts of gas development proposed in nearby fields. Third, given the level of existing and projected development in the area, an area recommended for non-attainment for ozone, NEPA's hard look can only be satisfied by a quantitative analysis of air quality impacts.

Table 4-56, The revised EA/EIS should explain why Federal well drilling emissions decrease from 35 tpy NOx in 2009 to 28 tpy in 2010, 18 tpy in 2011 and 17 tpy in 2012, when the EA states that "[d]rilling operations would proceed at the rate of one well per

year over a four-year period." EA at 37. What accounts for the reduction of NOx emissions?

Air quality mitigation measures proposed in the EA are inadequate and/or incomplete. For example, there's no discussion of electric or natural gas powered drilling rigs, or benefits of advanced emission control technology on diesel drill rig engines. Additionally, the EA doesn't discuss the possibility of emission offsets from construction equipment, drill rigs, or other project facilities not yet permitted by the DEQ.

The EA (at 462) erroneously claims that "long-term emissions from operations would be offset by terms of the DEQ permit[]" but fails to acknowledge that the DEQ permit applies only to the Methane and Helium Recovery Facility ("The Division considers well drilling and completions, pipeline construction and operation, electric transmission construction to be secondary emissions and not part of the Riley Ridge Plant. Therefore, Cimarex was not required to offset these emissions because they were not considered in the potential to emit for the Riley Ridge Plant." EA Volume 2, Appendix C, DECISION at 2.

Need for EIS

In one of the most famous phrases in the entire history of the Supreme Court, Justice Potter Stewart, in a concurring opinion in *Jacobellis v. Ohio,* 378 U.S. 184 (1964), regarding possible obscenity in a film called The Lovers, wrote: "I shall not today attempt to further to define the kinds of material I understand to be embraced within that shorthand description ["hard-core pornography"]; and perhaps I could never succeed in intelligibly doing so. **But I know it when I see it,** and the motion picture involved in this case is not that." (emphasis added).

Like Justice Stewart in *Jacobellis v. Ohio,* the undersigned, who collectively have over 100 years of experience reviewing NEPA documents, know "significance" when they see it. The project is a massive and costly undertaking with numerous related components, any one of which could alone trigger the need for an EIS.

The novelty of this project emphasizes the potential for significant environmental impacts, thus necessitating preparation of an EIS, not a simple EA. At a minimum, this project raises issues related to the intensity of the project based on the potential for affecting public health and safety; the ecological importance of the area; the highly uncertain and unique or unknown risks associated with this novel technology; the cumulative effects when combined with other proposed gas development activities (e.g., Labarge Platform infill); and the potential for setting precedent for other similar future actions, or creating a decision in principle about these types of projects, all which are "intensity factors" under the Council on Environmental Quality's regulations, making it highly unlikely BLM can sustain any claim that this project "will not" have significant environmental effects, as is required to sustain a finding of no significant impact,

allowing only an EA to be prepared. See 40 C.F.R. §§ 1508.13, 1508.27(b)(1- 10), (presenting CEQ regulations regarding when a finding of no significant impact is appropriate and the intensity factors that must be considered in determining if a project may significantly affect the human environment).

List of preparers. Please include in the revised document a list of preparers and their relevant professional experiences, credentials and qualifications. In order to ensure scientific integrity surrounding this process, the public has a legitimate right to know who wrote the EA along with their respective qualifications and credentials. 40 CFR 1502.17.

On behalf of the undersigned, thank you for the opportunity to comment. As noted earlier, please advise us of any future public comment opportunities associated with this project; the availability of revised, supplemental or additional environmental documents including all related EAs and/or EISs, and provide written notice of the agency's final decision in this matter.

Sincerely,

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Enclosures:

1. Energy Procedia: Review of failures for wells used for CO2 and acid gas injection in Alberta, Canada
2. Big Sky Carbon Partnership Project Fact Sheet
3. DOI Report to Congress- Framework for Geological Carbon Sequestration on Public Land

cc: Governor's Office
WOGCC
DEQ/WQD
EPA Region 8

March 12, 2010

Sent via email to: pinedale_wymail@blm.gov
And by U.S. Postal

Brian Davis,
Acting Field Manager
BLM Pinedale Field Office
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Subject: Comments on the Rands Butte Project Draft Environmental Assessment

Dear Mr. Davis,

Please accept the following comments from Trout Unlimited and Wyoming Wildlife Federation. We appreciate the opportunity to comment on the Rands Butte Project Draft Environmental Assessment (hereafter referred to as "DEA"). As noted in the DEA, this project is designed and needed to test and implement new technologies for processing and recovering natural gas and helium reserves from the "sour gas" reserves in the Madison formation underlying the Riley Ridge Unit. The Project parameters include construction of a facility for methane and helium recovery, capable of processing of gas extracted from four wells drilled on federal lands. These wells comprise primarily carbon dioxide, nitrogen, methane, helium, and hydrogen sulfide. Extraction and reinjection will occur with the carbon dioxide and hydrogen sulfide, extraction and venting into the atmosphere will occur with nitrogen, and the helium and methane will be recovered and sold.

A number of complexities exist with this Project that affect the human and natural environment on a landscape scale. Indeed, BLM recognizes the complex nature of this Project on page 7 (Connected Actions 1.4.2) when they establish (through the National Environmental Policy Act or NEPA) that the proposed Project contains interdependent parts of the larger action that are considered "connected actions" and may be analyzed in the cumulative effects analysis. While Trout Unlimited (TU) and Wyoming Wildlife Federation (WWF) support Cimarex, Inc.'s (the proponents) innovative effort to develop a cleaner and smaller footprint in the course of gas development, there are

significant enough hazards and impacts associated with this pilot development Project, that we respectfully request the BLM to not issue a Finding of No Significance (FONSI) and instead, prepare a full Environmental Impact Statement (EIS).

Interests of Commenting Parties

TU has a strong base support of hunters and anglers who depend on Wyoming's natural resources for their multi-use activities both now and in the future. Members of our organization value these public lands that sustain some of the cleanest water, the healthiest habitats and finest fishing and hunting in North America. TU is composed of more than 140,000 members nationally and has dedicated staff and volunteers working toward the protection of sensitive ecological systems necessary to support robust native and wild trout and salmon populations in their respective ranges. In Wyoming, TU's membership of more than 1,500 anglers spend countless volunteer hours each year working on projects that meet the mission of the organization.

WWF was established in 1937 and with current standing membership of approximately 5,000, is Wyoming's oldest and largest statewide conservation organization. Our mission is to work for hunters, anglers, and other wildlife enthusiasts to protect and enhance habitat, to perpetuate quality hunting and fishing, to protect citizen's right to use public lands and waters, and to promote ethical hunting and fishing.

General Comments

TU and WWF staff have participated in numerous discussions with the BLM and the proponents to better understand this Project and its parameters. We have attended the open houses offered during the course of preparing for this Project and we have had lengthy discussions with the Project Manager and consultants for Cimarex, Inc. We sincerely appreciate the passion and dedication devoted to the development of a potentially low-surface impact energy efficient endeavor. However, we found the more we researched this Project, the more we found lacking in the DEA.

The DEA does not fully identify the potential issues and impacts that may be affected due to this new and distinctly different type of energy development Project. Part of the challenge in this Project is the presence of high concentrations of carbon dioxide (CO2) and toxic hydrogen sulfide (H2S). The presence of these two elements adds to the increase in cost to separate, treat and safely dispose. In fact, we have significant levels of concerns that the BLM and the State of Wyoming do not have enough experience with this type of development project (the first of its kind in this state) and this is reflected in the lack of detail and discussion in the DEA.

The Project proponents have called this Project a carbon sequestration project. The BLM, in their scoping materials and press releases, also identified this Project as a carbon sequestration project (Pinedale Roundup, October 9, 2008), as have the proponents in numerous news releases in 2008. Carbon sequestration is a relatively new phenomena in the energy development world and the available literature stresses the importance and numerous requirements for assuring that containment integrity of carbon sequestration (CO_2) not be compromised (see "*CO_2 Geological Storage Field Development—Application of Baseline, Monitoring and Verification Technology".* 2009. Simone, Alessandra, et al. Shell International Exploration & Production. www.sciencedirect.com.)

Further, impacts to the surrounding subsurface and surface habitat using this new CO_2 reinjection process has elements of risk that are just now being observed (see *"Detection of surface deformation related with CO_2 injection by DInSAR at In Salah, Algeria."* 2009. Onuma, Takumi and Shiro Ohkawa, Japan Petroleum Exploration Co., www.sciencedirect.com). This information should have red flags associated with it based on the DEA's discussion with respect to earthquakes and seismic zone activity, since the Project is located in the Wyoming Overthrust Belt, and active and known historic faulting area (DEA page 82, 3.2.4). The singular action of CO_2 reinjection becomes more complicated and dangerous with the addition of the other mentioned gases, ultimately making this Project a very high risk endeavor. Long-term containment of CO_2 can have significant environmental impacts and because of its relative novel and innovative technology, the public should have some measure of assurance that a thorough, comprehensive evaluation and analysis is completed on this proposed Project by the BLM and other regulatory authorities.

Because the BLM has decided to produce an EA rather than an EIS, we are without the added benefit of a review and evaluation of this Project from the Environmental Protection Agency (EPA). Rands Butte has the potential to impact a large portion of western Wyoming from a human health and hazard perspective, from a wildlife and fisheries perspective, and from both air and water quality perspectives. The EPA is also in the scoping process for evaluating supplemental information to the agency's proposed 2008 rule that is considering a new class of injection well that ensures geologic sequestration activities do not endanger drinking water sources. An evaluation is ongoing for a more comprehensive regulatory framework to manage the sequestration of CO_2. Therefore, we feel that this Project is a major federal action and according the NEPA Section 102(2)C an EIS must be prepared for proposed major Federal actions significantly affecting the quality of the human environment. The amount of time, substantial planning for this Project (the proponents have stated they have been planning this Project for more than a decade and the DEA took more than 2 years to prepare), the significant resources and expenditures outlaid, all support the need for an EIS rather than an EA.

Finally, please note that all of the key issues identified, for instance, in Table 1-2 (DEA, pgs. 14-16) are much more relevant to oil and gas impacts but do little in the way of defining issues that might be affected by the parameters of this particularly complex Project. Some of these include issues and/or impacts from acid gas injection wells, acid gas flowlines, helium extraction and pipeline flows, carbon sequestration, and the entire toxic chemical combinations associated with this carbon dioxide reinjection Project. There is no mention of toxic air emissions potential, seismic activity which may affect this Project's stability, human health safety, or water contamination issues associated with toxic chemical releases in the key issues and concerns.

Specific Comments

- ***Key Issues and Concerns Omit Significant Issues from this Project.***

1. Socioeconomics

The discussion did not include the town of La Barge. The discussion was also lacking in impacts to local businesses that might be impacted from the accidental and/or continuous release of toxic gases from the complex chemical mixtures used in the . Letters submitted to the BLM and DEQ (Department of Environmental Quality) reflect a high level of concern from local agricultural and other businesses that might be affected from the hazards associated with this Project (see Volume 2, Appendix B, DEA).

2. Air Quality

Key issue response for air quality in Table 1-2 is incorrectly identified as occuring in Section 4-17. That should read Section 4-15.

It is well known that this Project exists in the heart of an area known for its increasing and persistent trend in high ozone levels and air pollution emissions. In our scoping comments, we specifically requested installation of air quality monitors on the western portion of the Project boundary (within the Riley Ridge area of the Bridger-Teton National Forest) as well as a monitor established immediately east and outside of the Project boundary and prior to the Jonah and Pinedale Anticline boundary. We consider this an important aspect of monitoring the air quality conditions, especially in light of the non-attainment designation likely to occur this year and the addition of the new LaBarge Platform gas project now under EIS development.

We additionally feel that based on future development scenarios proposed by the proponent where new gas wells may be developed, all efforts to gather baseline air quality data will result in a planned and proactive action toward maintaining Sublette County's air quality and the rest of the State's air quality.

3. Potential Conflicts with Livestock Management Operations

Please note that key issues response in Table 1.2 for conflicts with livestock management is incorrectly identified as occuring in Section 4.11. That should read Section 4.9.

Livestock operations have the potential to be impacted through water depletion issues and air quality issues in addition to those mentioned in the key issue list. Changes in flow and water quality affect not just cattle but the hay meadows dependent on the waters from this significant watershed. We request that a more thorough evaluation be conducted than that which was discussed.

Reference to the material produced by the Governor's Brucellosis Coordination Team on herd health and recommendations should be documented. This information, in addition to that which has already been identified, is important in maintaining protection measures for the livestock industry as well as the elk herds. With the increased likelihood of the elk herd from the Riley Ridge area being disturbed and subsequent loss of winter habitat due to this project, the ranching community will bear the cost of this action. A more thorough analysis, including economic costs associated to both the livestock industry and the Wyoming Game and Fish Department (WGFD) must be addressed.

4. Potential Impacts to Sensitive Soils

Please note that key issues response in Table 1.2 for potential impacts to sensitive soils is incorrectly identified as Section 4.3. It should read Section 4.2.

Lack of appropriate and up-to-date soils data and inventory information is a significant issue and needs to be addressed. This is extremely important since the incomplete soils information that does exist identifies this area as containing sensitive and highly erodible soils. Development within these areas is not advised and, in fact, are areas that will be avoided according to the Pinedale RMP (Record of Decision, Pinedale RMP, 2008. Appendix 3, page A3-16).). As earlier mentioned, studies suggest that topographic features of the area can be impacted, including surface upheaval where CO_2 reinjection occurs (Onuma, T., et al, 2009).

Concerns about reclamation and revegetation in this area should be a high priority. The Project location has built-in erosion hazards. A field trip visit to the first well site on Riley Ridge in October 2008 by TU found several erosion barriers not in place. The soils and plant life within this area are indicative to the nature of the harsh climate. The BLM should require a full soil inventory and reclamation plan that considers the complete soils analysis. Currently, this is not being done.

Photos of Riley Ridge well pad with lack of soil berm protection measures. October 2008.

The DEA discusses the limiting features of the soils within the Project area that make successful reclamation and revegetation a challenge (page 235, Section 4.2.1). Critical native elk winter range and sage grouse habitat will be the most impacted with this project and have the most to lose. Runoff and erosion from poorly reclaimed surfaces will also impact the coldwater streams in this area, most notably Spring Creek and Beaver Creek, which contain pure conservation populations of Colorado River cutthroat trout (CRCT). Because of the deadly effects sedimentation and erosion have on CRCT and their lack of ability to survive when a water body experiences such impacts, we ask that this section also include discussion on how to prevent this from occurring. This is particularly important due to the sensitive status the CRCT have on a federal and state level.

5. Wetland and Riparian Areas

Please note that key issues response in Table 1.2 for potential impacts to wetlands and riparian areas is incorrectly identified as Section 4.7 and 4.7.1. It should read Section 4.6.

There is an incorrect assumption in the first paragraph of 4.6.1 (page 289) that impacts would occur primarily from construction and periodic maintenance activities. Because so little is known about reinjection of carbon dioxide and the groundwater issues associated with any contamination in this area, further analysis should be completed that includes such discussion. A produced water reinjection well identified in the proponent's plan is fairly close to streams and wetland habitat. Hazardous issues discussed in this section only identify traditional oil and gas development impacts and do not contain any discussion of accidental hazardous chemical mixing of waters, the complex contamination issues associated with wetland pollution and the impacts that these may have on fisheries, irrigation meadows, wildlife, and livestock.

There is a lack of discussion on the cumulative impacts associated with wetland contamination. The paragraph on page 296 (lines 8343) discusses reasonably foreseeable developments as consistent with these ongoing land uses but in the next sentence states that the BLM-PFO (Pinedale Field Office) has no applications for future development. Elsewhere in this document, reference is made to the LaBarge Platform project proposal that contains four company's projects. Additional development scenarios include the South Jonah project east of this project in the Pinedale Field Office. The BLM should have a more thorough discussion as it relates to the increase in development within the PFO.

Finally, though the discussion on page 290 claims that there are no wetlands or floodplains present in the facility locations or the well pad locations, water travels downhill and wetlands and riparian areas serve as filters for a variety of elements. This section needs to expand to include this discussion.

6. Surface Water and Groundwater Resources

Please note that key issues response in Table 1.2 for potential impacts to surface water and groundwater resources is incorrectly identified as Section 4.5. It should read Section 4.4.

As mentioned earlier, there is a lack of discussion of this particular Project's potential impacts from this carbon sequestration and helium development project and the numerous chemical mixing components on the environment. TU requested that a groundwater study be completed prior to any further actions on this project due to the numerous streams and watershed issues that would be affected should any unfortunate event occur from this pilot project. The discussion in the DEA is a generic discussion as it applies to oil and gas development in general. For this reason alone, we ask for an EIS.

In TU's scoping comments, we asked for a full groundwater analysis prior to the approval of this project and to have this inventory for the entire Riley Ridge Project Area. Currently such data does not exist. Due to the nature of this project, we feel this is a vital component that would serve the proponents, the State, the BLM, and the public well. Too much is at stake to not have this kind of inventory. Research on geological storage of CO_2 indicates that breach of containment takes two possible forms: seepage where migration of CO_2 moves beyond the anticipated seal, and leakage, where the integrity of the wellbore is at stake (Simone, A. et al, 2009).

There is a complete lack of fisheries discussion in this surface water section. The CRCT is a recognized sensitive species both with BLM and the WGFD and the only salmonid native to the upper Colorado River basin, which the Upper Green River belongs. The 2006 CRCT Conservation Agreement (Conservation Agreement for Colorado River cutthroat trout, *Oncorhynchus clarkii pleuriticus*, in the States of Colorado, Utah, and Wyoming. June 2006.) is developed to implement conservation measures for the CRCT and to prevent its potential listing under the Endangered Species Act. The BLM is a cooperating partner in this effort and since the CRCT occupies less than 7% of its historic range in Wyoming, all efforts should be made that protect and mitigate for impacts to its habitat. The two streams that contain pure conservation populations of CRCT exist within this Project area (Spring Creek and Beaver Creek).

7. Wildlife Habitats

Please note that key issues response in Table 1.2 for potential impacts to wildlife habitats is incorrectly identified as Section 4.9. It should read Section 4.8.

Once again, our concern with the DEA's generality to oil and gas impacts is reaffirmed with the wildlife and fisheries discussion in this section. Further, the

literature references need to be updated and include the latest mule deer, antelope, and sage grouse research conducted in the Pinedale resource area. The 2006 Hall Sawyer reference should be updated to reflect the study years 2007-2009. The data from the antelope study conducted by the Wildlife Conservation Society (Berger, et al 2006-2009) should also be included. And the sage grouse study that includes impacts from oil and gas development that occurred in 2006 (Matt Holloran) should also be included. Discussion should also include elk migration impacts from displacement and the potential brucellosis discussion from the wildlife viewpoint, as noted below.

We are particularly concerned about the impact of this proposed Project on elk and elk habitat in the Piney Herd Unit. We are aware of the studies which have been carried out and the results of those studies. None of those results do anything to alleviate the concerns voiced from the outset about 150—200 elk now wintering on native winter range being displaced from the Riley Ridge area. As noted in our scoping comments, this displacement will result in these elk wintering on private lands or on a nearby feedground (with the resulting impacts associated with disease transmission and commingling with livestock). With recent and ongoing concerns about the spread of brucellosis and the risk to Wyoming associated with losing its brucellosis-free status, it would indeed be irresponsible for the BLM or the State of Wyoming to be complicit in this effort.

Likewise, we remain concerned about the impacts of this proposed project on habitat for a number of other sensitive wildlife species, including, but not limited to sage grouse, raptors and Canada lynx. Given the habitats involved in the proposed project area, the number of species affected could be significantly larger and could include species identified in Wyoming's State Wildlife Action Plan. In the absence of more information from an EIS, the potential for unacceptable impacts remains significant.

8. <u>Threatened and Endangered Species</u>

Please note that key issues response in Table 1.2 for potential impacts to threatened and endangered species is incorrectly identified as Section 4.8. It should read Section 4.7.

We would like to see a more comprehensive discussion that includes potential long-term impacts described from the Rands Butte project rather than the generic format described here. The sage grouse discussion needs to be updated to include the latest candidate species listing and USFWS decision (March 2010). This discussion should include alternatives that differ from those offered since any of the transmission projects involve presentation of opportune perching habitat. We would like to suggest that in addition to the elk mitigation studies that have been coordinated for this Project, a sage grouse study that researches the species survival both before and after transmission line construction be implemented.

9. Sensitive Wildlife Species

Please note that key issues response in Table 1.2 for potential impacts to sensitive wildlife species is incorrectly identified as Section 4.8.2. It should read Section 4.7.4.

There is a noticeable lack of discussion on BLM sensitive species (Section 4.7.4) for species of greatest conservation need, sagebrush obligates, and aquatics. Due to the number of species that exist within this Project area that fall under these three categories, we request a more thorough discussion and mitigation plan. This is particularly important as it relates to the Rands Butte project rather than your typical oil and gas project. There remains a high level of concern that should a toxic gas leak occur (and one did occur from a gas well blowout in this general area a few decades ago that resulted in the death of several big game species, Wyoming Game and Fish Department conversation, 2009) wildlife and fish species (in addition to livestock and human lives) would be affected much more than that well blowout occurrence several decades ago. As already noted in the DEA and in these comments, this project involves more hazardous chemicals than the initial sour gas well.

In the Monitoring discussion in Section 4.7.4.8.2.1 (line 9753,page 335), all the species that will require a preconstruction survey needs to be identified. Further, stream and creek crossings should not occur during CRCT spawning periods.

The significance criteria defines conditions resulting from surface impacts to wildlife habitats but there lacks an adequate wildlife implementation plan for threshold exceedances to big game, sensitive species, or special status species. We request that the BLM develop such a plan for this Project.

10. Recreation Resources

This section has not been identified under the Key Issues table on page 14 of the DEA. Yet this area is considered by the Wyoming Game and Fish Department, the Forest Service (BTNF) and the BLM as a high recreation resource area. Local businesses that cater to hunting, angling, hiking, outfitting and guiding, snowmobiling, and more depend on the availability of these resource areas. The main access road in this area connects the public from BLM lands to forest service lands. Consideration should be given to development activities in this area that may be hazardous to the public and the timing of certain activities that would be coordinated with the presence of large numbers of people, such as hunting season.

We request that a more economic evaluation be developed which addresses the potential impact should outdoor recreation activities be limited or decreased. This evaluation should include impacts to the local businesses affected as well as impacts

to the Wyoming Game and Fish Department. Changes in big game migration patterns and population levels should be included in this discussion.

- ***Other Comments***

The DEA has outdated references in several instances to the Pinedale RMP management implications and should be extended to include the Pinedale Resource Management Plan ROD (2008).

The summary of the consequences of the various alternatives, including Alternative 3, do not provide sufficient depth as it relates to this specific Project. The DEA does not supply adequate and specific mitigation and monitoring guidelines for this Project. Instead, the Pinedale RMP ROD Mitigation Guidelines (Appendix 3) is offered as the defining document. While the ROD Mitigation Guidelines will provide general mitigation options and guidelines, it does not begin to cover specific issues which should be required with this innovative but dangerous Project.

Summary

The Rands Butte Project encompasses federal, state, and private lands with a broad and complex combination of elements. We endorse the proponents' efforts to reduce surface disturbance, air emissions, and other impacts in an effort to seek energy efficiency in their proposed project. We also feel that BLM needs to take a harder look at the impacts associated with this world class endeavor. Therefore, we remain committed to seeking an EIS which would provide that extra hard look at this enterprising project.

Sincerely,

Cathy Purves
Science & Technical Advisor
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cpurves@tu.org

Walt Gasson
Executive Director
Wyoming Wildlife Federation
P.O. Box 106
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307-637-5433

Office of State Lands and Investments

Funding Wyoming Public Education

122 West 25th Street
Cheyenne, WY 82002
Phone: (307) 777-7331
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slfmail@state.wy.us

Dave Freudenthal
Governor

Lynne Boomgaarden
Director

March 12, 2010

SENT VIA EMAIL

Field Manager
BLM Pinedale Field Office
P. O. Box 768
1625 West Pine Street
Pinedale, Wyoming 82941

Re: OSLI Project #2008-035
Rands Butte Gas Development Project
Draft Environmental Assessment

To Whom It May Concern:

The staff of the Office of State Lands and Investments has reviewed the captioned document and offers the following comments relative to the proposed action insofar as it pertains to the mission of this office.

Inasmuch as this office would be apprehensive to support an action that could significantly impact our lessees' use of state land and/or curtail potential opportunities that would compromise the Board of Land Commissioners' ability to manage state trust lands for income generation as prescribed by its trust obligation, we have no specific concerns regarding this project at this time.

However, notwithstanding the federal NEPA process or federal approvals, the project proponents must comply with the Rules and Regulations adopted by the Board of Land Commissioners in accordance with W.S. 36-2-107 and W.S. 36-9-118, in the event it is necessary to develop on or traverse state lands.

We appreciate this opportunity to comment. If we may be of further assistance, please do not hesitate to contact this office.

Sincerely,

Susan Child
Deputy Director

Judy Woodby/PFO/WY/BLM/DOI
03/15/2010 07:52 AM

To Bill Lanning/PFO/WY/BLM/DOI@BLM
cc
bcc
Subject Fw: Rands Butte Gas Development Project

----- Forwarded by Judy Woodby/PFO/WY/BLM/DOI on 03/15/2010 07:52 AM -----

[redacted]
03/13/2010 12:31 AM

To pinedale_wymail@blm.gov
cc
Subject Rands Butte Gas Development Project

*Please hold these communication from pubic review or from public disclosure. I'm voicing concerns of this project that lateral comments sent in earlier. This project has and will continue to disrupt land parcels consisting of private and public lands and the numerous animals both wild and domestic, disturb, disrupt and impact the natural and practiced movement of wildlife not just in a migratory point but in a year round habitat range used by numerous species of big game, birds both non-game and game status birds, raptors large and small predators of many species and the endangered cutthroat trout including the greenback cutthroat that are present in the beaver and spring creek drainage's. The pipeline and power line will multiply the disturbance not just in the area of placement but the surrounding area will become affected. The project will disrupt and impede the historic operation of numerous cattle ranches in the immediate ares that use both public and private lands, Along with disruption of these cattle operations many BLM allotments and their lease es of these lands held by permits. As of this date our ranch has experienced multiple elk encroachment in areas that we have NEVER experienced these animals . The activity involved has dispersed the elk herd that have been using this area exclusively. It appears that the approval of this project by the state of Wyoming has given cimerax the right or permission to chase any and all wildlife from this area including state school sections BLM lands and private lands, as we have witnessed numerous attempts to chase and harass the elk herd that has tried to return to the area for the last years time frame. With the dispersal of these elk has caused some commingling of these elk and our cattle herd. No government agency or company representative has stepped to the plate and approached us to ask or input or ask our concerns about this problem. The major concern is the commingling of these elk and our cattle has increased the possibilities of a brucellosis infection in our cattle herd. Knowing our cattle herd health status from the testing done privately we have worries of the infection of our herd caused by the dispersal of elk from this area they have used historically.This project will be relying on untested and unproven methods. No agency or company rep has ever mentioned the safety plan in the time frame needed to exit the area. Concerns of the likelihood of an accident or the possibility of a sour gas well blow out such as the well in this area that blew out in 1979. The safety procedures of that company was blow out first notification last. No safety plan has ever been presented for our family and employees for the safety of our people when we are about the ranch and away from the main ranch compound, where communication

contact is at a minimal if at all. With private property as close as 1 mile this is a real safety concerns that if not informed on the correct evacuation plan the fear of a wrong move and wind change might mean death. This fact has our concern levels at the maximum for a safety factor. We don't like the idea of exchanging dollars for safety and for the profits towards a few tightly connected company and ex-government officials and the large profits to and for a foreign company have shelved the safety of the surrounding neighbors and the livelihoods of the people in the immediate area behind profits and concerns for the safety of the local population.

Karl
Osvald/CFO/WY/BLM/DOI
03/14/2010 06:17 PM

To Bill Lanning/PFO/WY/BLM/DOI@BLM

cc Larry Claypool/WYSO/WY/BLM/DOI@BLM, Dave Chase/CFO/WY/BLM/DOI@BLM, Michael Madrid/WYSO/WY/BLM/DOI@BLM

bcc

Subject Review of the Draft Environmental Assessment for the Rands butte Gas Development Project, January 2010

Good Afternoon, Bill:

RE: The Draft Environmental Assessment for the Rands Butte Gas Development Project, January 2010.

The Draft has been reviewed for technical accuracy, internal factual consistency, and applicability of relevant Federal laws, regulations, landuse planning and resource management decisions, e.g., NEPA, FLMA,and Mineral leasing Act etc..

In summary, the draft document is well written and well illustrated. There are only minor editorial matters that may be in need improvement in the final , e.g., Figure 3-2, Madison structure map(Cimerex 2008) is illegible and needs to be replaced.

The Draft clearly states that the scope of the proposed project is a natural gas and helium resource development project involving state, private,and federal land located south and west of Big Piney , Wyoming. The project is designed and needed to test and implement new technologies for processing and recovering natural gas, i.e., methane, and helium reserves from the "sour gas" reserves in the Madison formation underlying the Riley Ridge Unit, The Project is also needed to help fulfill the nation's need for natural gas and helium. The new process to be tested would separate marketable gases from the complex Madison formation gas mixture, followed by immediate re-injection of the waste stream of dangerous gas by-products containing hydrogen sulfide (H2S) and carbon dioxide (CO2) back into the formation.

Cimerex, the operator, has submitted applications to drill and/or complete three federal gas wells for the production of a raw gas stream of 200 million cubic feet per day to a new Methane and Helium Recovery Facility (M&HRF)(Note: M&HRF will be located on State of Wyoming land which would processes sour gas from the Riley Ridge Unit). The life of the project is estimated to be 40 years. A federal acid gas injection well is also proposed for disposal of hydrogen sulfide (H2S) and carbon dioxide (CO2) by-product gas. Rights of way (ROW) for incoming high-voltage electricity and outgoing methane and helium pipelines, fiber optic communication cables, and other ancillary facilities and temporary use areas are also proposed. The BLM decisions under consideration in this Draft EA would determine if the proposed federal gas well would be allowed, and if federal ROW permits would be allowed for the development of pipelines, transmission lines, and other ancillary facilities for the Project, as well as the terms and conditions of any federal development.

However, there are potential complex factors that will complicate any near term and long term Federal action decision making. It is recommended that the document might be improved by discussing these more fully:

1. First, the BLM has no decision jurisdiction over the connected actions and facilities under consideration for development on State of Wyoming or private lands, such as the proposed M&HRF. In spite of the BLM's lack of jurisdiction over the non-Federal components, NEPA still requires connected actions be analyzed. Accordingly they are addressed in the Rands Butte EA to determine and disclose potential impacts from the entire proposed project and potential cumulative effects from these interdependent connected actions, along with other reasonable and foreseeable future federal and non-Federal actions in the general project area. The document points this out, but it might be expanded and strengthen for the benefit of the general public's understanding.

2. Second, the project is evaluated in the EA within the context of existing Federal regulations with some vague reference to test future technologies and techniques,i.e., geologic carbon sequestration? However, there are potential future changes in the offering that will potentially change the stated assessment of the proposed action should it be desired to qualify it as a sequestration facility, i.e., geologic carbon sequestration. Future Federal geologic carbon sequestration regulations may require different requirements for resource conservation, safety, monitoring(i.e., reservoir leaking), verification and remediation that might change environmental assessment outcomes. The document does not seem to identify, discuss or strive to make some assessment of these distinctions. This lack of clarity may confuse or create unnnecessary concerns among the public. (Note: The document does recognize that the State of Wyoming has claimed primacy over pore space for geologic carbon sequestration. However, there is no current resolution over Federal versus State primacy with this issue in split estate situations .)

3. Third, under the "Affected Environment" there are potential issues of fluid mineral drainage and mineral trespass that are not identified or discussed in the document that potentially involve Federal mineral resource estate vs. the adjacent State section and M&HRF injection operations. If this is not an issue, then it should be so declared. If it is possible, then it should be discussed and explained.

4. Fourth, the Draft does touch briefly on the importance of Helium as a mineral resource. However, the scope of the project and the significance of the Federal decision might be better communicated and served if the fact that this project, according to Cimerex, will be the largest Helium production operation in the world.

5. Fifth, incorporation of a climate change statement is recommended as per WO direction. Climate change and green house gas (GHG) reduction is a both a public concern and a concern at the federal level, although at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change.

(Note; California, in conjunction with several environmental organizations and several other states, sued to force the USEPA to regulate GHGs as a pollutant under the Clean Air Act (CAA) (Massachusetts vs. Environmental Protection Agency et al., U.S. Supreme Court No. 05-1120. Argued November 29,11 2006– Decided April 2, 2007). The court ruled that GHGs do fit within the Clean Air Act's definition of a pollutant, and that the USEPA does have the authority to regulate GHGs. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting GHG emissions. Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs.)

Please do not hesitate to contact me if I may provide additional information or comment on these observations and recommendations.

Thank You, for the opportunity to review and comment on this document.

Karl

****
****

Karl S. Osvald
Senior Geologist,
Wyoming Geologic Carbon Sequestration, Geothermal & Helium Lead,
University of Wyoming--BLM Assistance Agreement Representative
& Wyoming BLM-DOE Research Partnership Coordinator

US Department of Interior/Bureau of Land Management
Wyoming State Office Reservoir Management Group
2987 Prospector Drive
Casper WY 82604

Lauren McKeever/PFO/WY/BLM/DOI
03/16/2010 09:37 AM

To Bill Lanning/PFO/WY/BLM/DOI@BLM
cc
bcc
Subject WWP Fw: LaBarge Infill Scoping

as requested.

----- Forwarded by Lauren McKeever/PFO/WY/BLM/DOI on 03/16/2010 09:37 AM -----

"Jonathan B. Ratner " <jonathan@westernwatersheds.org>
08/21/2009 03:19 PM

To <labarge_platform_wymail@blm.gov>
cc
Subject LaBarge Infill Scoping

BLM,

We are looking for the following in this NEPA process:

1) Honest and accurate analyses. While this may seem basic, we almost never see it done. The analyses are cursory, general, fail to take into account current knowledge, fail to gather the needed data for accurate analyses, fail to examine the assumptions and analyses of previous NEPA to determine flaws and inaccuracies and learn from past mistakes, underestimate all impacts and overestimate all 'benefits'.
2) Don't outsource the NEPA process – Universally we find outsourced NEPA whether they be RMP's or site specific are more expensive and of poorer quality when outsourced. The contractor nearly always has a conflict of interest since most of their business is doing analyses for industry so if they were honest they would never be hired by industry to do their NEPA for them again.
3) The area in question has failed 5 of the 6 Rangeland Health Standards. BLM can not permit activities that violate Rangeland Health Standards.
4) The BLM needs to stop cutting things into small pieces and start thinking holistically. All the fields in the FO need to be managed under one set of rules. PAWG, JIO etc need to be merged to cover the whole FO.
5) 1,000 new wells in a non-attainment zone, now that is a very bright idea. Pretty basic here. How can the BLM allow continued expansion when the amount already permitted has created a toxic sewer of our air and violates the CAA?
6) Phased development – finish nuking PAPA and Jonah and when those fields are exhausted then allow them to finish destroying LaBarge.
7) Only allow directional drilling. No new pads no new roads.
8) $1 billion in off-site mitigation

Jonathan B. Ratner

Western Watersheds Project

Wyoming Office
PO Box 1160
Pinedale, WY 82941
Email: Wyoming@WesternWatersheds.org
Web site: www.WesternWatersheds.org

Working to protect and restore Western Watersheds

Field Office Manager
BLM
1625 West Pine St.
Pinedale, WY 82941

Wyoming Office
PO Box 1160
Pinedale, WY 82941
Tel: (877) 746-3628
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Working to protect and restore Western Watersheds

Western Watersheds Project

Field Office Manager
BLM
1625 West Pine St.
Pinedale, WY 82941

March 12, 2010

Dear Field Office Manager,

The following are our comments on the Rand Butte EA.

We incorporate our scoping input to the LaBarge Infill NEPA including attachments as part of these comments.

First and foremost, the magnitude of the project clearly requires an EIS because of the obviously significant impacts which will occur.

It is also clear from the NEPA analysis that there is no rational basis to conclude that it is necessary for the BLM to permit any of these actions on BLM lands.

The EA determines that the project will not have any "significant impacts" but the EA is devoid of any quantitative thresholds of significance. Without these thresholds defined the BLM has no way of comparing the expected impacts with the significance thresholds.

The area is currently failing standards for rangeland health (43 CFR 4180). The previous assessment indicated significant watershed degradation by the current oil and gas development. This issue was ignored by the EA.

Section 2.8 utilizes the same faulty logic as proponents of drilling in the ANWR. The BLM only states actual bulldozed acres and ignores the issues of habitat fragmentation and degradation.

“Erosion hazards of these soils are slight to severe and the reclamation potential is generally poor to fair. The steep slopes, short growing season, calcareous surface horizons, and high landslide potentials limit management opportunities in these areas.”

Neither is the information provided in the EA is shown above factored into the analyses and mitigation, the EA fails to discuss the relationship between these soil properties and the current experience with similar development within the area. Such analysis is critical for an honest and informed decision-making process.

The EA states "Further on-site evaluation of soils described using this data is recommended to determine construction suitability and erosion susceptibility." But without this information the NEPA document cannot provide the information necessary to comply with NEPA disclosure requirements.

Section 3.3.4 likewise, lays out clearly the highly sensitive nature of the soils within the area yet somehow comes to the conclusion that, despite the experience regarding these issues throughout the oil and gas development surrounding this area, that somehow significant impacts, even though they are being displayed elsewhere surrounding this area would not come about now. This is illogical and unsupported by either experience, literature or common sense.

The NEPA document fails to accurately display these soil properties with the proposed actions overlaying. This is of course critical information and informed decision-making process.

The EA states that archaeological surveys have been completed but fails to provide any information regarding total acreage covered or a map of survey areas in comparison to the project area. Later on in the EA it states that surveys "are being conducted to identify cultural resources". Which of these is correct?

The EA states "A complete Class III (intensive) cultural resource inventory report by a BLM permitted third-party contractor is in progress and will be submitted to inform final BLM decisions regarding the mitigation measures" but this information is critical to the analysis of hand. You cannot have a valid NEPA analysis without this information. In addition, this information must be disclosed to the public prior to decision not afterwards.

In the effects section, the BLM lays out a few qualitative descriptions of what would be significant impacts, yet the NEPA analysis fails to specifically address those "thresholds". In fact, the text frequently indicates significant impacts but the final result is never significant. This seems arbitrary.

Sections often list mitigation measures but frequently these will be developed in the future and so neither the public nor the decision-maker has the ability to examine them or their effectiveness. This violates NEPA.

Many of these mitigation and monitoring measures look good on paper but are essentially worthless. An example of such is line 6954 where no monitoring is actually required to determine if the water table is shrinking and thus, the actions described later on in that section will never be implemented because no monitoring is required that would trigger those actions. So it looks good on paper but is worthless in reality.

The EA states "The inability to revegetate disturbed areas with pre-disturbance or suitable alternate native species would also be considered a significant impact." Yet the

EA completely ignores the experience within and surrounding the analysis area where such revegetation failures are the norm not the exception.

We are certainly willing to meet any time to further discuss these issues prior to the point that you issue an EIS and the decision.

Sincerely,

Jonathan B Ratner
Director – Wyoming Office

Joey Sheeley

From: Bill_Lanning@blm.gov
Sent: Tuesday, March 16, 2010 7:02 PM
To: Claudia Oakes
Subject: Fw: Rand's Butte Gas Development Project

----- Forwarded by Bill Lanning/PFO/WY/BLM/DOI on 03/16/2010 07:01 PM -----

Judy Woodby/PFO/WY/BLM/DOI
02/02/2010 04:56 PM

To: Bill Lanning/PFO/WY/BLM/DOI@BLM
cc:
Subject: Fw: Rand's Butte Gas Development Project

----- Forwarded by Judy Woodby/PFO/WY/BLM/DOI on 02/02/2010 04:56 PM -----

Alan J Verploeg <Verploeg@uwyo.edu>
02/02/2010 03:34 PM

To: "pinedale_wymail@blm.gov" <pinedale_wymail@blm.gov>
cc: "Ronald C. Surdam" <RSurdam@uwyo.edu>, Steve Furtney <SFURTN@state.wy.us>
Subject: Rand's Butte Gas Development Project

BLM Pinedale Field Office
Field Manager:

The Wyoming State Geological Survey (WSGS) has reviewed the Draft Environmental Assessment for the proposed Rand's Butte Gas Development Project. We have reviewed the document as it pertains to geology, minerals, energy, water, hazards, paleontology, etc., looking for any potential conflicts between resources. The WSGS has no comments or concerns relative to this document at this time and will review the EA when available.

Sincerely,

Alan J. Ver Ploeg
Assistant Director/Senior Geologist
Wyoming Professional Geologist PG-1587
Wyoming State Geological Survey
P. O. Box 1347
Laramie, WY 82073-1347
Phone: 307-766-2286 ex 230
E-mail: verploeg@uwyo.edu

Joey Sheeley

From: Bill_Lanning@blm.gov
Sent: Tuesday, March 16, 2010 7:01 PM
To: Claudia Oakes
Subject: Fw: Rands Butte EA question

Bill Lanning
Resource Advisor
High Desert District
P.O. Box 768
Pinedale, WY 82941
(307) 367-5318
Fax: (307) 367-5129
----- Forwarded by Bill Lanning/PFO/WY/BLM/DOI on 03/16/2010 07:00 PM -----

Dan Heilig <dan@westernresources.org> 03/16/2010 03:07 PM

To: Bill_Lanning@blm.gov
cc: Cathy Purves <cpurves@tu.org>
Subject: Rands Butte EA question

Hi Bill,

I was hoping you might be able to help me understand and perhaps resolve what appears to be an inconsistency between information presented in the scoping notice and the EA regarding the volume of processed gas that would be processed at the facility.

The scoping notice (at page 3 of 14) states that "the project would result in a maximum production of 200 million cubic feet per day
(MMSCD) of processed natural gas."

The EA (at 6) states that "the Project would result in a maximum production of approximately 39 million cubic feet per day (MMSCFD) of dehydrated natural gas."

1) "dehydrated" means "processed", yes?

2) if the answer to #1 is yes, why is there such a large disparity in the numbers?

3) both statements refer to natural gas (Methane) correct?

4) if the raw (unprocessed) gas composition in the Madison Formation is as stated in the EA at 81 (69.4% CO_2; 18% methane; 7.5% nitrogen; 4.5% H_2S; and 0.6% helium), can you tell me the

total volume of raw/ unprocessed gas that would be processed at the facility each day? I don't see this number anywhere in the EA.

5) How much acid gas will be re-injected each day? Again, I don't see this information in the EA.

Thanks Bill.

Dan Heilig
Staff Attorney
Western Resource Advocates
262 Lincoln Street
Lander, WY 82520
307-332-3614

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Wyoming State Office

Comments on Draft Rand Butte Gas Development EA

Chuck Otto - Project Manager – WY-920

March 15, 2010

Overall we find the document well written, logical in format and informative. We also feel it provides the deciding official all the necessary information required to make an informed decision between the alternatives presented. If we have any criticism of any sort it would be that certain portions of the document may contain too much information for the decision at hand, but unfortunately that seems to be the path we are on all across the Bureau. Overall we would like to commend the Pinedale Field Office for the fine job you have done in preparation of the draft document.

The following are specific technical or editorial comments:

Page 9, Table 1-1. We find this table to be well done and of great value showing the public the complex and complicated system needed to obtain all approvals for this project.

Page 17. Alternatives. General Comment: Although the numerous tables in each alternative which break down impacts by project components are a great help, a summary table comparing each of the alternatives with their direct and indirect impacts by resource would also be of value and we suggest adding one in the Final document.

Page 160 Section 3.10.1. There is no mention of the Sublette County Land Use Plan in this section. The Sublette County plan primarily focuses on public and not private land and as such be mentioned. We believe all facets of this project are compatible with the goals of the Sublette County Land Use Plan and should be stated as such.

Page 174 Transportation: There is no mention in this section on current BLM road status or condition. Are these roads open, restricted or closed to use? What is their current condition and what will the end status be?

Page 406 Transportation: Although 23 miles of BLM ROW's are listed, what is the impact to the public using these roads? Will they be open to public use, restricted or closed? Also what is the ultimate disposition envisioned for these roads upon abandonment of the project? Rehab, closure, upgrade etc.

Page 521 Glossary and Acronyms: Please add CIAA to the list.

Climate Change: In keeping with departmental policy it is recommended some discussion of the impact of this project on climate change and global warming as well as the potential effect of climate change on the project be presented.

Thank you for the opportunity to comment on this project.

Joey Sheeley

From: Rusty_Kaiser@blm.gov
Sent: Friday, March 05, 2010 3:53 PM
To: Lisa_Solberg@blm.gov
Cc: Laura Leslie Burckhardt
Subject: Fw: Federal Register - Sage-Grouse
Attachments: GreaterSageGrouseFindingtoFederal RegisterMar2010.pdf

Lisa,
My understanding is that the grouse is still under G&F jurisdiction and not USFWS until it is actually listed. Even though it is now a Candidate, does it change the BA?

Rusty Kaiser
Wildlife Biologist
Pinedale Field Office
(307) 367-5317
----- Forwarded by Rusty Kaiser/PFO/WY/BLM/DOI on 03/05/2010 03:47 PM -----

"Laura Leslie Burckhardt" <lleslie@swca.com> 03/05/2010 03:03 PM

To <Rusty_Kaiser@blm.gov>, <Lisa_Solberg@blm.gov>
cc
Subject FW: Federal Register - Sage-Grouse

Hi Lisa & Rusty,

Attached is the federal register for the sage-grouse decision. The register states that the listing is warranted but precluded at this time. I am working on updating the Cimarex BA and wanted to check with you and see how this finding will influence the BA. My primary question is if the sage-grouse is not considered an candidate species and thus should be moved out of BLM sensitive species category into the USFWS T&E and Candidate species section? This will also pertain to the EA.

Thanks
Laura

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Laura Leslie Burckhardt
Aquatic Ecologist

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 P Please consider the environment before printing this email. (See attached file: GreaterSageGrouseFindingtoFederal RegisterMar2010.pdf)

Joey Sheeley

From: Lisa_Solberg@blm.gov
Sent: Monday, March 08, 2010 8:55 AM
To: Rusty_Kaiser@blm.gov
Cc: Laura Leslie Burckhardt
Subject: Re: Fw: Federal Register - Sage-Grouse
Attachments: GreaterSageGrouseFindingtoFederal RegisterMar2010.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Under the status of Candidate the FWS encourages the action agency to "conference" on the species in question, the same as how we treat the yellow-billed cuckoo. I recommend that we add sage grouse to the BA so that the Service knows what is going on. At some point the BLM may put together a programmatic BA with specific conservation measures. For now I would put in all the COAs for sage grouse that we are implementing in the project and the call would be "not likely to jeopardize the continued existance of sage grouse" because I don't think we can have a "no effect"
call. Basically by putting it into the BA know the Service can keep track of how we are managing grouse and show whether it needs to be listed in the future. I think we could just cut and paste the impacts analysis from the EA.

Lisa M. Solberg
BLM, Pinedale Field Office
Wildlife Biologist, Threatened and Endangered Species Specialist
1625 W. Pine Street, P.O. Box 768
Pinedale, WY 82941
Phone: (307) 367-5340
Fax: (307) 367-5329

Rusty Kaiser/PFO/WY/BLM/DOI
03/05/2010 03:53 PM

To: Lisa Solberg/PFO/WY/BLM/DOI@BLM
cc: "Laura Leslie Burckhardt" <lleslie@swca.com>
Subject: Fw: Federal Register - Sage-Grouse

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Rusty Kaiser
Wildlife Biologist
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(307) 367-5317
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"Laura Leslie Burckhardt" <lleslie@swca.com> 03/05/2010 03:03 PM

To: <Rusty_Kaiser@blm.gov>, <Lisa_Solberg@blm.gov>

cc:

Subject: FW: Federal Register - Sage-Grouse

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Thanks
Laura

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P Please consider the environment before printing this email. (See attached file: GreaterSageGrouseFindingtoFederal RegisterMar2010.pdf)