APPENDIX L: DRAFT EIS COMMENTS AND RESPONSES

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INTRODUCTION

This appendix provides the BLM's response to comments received on the Continental Divide-Creston Natural Gas Development Project Draft EIS. The appendix includes:

- An overall summary of the public comment process—soliciting, receiving, and evaluating comments on the Draft EIS.
- Instructions for finding specific comment letters and e-mails (collectively referred to as comment letters).
- **Table L-1**, which contains respondent information for all comment letters received on the Draft EIS. A ***respondent*** is defined as the author of a comment letter and may be an individual, agency, business, or organization.
- **Tables L-2 and L-3**, which contain a listing of substantive comments arranged by category, and the agency response to each comment. Table L-2 includes comments in all categories except Air Quality, which are included in Table L-3.

PUBLIC COMMENT PROCESS

The CEQ regulations (40 CFR 1503.1) require that federal agencies invite review and comment on the Draft EIS. The BLM NEPA Handbook H-1790-1 specifies a comment period of at least 45 days. [And CEQ at 1506.10.] A notice of availability (NOA) was published in the Federal Register (Vol. 75, No. 14) by the BLM on December 7, 2012, announcing the availability of the Draft EIS for public review and comment. The original close of the 45-day comment period was January 18, 2013; however, the comment period was subsequently extended an additional 45 days until April 6, 2013 to allow additional time for comment.

Following the release of the Draft EIS, the BLM Rawlins Field Office (RFO) hosted a public meeting in Rawlins on January 15, 2013 to provide the public with an opportunity to comment on the information contained in the Draft EIS.

During the 90-day comment period, written comments were accepted through a variety of formats, including submission at the public meeting on January 15, 2013. Individuals who submitted oral comments at the public meeting were advised that for the comment to be considered and included in the document, it needed to be submitted in writing. Comment forms were provided at the public meeting.

In all, 8,657 comment letters and emails were received during the public comment period for the Draft EIS. Of these, 8,586 were email letters containing the exact same—or very similar—verbiage. These form letters were treated as a single unique comment. Unique comment letters were received from 71 other individuals and organizations: four federal agencies, four county agencies (Carbon and Sweetwater Counties), four Wyoming State agencies, 16 non-governmental organizations, 11 members of the oil and gas industry, and 33 private individuals. Original comment letters may be viewed by contacting the Rawlins Field Office (RFO).

COMMENT REVIEW PROCESS

All comment letters not identified as form letters were categorized by the type of respondent, as follows:

C	County Agency	In	Oil and Gas Industry
F	Federal Agency	O	Organization
S	State Agency	P	Private Individual

To create a unique ***Respondent ID*** for each comment letter, the comment letters were then numbered sequentially in the order received. For example, the Respondent ID for the Carbon County Board of

County Commissioners is C01, indicating it was the first comment letter received from a County. A complete list of respondents and their corresponding Respondent IDs is included in **Table L-1**.

BLM personnel reviewed all unique comment letters and broke them down into individual comments. Comments within each letter were sequentially numbered and the comment number was added to the Respondent ID to create a unique ***Comment Code***. For example, the first comment from the Carbon County Board of County Commissioners is C01-1. Comments were then identified by resource or discipline category for analysis and response.

Consistent with NEPA regulations (40 CFR 1503.4[b]), this appendix focuses on *substantive comments* on the Draft EIS. Substantive comments include those that:

- question, with reasonable basis, the accuracy of information in the EIS or EA;
- question, with reasonable basis, the adequacy of, methodology for, or assumptions used for the environmental analysis;
- present new information relevant to the analysis;
- present reasonable alternatives other than those analyzed in the EIS or EA; and/or
- cause changes or revisions in one or more of the alternatives.

Comments that are not considered substantive include comments in favor of or against the Proposed Action or alternatives without reasoning that meets the criteria listed above, comments that only agree or disagree with BLM policy or resource decisions without justification or supporting data that meet the criteria listed above, comments that do not pertain to the project area or the project, and comments that take the form of vague, open-ended questions.

The CEQ regulations recognize several options for responding to substantive comments, including:

- modifying one or more of the alternatives as requested;
- developing and evaluating suggested alternatives;
- supplementing, improving, or modifying the analysis;
- making factual corrections; or
- explaining why the comments do not warrant further agency response.

Responses to substantive comments to the Draft EIS are described in **Table L-2**. Each entry in the table is a distinct comment extracted from a comment letter and contains the Comment Category (see the list of category abbreviations below), Subcategory, Comment Code, Comment, and its Response. Please note that unique comments are generally quoted verbatim from the original letter, as indicated by quotation marks. Those that were especially lengthy and/or that represented similar points of view were paraphrased. Text quoted directly from the Draft EIS is shown in italics.

Comment Category Abbreviations

ALT	Alternatives (General)
ALT A	Alternative A
ALT B	Alternative B
ALT C	Alternative C
ALT D	Alternative D
ALT E	Alternative E
AQ	Air Quality
BMP	Best Management Practices, Conditions of Approval
CH1	Purpose and Need, Issues, Regulatory Background
CR	Cultural Resources
GEO	Geology and Paleontology
GN	General, administrative, Resource Management Plan, chapter introductions, miscellaneous
H&S	Health and Safety
HAZ	Hazardous Waste
INV	Invasive Species
NO	Noise
OG	Oil & Gas and Other Minerals
PA	Proposed Action
RCL	Reclamation
REC	Recreation, LWCs, ACECs
RG	Range
SE	Socioeconomic
SL	Soils
SS	Sensitive Species
T&E	Threatened, Endangered, Candidate, and Proposed Species
TR	Transportation and Access
VEG	Vegetation
VRM	Visual Resource Management
WH	Wild Horses
WL	Wildlife
WR-G	Water Resources - Groundwater
WR-S	Water Resources - Surface

Responses referring readers to information contained in another comment/response entry cite the referenced Comment Code. For example, a response guiding the reader to see the response to C01-1 is referring the reader to the first comment from Respondent C01, the Carbon County Board of County Commissioners.

Table L-1. Draft EIS Respondents

Respondent ID	Respondent Name	Agency/Company
F01	Bohan, Suzanne J.	US EPA
F02	Jiron, Daniel J.	USDA Forest Service
F03	Field Supervisor	USDI Fish & Wildlife
F04	Air Resources Division	USDI National Park Service
S01	Mead, Matthew H.	Office of the Governor
S02	Fearneyhough, Jason	Wyoming Dept. of Agriculture
S03	Wagner, John	Wyoming DEQ WQD
S04	Emmerich, John	Wyoming Game & Fish
C01	Chapman, Leo	Carbon County Board of County Commissioners
C02	Connelly, Kent	Coalition of Local Governments
C03	Johnson, Wally W.	Sweetwater County Commissioners
C04	Rolston, Rich & Joel Bousman	Wyoming County Commissioners Assn.
O01	Bannon, Joy & Michael Saul	Wyoming Wildlife Federation
O02	Wischmann, Lesley	Alliance for Historic Wyoming
O03	Rutledge, Brian & Daly Edmunds	Audubon Rockies - Policy Office
O04	Molvar, Erik on behalf of Jonathan Ratner	Biodiversity Conservation Alliance
O05	States, Jim B.	Platte Valley Trout Unlimited
O06	Novak, Anne	Protect Mustangs
O07	Kathrens, Ginger & Suzanne Roy	The Cloud Foundation
O08	Kathrens, Ginger & Suzanne Roy	The Cloud Foundation; RSGA decree attachment
O09	Thagard, Neil	Theodore Roosevelt Conservation Partnership
O10	Purves, Cathy	Trout Unlimited
O11	Campbell, Judd	Voices of the Valley
O12	Dan Thompson, PhD	Wildlife Society - Wyoming Chapter
O13	Mong, Tony & Dan Thompson	Wildlife Society - Wyoming Chapter
O14	Lee, Chesie	Wyoming Assn. of Churches
O15	Williams, Megan	Wyoming Outdoor Council
O16	Dewell, Pamela	Wyoming Stock Growers Land Trust
In01	Lawson, Chrissy	Anadarko
In02	Robinson, Tom	BP America Production Company
In03	Robinson, Tom	BP America Production Company attachment to letter
In04	Austin, Gary	CD-C Proponents (via BP)
In05	Bolles, Randy	Devon Energy
In06	Michael Keller	Fidelity Exploration & Production
In07	Joe Redman	QEP Energy Co.
In08	Smith, Heather	Samson Resources Company
In09	Rinke, T.J.	Williams Production
In10	Westbrook, Shay	Yates Petroleum Corp., by Gene R. George & Associates
In11	Wagner, Esther / Claire Moseley	Petroleum Assn. of Wyoming / Public Lands Advocacy
P01	Malone, Adolphus	Peter Hansen Ranch
P02	Burke, Birgit Fowler	
P03	Schmid, Pat	
P04	Mathia, Carol	
P05	Van Valkenburg, J.	
P06	O'Keefe, Michael	
P07	Koritnik, Mary and Joe	
P08	Bloomquist, Cynthia Gove (Larsen)	
P09	Russom, Rich	

Respondent ID	Respondent Name	Agency/Company
P10	Rucker, Isabel	
P11	Lynch, Janet	
P12	Jasper, Robert	
P13	Hughes, Barbara	
P14	Sample form letter	
P15	Becklund, Kerry	
P16	Kartes, Jane	
P17	Mcneill, Sheryle	
P18	Levy, Barbara	
P19	Fullbright, Audette	
P20	Spencer, Sue	
P21	Cleveland, Heidi	
P22	Raynolds, Linda	
P23	Irwin, Michele	
P24	Patterson, Thor & Lora	
P25	Litwin, Patrice	
P26	Berto, Connie	
P27	Allen, Robert	
P28	Cook, Edith	
P29	Malone, Martha & Baby Boy	
P30	Douglas, Dianne	Bison Connect
P31	No name provided	Basic Energy
P32	Kennedy, T.	Basic Energy
P33	Wells, J. L.	Basic Energy

Table L-2. Comments and Responses (see Table L-3 for Air Quality)

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT	1/4-mile buffer	S04	14	We recommend 1/4-mile buffer around Red Wash, springs, wells, and wetlands, increasing to 1/2-mile perennial streams including Muddy Creek. This buffer would incorporate SGCN amphibian and reptile average home range and migration distances and would minimize sediment and salinity input into the Colorado River Drainage. Exceptions should only granted based on analysis of site-specific engineering and mitigation plans. Only actions that could not be avoided and that would provide protection for the resource identified should be approved.	Alternative B proposes to have 0.25-mile buffers around sensitive water resources such as Red Wash and Muddy Creek. This would require the initiation of an RMP amendment; this requirement has been clarified in the Final EIS. However, due to the abundance of private lands bordering Muddy Creek, the ability of the BLM to implement and enforce such a buffer would be limited.
ALT	Against Alternative D, feasibility	In05, In08	2	We are opposed to Alternative D, which would require 100% directional drilling. There is a significant degree of uncertainty as to where O&G resources can be most appropriately developed in CD-C. BLM would preclude or at least significantly curtail future operation in the area. It would be virtually impossible to adequately develop the federal government's resources from a single drilling location within most areas. Operators would be unable to develop and effectively drain the federal resources within their lease.	Thank you for your comment.
ALT	Alkaline wetland communities	S04	13	A transportation and development plan needs to be completed within the first year after signature of the ROD, to include avoidance areas such as the alkaline wetland communities at Chain Lakes. The Preferred Alternative should identify avoidance of surface-disturbing and disruptive activity within 0.25 mile of any Chain Lakes alkaline wetland community or the ordinary high water mark of other playas.	The Transportation Plan (Appendix N) will be implemented once the ROD is signed. Management of the Chain Lakes WHMA is part of the Rawlins RMP and will be addressed in a separate management plan. Alternative B proposes to avoid the Chain Lakes and other playas by 0.25 miles, and would require the completion of an RMP amendment in order to be implemented, as indicated in the revised text of Alternative B in the Final EIS.
ALT	Alternative B	O07	1	"...if this project proceeds, we urge the BLM to implement Alternative B [and] Wild horses must be added to the list of resources to be protected. "	Wild horses would indirectly benefit from the provisions in Alternative B that are directed towards livestock and wildlife. At this point, adding wild horses specifically as a resource to be protected in Alternative B would result in a significant change between the Draft EIS and the Final EIS.
ALT	Alternative B	O02	2	"..we would prefer... no action... [However, Alternative B] 100% directional drilling will diminish the need for more extensive Class III resource surveys [due to diminished surface disturbance]."	Thank you for your comment

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT	Alternative D	O03	9	Audubon supports Alternative D, with modifications. Alternative B and C both contain protective measures that should be added.	Thank you for your comment.
ALT	Alternative D	O04	68	Under this project, there is an opportunity for BLM to approve all 8,950 wells and achieve complete fluid mineral resource development while still providing an adequate level of protection for sensitive lands and wildlife habitats. This balance would be based on Alternative D, with the addition of elements of other alternatives and additional mitigation measures as outlined above to provide greater protection for habitats of mule deer, pronghorn, sage grouse, pygmy rabbit, Wyoming pocket gopher, Muddy Creek aquatic habitats, and other BLM Sensitive Species. We would urge BLM to adopt this “doing it right” approach to minimize the additional impacts of oil and gas development on sensitive wildlife species in this area. We appreciate the opportunity to comment on this project; please notify us of all future opportunities for public involvement in this effort.	Thank you for your comment.
ALT	Alternative D	C01	5	Carbon County generally supports Alternative D: Directional Drilling, which appears to have the least impact on the affected environment while allowing full development of the resource. Carbon County supports the objectives of Alternative D to minimize surface disturbance, reduce habitat loss and wildlife disruption.	The Preferred Alternative (Alternative F) incorporates design features that are intended to minimize impacts to identified sensitive resources, in particular impacts to the Muddy Creek and Bitter Creek watersheds. By limiting the number of well pads to eight per section, surface disturbance should be reduced and directional drilling encouraged. A dust control plan **(Appendix P**) has been incorporated as part of Alternative F. Because this is an infill project, most road development will be limited to the construction of resource and/or local roads. The larger arterial roads have already been constructed. To aid in transportation planning, the CD/WII Transportation Plan has been updated and included (**Appendix N**) as part of the Preferred Alternative. Specific measures for the Muddy Creek watershed have been incorporated into Alternative F as design features.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT	Alternative D	C01	8	A combination of alternatives, with particular emphasis on Alternatives B and D, may be acceptable if it is necessary to provide development flexibility while minimizing impacts.	The Preferred Alternative (Alternative F) incorporates design features that are intended to minimize impacts to identified sensitive resources, in particular impacts to the Muddy Creek and Bitter Creek watersheds. By limiting the number of well pads to eight per section, surface disturbance should be reduced and directional drilling encouraged. A dust control plan **(Appendix P**) has been incorporated as part of Alternative F. Because this is an infill project, most road development will be limited to the construction of resource and/or local roads. The larger arterial roads have already been constructed. To aid in transportation planning, the CD/WII Transportation Plan has been updated and included (**Appendix N**) as part of the Preferred Alternative. Specific measures for the Muddy Creek watershed have been incorporated into Alternative F as design features.
ALT	Alternative D	F03	1	The Service recommends maximizing use of directional drilling while minimizing the size of well pads and other facilities, like Alternative D.	See response to C01-8 above.
ALT	Alternatives A and D	In01	1	Although BLM included directional drilling as a separate alternative, we do not believe 100-percent vertical or directional drilling should be separate alternatives, especially in light of APC's and other operators' commitment to drill directional where feasible from a technological and economical perspective.	The CD-C operators did not specify that any particular method of drilling would be used. Alternative A merely examines the possibility that all drilling would be done using conventional vertical drilling technology. It represents as well the likely maximum amount of surface disturbance the project might produce.
ALT	Alternatives B and D	O10	1	Trout Unlimited supports a combination of Alternative B with Alternative D, creating stronger protection measures while still allowing full access to the natural gas resources.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT	Horizontal drilling	C02	8	"...the Draft EIS developed Alternatives that...appears to preclude horizontal drilling while allowing directional drilling without any explanation."	It is not BLM's intent to preclude horizontal drilling and such an intention is not expressed in the Draft EIS. The development of this EIS was based on the Proposed Action and the Project Description in Appendix B that was submitted by the Operators. No mention of oil development or the use of horizontal drilling was made in the project description. The Proposed Action and alternatives were developed based on the presumption that the Operators were intending to develop natural gas, not oil. Therefore, horizontal drilling and the development of oil is not analyzed in this EIS. If Operators intend to develop oil, then applications for such would be analyzed under a separate NEPA document to address the different impacts associated with the development of oil.
ALT	Low impact	O14	2	"We advocate for the use of lower impact directional drilling to concentrate rigs, pumps, roads, trucking. And pads in central locations [to minimize] surface disturbance [and project-related activities]."	Alternative B encourages these provisions and Alternative D would consolidate drilling pads and concentrate drilling activities, in addition all the Action Alternatives would incentivize the use of directional drilling technology.
ALT	Mitigate the loss of AUMs	C01	22	The development of off-site water wells to mitigate the loss of AUM' s would also be consistent with the Carbon County goal to retain ranching and agriculture as the preferred land uses in rural areas.	Thank you for your comment.
ALT	Population thresholds	S04	4	Page 2-9, Population Thresholds: Thresholds are not based on habitat only, they are also affected by other factors. It should not be WGFD's responsibility to be the alarm bell for population thresholds for BLM-permitted activities. Rather, the ROD should identify those thresholds that will or will not affect future permitting/development activities. The presence of fee mineral estate where stipulations to protect wildlife populations don't apply compounds the potential for decline. The Draft EIS doesn't identify levels of acceptable decline. The ROD should identify when declines are acceptable and when the declines will affect future activities.	Please see the revised text. Under this alternative, the BLM would now make the determination as to when populations are being affected and for initiating the development of mitigation plans.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT	Preferred Alternative	O04	3	Overall, we support the implementation of Alternative D with certain modifications. Permitting 6,126 additional well pads presents an unacceptable level of impact even within a developed field, and represents unnecessary and undue degradation of public lands and wildlife habitats, because most of these impacts are readily avoidable through the requirement of directional drilling from existing well pads or well clustering at a maximum density of one well pad per square mile in the case of presently undeveloped areas. We understand that some oil and gas lessees will be more eager to implement this alternative than others, but all must understand the BLM's obligation to manage these lands for multiple uses (not the sole benefit of the oil and gas industry) and the limitations on the rights of mineral lessees, which all exploration and development only to the extent approved by BLM and subject to Conditions of Approval that are applied at the project-level scale. It is the agency's obligation to arrive at a Decision that best balances the needs of all public lands users, not the Decision that is most acceptable to all oil and gas operators participating in the Project.	Thank you for your comment.
ALT	Preferred Alternative	C02	4	"The Draft EIS...does not identify a Preferred Alternative. The assumption that it need not identify a Preferred Alternative at the project level is wrong. The CEQ rules do not exempt a project proponent EIS from the requirement to identify the Preferred Alternative, if there is one. See also BLM NEPA Handbook, H-1790-1, 9.7.2, 9.7.3...Failure to disclose it violates the transparent decision-making obligations that BLM owes the public. "	CEQ regulations at 40 CFR 1502.14(e) direct that a Preferred Alternative be identified in the draft statement if one exists. As stated in the draft EIS in Section 2.1, "The BLM does not have a Preferred Alternative for the CD-C Natural Gas Development Project at this time. The BLM believes that the Proposed Action and the action alternatives all have elements that would address the project purpose and need and will review public comment on the Draft EIS before determining a Preferred Alternative. A Preferred Alternative will be designated in the Final EIS."
ALT	Preferred Alternative	C02	5	Failure to identify and analyze the Preferred Alternative renders the Draft EIS process insufficient.	Please see the response to Comment C02-4 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT	Preferred Alternative	In05, In08	14	BLM did not select a Preferred Alternative even though Wyoming IM 2008-019 requires one.	CEQ regulations at 40 CFR 1502.14(e) direct that a Preferred Alternative be identified in the draft statement if one exists. As stated in the Draft EIS in Section 2.1, "The BLM does not have a Preferred Alternative for the CD-C Natural Gas Development Project at this time. The BLM believes that the Proposed Action and the action alternatives all have elements that would address the project purpose and need and will review public comment on the Draft EIS before determining a Preferred Alternative. A Preferred Alternative will be designated in the Final EIS."
ALT	Preferred Alternative	S01	1	The Governor requests that the BLM work with cooperating agencies to develop a Preferred Alternative.	Thank you for your comment.
ALT	Preferred Alternative	S01	2	The Governor encourages the BLM to create a Preferred Alternative that does not prohibit any one drilling technique and that recognizes the variety of surface conditions, reclamation potential, and reservoir characteristics, including other formations, that exist within the project area.	The Preferred Alternative (Alternative F) incorporates design features that are intended to minimize impacts to identified sensitive resources, in particular impacts to the Muddy Creek and Bitter Creek watersheds. By limiting the number of well pads to eight per section, surface disturbance should be reduced and directional drilling encouraged. A dust control plan **(Appendix P**) has been incorporated as part of Alternative F. Because this is an infill project, most road development will be limited to the construction of resource and/or local roads. The larger arterial roads have already been constructed. To aid in transportation planning, the CD/WII Transportation Plan has been updated and included (**Appendix N**) as part of the Preferred Alternative. Specific measures for the Muddy Creek watershed have been incorporated into Alternative F as design features.
ALT	Preferred Alternative	C03	3	Identify Preferred Alternative: Within the Draft EIS, Sweetwater County strongly encourages the BLM to identify a Preferred Alternative.	See response to IN05-14 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT	Preferred Alternative	O12/ O13	2	If the BLM has a Preferred Alternative this should be make known to the public. If a Preferred Alternative is stated there needs to be adequate time for public input.	CEQ regulations at 40 CFR 1502.14(e) direct that a Preferred Alternative be identified in the draft statement if one exists. As stated in the draft EIS in Section 2.1, ”The BLM does not have a Preferred Alternative for the CD-C Natural Gas Development Project at this time. The BLM believes that the Proposed Action and the action alternatives all have elements that would address the project purpose and need and will review public comment on the Draft EIS before determining a Preferred Alternative. A Preferred Alternative will be designated in the Final EIS.”
ALT	Preferred Alternative	O12/ O13	6	Due to the extent of the project and amount of disturbance estimated to result and lack of acceptable and adequate reclamation techniques in the existing fields, the operators should be required to use less intrusive development techniques. This would include utilization of multiple well pads which would result in less disturbance per well. The operator's proposal calls for 42% of the wells to be drilled from multiple well pads, but current technologies could potentially increase this percentage, thus decreasing the level of disturbance.	The Agency Preferred Alternative requires Operators to consider the use of closed-loop drilling in the sensitive watershed of Muddy Creek and Bitter Creek. However, not all development can occur using closed-loop drilling and some exceptions would have to be granted. Operators are currently drilling upwards of 85 percent of their wells directionally; it would be difficult for the BLM to incentivize directional drilling as the majority of the drilling occurring in the field office is being completed through a directional drilling program.
ALT	Preferred Alternative	O12/ O13	25	There does not seem to be notice of a Preferred Alternative in the document for public discussion.	See response to O12-2 above
ALT	Preferred Alternative	S03	1	The WQD recommends a Preferred Alternative in the Final EIS that combines the water protection features of Alternative B (avoidance areas around streams; monitoring and reporting or erosion BMPs; Muddy Creek monitoring), the multi-well drilling of Alternative D, and the reclamation incentives of Alternative C.	Alternative F, the Agency Preferred Alternative incorporates design features that are intended to minimize impacts to identified sensitive resources, in particular impacts to the Muddy Creek and Bitter Creek watersheds. By limiting the number of well pads to 8 per section, surface disturbance should be reduced and directional drilling encouraged. A dust control plan has been incorporated as part of the Agency Preferred Alternative (see **Appendix P**). Because this is an infill project, most road development will be limited to the construction of resource and/or local roads. The larger arterial roads have already been constructed. To aid in transportation planning, the CD/WII Transportation Plan has been updated and included as part of the Agency Preferred Alternative (**Appendix N**). Specific measures for the Muddy Creek watershed have been incorporated into the Preferred Alternative as design features (**Appendix O**).

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT	Preferred Alternative	S04	1	WGFD recommends that BLM and the cooperators develop a Preferred Alternative that will be reviewed by the public. The Preferred Alternative should incorporate: a disturbance cap; a program to address reclamation research, technique and tracking; consolidation of drilling activities; schedule for a review of the project and its conformance with the ROD conducted by the cooperating agencies; a requirement that the CD-C ROD be reviewed again when it is time to revise the RMP.	Alternative F, the Agency Preferred Alternative incorporates design features that are intended to minimize impacts to identified sensitive resources, in particular impacts to the Muddy Creek and Bitter Creek watersheds. By limiting the number of well pads to 8 per section, surface disturbance should be reduced and directional drilling encouraged. A dust control plan has been incorporated as part of the Agency Preferred Alternative (see **Appendix P**). Because this is an infill project, most road development will be limited to the construction of resource and/or local roads. The larger arterial roads have already been constructed. To aid in transportation planning, the CD/WII Transportation Plan has been updated and included as part of the Agency Preferred Alternative (**Appendix N**). Specific measures for the Muddy Creek watershed have been incorporated into the Preferred Alternative as design features (**Appendix O**).
ALT	Preferred Alternative, mgmt. flexibility	In01	3	Flexibility in deciding which mitigation measures should apply in site-specific approvals for the Project must be included in the programmatic environmental analysis and ROD. Should a decision be issued without such flexibility, the BLM would be creating undue burdens, expenses, and administrative work that is not supported in sounds science, judgment or policy. Neither BLM nor the operator can reasonably be expected to anticipate all conditions that may be encountered during development. Thus, the Final EIS and record of decision should include means, such as exceptions, that can be used to address unforeseen technical or operational challenges. Permits issued under the Project cannot be bound to mitigation that is unnecessary or impractical given site specific circumstances.	The RMP grants the RFO the flexibility of considering exception requests on a case-by-case basis.
ALT	Proposed Action	In04	8	The Proposed Action should be selected since it delivers the socioeconomic benefits while limiting surface disturbance and long-term environmental impacts.	Thank you for your comment. All alternatives have been analyzed.
ALT	Proposed Action	In06	1	Fidelity strongly supports the Proposed Action outlined in the CD-C Draft EIS and believes it is a reasonable and effective plan for this project.	Thank you for your comment.
ALT	Proposed Action	In07	1	BLM should identify the Proposed Action as its Preferred Alternative in the Final EIS.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT	Proposed Action	C03	2	Proposed Action: Sweetwater County encourages the BLM to support, in its record of decision, a drilling program that closely adheres to the parameters of the Proposed Action, which allows for maximum field development and resource recovery and establishes a predictable environment for oil and gas field development to occur in... The record of decision should establish a drilling program that adheres to the principals of the National Environmental Protection Act and properly balance resource development with protecting the natural environmental and providing for the needs of the state and local communities.	Please see updated text. The Preferred Alternative would allow for the development of 8,950 wells and would incorporate design features to resolve resource conflicts that were identified by the BLM interdisciplinary team and by comments received from the public.
ALT	Proposed Action	In10	1	While the BLM has identified a range of alternatives to the Proposed Action, the BLM does not have a Preferred Alternative for the CD-C Natural Gas Development Project. It is unfortunate the BLM did not follow its own Guidance and identify a Preferred Alternative. This gives the CD-C Draft EIS a lack of direction and subjects the BLM and the document to unnecessary criticism. Although the BLM believes the Proposed Action and the action alternatives all have elements that would address the project purpose and need, only the Proposed Action provides a reasonable combination of access and environmental protection.	CEQ regulations at 40 CFR 1502.14(e) direct that a Preferred Alternative be identified in the draft statement if one exists. As stated in the draft EIS in Section 2.1, ”The BLM does not have a Preferred Alternative for the CD-C Natural Gas Development Project at this time. The BLM believes that the Proposed Action and the action alternatives all have elements that would address the project purpose and need and will review public comment on the Draft EIS before determining a Preferred Alternative. A Preferred Alternative will be designated in the Final EIS.”
ALT	Proposed Action	In10	6	Implementing the Proposed Action and limiting restrictions on natural gas development operations to only those necessary, will allow the CD-C Natural Gas Development Project to provide domestic natural gas resources to heat homes, fuel the economy, create new wealth and create thousands of new jobs.	Thank you for your comment
ALT	Relaxed timing restrictions	C01	21	It may be possible to relax timing restrictions and surface use limitations (wildlife stipulations) when multiple wells (directional drilling) are drilled from a single well pad if it can be demonstrated that the associated impacts to the physical and human environment are mitigated. For example, water from off-site water producing wells should be put to beneficial use to offset or mitigate the loss of livestock grazing values and wildlife habitat. The water resource could be managed by a "partnership" of the CD-C permittee & operator(s), BLM, the livestock allotment holder and other interested State and Local agencies.	Thank you for your suggestion. Seasonal timing stipulations are required by the Rawlins RMP, and would be implemented regardless of alternative. In order to allow for year-round drilling in the project area, the project proponents would need to receive blanket exemptions to seasonal wildlife stipulations. This was considered in the Focused Development Alternative that was dropped from detailed study for two reasons, one of which concerned the legality of exempting Operators from the seasonal wildlife stipulations for lengthy periods of time.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT	Valid existing rights	In06	2	Fidelity would like to remind BLM that the Draft EIS needs to be structured to support valid existing lease rights. Some of the management options seem to impose new restrictions, such as no surface occupancy, on leases that were granted with surface occupancy.	No valid existing rights would be infringed upon by the selection of any of the alternatives. This has been clarified in the Final EIS.
ALT	Impact analysis	C02	75	Draft EIS p. 2-25 - 2-30 Table 2.4-2 Comment: The table is very subjective and provides no quantitative information. The use of high, intermediate and low impact tells the public little. The Draft EIS should either define the three level of impacts or provide a more quantitative analysis of the types of impacts caused by each alternative.	**Table 2.4-2** summarizes and compares the impacts of the Proposed Action and all alternatives on all the specified resources. As such, it is necessary to use descriptions that succinctly describe the comparative impacts that are detailed at more length in Chapters 4 and 5.
ALT A	Alternative comparisons	In05	20	We appreciate the BLM's inclusion of Alternative A, one hundred percent directional [sic] drilling solely as a means to quantify potential impacts and allow reasonable comparisons with the other alternatives. Some level of vertical drilling will always be necessary in O&G fields. The inclusion of this alternative was appropriate with NEPA. We do not, however, support the selection of Alternative A given the significant increase of surface disturbing activities associated therewith and the many operators already utilizing directional drilling under appropriate circumstances.	Thank you for your comment.
ALT A	Impact analysis	C02	21	Also, the Draft EIS incorrectly assumes that increased surface disturbance automatically leads to more impacts....Surface disturbance is only one type of impact caused from natural gas development. The conclusion that Alternative A will have a greater impact based solely on this one factor is faulty.	The Draft EIS recognizes in many places that other types of impacts will occur. However, surface disturbance remains the single best indicator of the degree of impact produced by an alternative.
ALT B	Valid existing rights	C02	12	Alternative B was never scoped, which is a violation of NEPA procedures. It exceeds all of the lease stipulations thus violating the lease terms.	Alternative B was developed in response to issues raised during scoping to provide additional protections to certain high-value resources.
ALT B	1/4-mile buffer	In04	11	Page 2-7, first paragraph, Enhanced Resource Protection. The avoidance zone around Chain Lakes wetlands and other playas has been increased to 0.25 mile from 500'. We cannot find justification for implementing this buffer.	Thank you for your comment. This recommendation was made as a result of CD-C cooperator and interdisciplinary team specialist input, and in response to scoping comments from the public.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Access require-ments	C02	55	Draft EIS p. 2-7: The development plan....should aim at reducing surface disturbance and disturbance associated with vehicle traffic and other human activity and should include, at a minimum: Comment: Operators will need access to the well sites and they cannot depend entirely on remote monitoring. Any use or maintenance of access roads will also require coordination with local land owners, permittees, and local governments.	Thank you for your comment.
ALT B	Access require-ments	C02	58	Draft EIS p. 2-8 Comment: Any use or maintenance of access roads will also require coordination with local land owners, permittees, and local governments.	Thank you for your comment.
ALT B	Access require-ments	C02	59	Draft EIS p. 2-8 Comment: Any rights-of-way that are granted over well sites should not override the county and public road rights-of-way. When approving the well sites and travel plans, existing roads and road layer maps should be utilized	Thank you for your comment.
ALT B	Advisory groups	C02	13	WGFD should not be given authority [under Alt. B] to unilaterally impose development conditions. It exceeds BLM and WGFD authority, violates BLM regulations, and ignores process and procedures that apply to BLM but not to WGFD.	Please see the updated text of Alternative B.
ALT B	Advisory groups	In06	6	In multiple places, the Draft EIS refers to technical team (page 2-9) or an interagency CD-C working group (page 2-10). The Draft EIS gives no information as to who would be assigned to these groups, how they would determine necessary mitigation, or how long they would take to prepare a plan. BLM should provide more information on these groups.	Please see the updated text. The CD-C consultation and coordination group has been clarified.
ALT B	Advisory groups	In10	12	It isn't clear how the interagency CD-C consultation group would be constructed or function or it's authority. How will membership be determined? Are operators allowed to participate? How funded? It is unclear what would trigger action by this group. The term impacts is broad and it can be difficult to associate impacts with a particular source. Other activities could be impacting fish habitat and the process doesn't account for this possibility. Also, how are the three types of groups mentioned in the document related?	Please see the updated text. The CD-C consultation and coordination group has been clarified.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Advisory groups	In10	13	With the consultation group, implementation of projects may be required reactively without warning or justification. Unpredictable and reactive regulation places an unreasonable burden on operators. We request BLM eliminate the interagency consultation process until it can be clearly defined and agreed upon by all interested parties and utilize predictable and reasonable stipulations to protect sensitive fish habitat. We request BLM clearly define impact thresholds that will trigger interagency consultation and that BLM include operator representation on the consultation group.	Please see the updated text. The CD-C consultation and coordination group has been clarified.
ALT B	Alternative B terms too restrictive	In05, In08	86	We are opposed to Alt. B's proposed wildlife mgt. It would unreasonable restrict oil and gas development and eliminate operation certainty within the project area. It is likely inconsistent with existing policies regarding off-site mitigation and is unreasonably vague. The interagency group is not well defined. All these details must be clarified in the Final EIS.	None of the wildlife thresholds would unreasonably restrict oil and gas development. In addition, if off-site mitigation were used to mitigate impacts from natural gas development as outlined in Alternative B, that mitigation would be consistent with BLM policies. Off-site mitigation as discussed in a programmatic document such as the CD-C must necessarily be vague, as the site-specific impacts from the development of a natural gas well pad are not yet known. The type of off-site mitigation and where it might be implemented would be nearly impossible to determine at the programmatic level. Please see the updated text regarding the consultation and coordination group.
ALT B	Artificial nests	C02	69	Draft EIS p. 2-15 c. Controlled Surface Use and Timing Limitation stipulations would be applied to any nests that become occupied by raptors. CLG Comment: The proposal for artificial nests should be limited or deleted to avoid creating predator roosts.	Thank you for your comment.
ALT B	Big game	In04	16	Page 2-9, second full paragraph; reference is made to a technical team would prepare a mitigation plan if the WGFD were to express concern that a species population were declining at an accelerated rate. This idea is incompletely described. What is the composition of the team? What is the basis on which declines are considered “accelerated”? What if it has nothing to do with oil and gas? Is there a time limit to prepare a mitigation plan? What burden of proof is required of the WGFD that their claims are valid?	Please see the updated text. The CD-C consultation and coordination group's duties have been further defined. The **Wildlife Mitigation and Monitoring Plan** (**Appendix I)** would be implemented to monitor relevant wildlife species and to determine what impact, if any, oil and gas development is having on those wildlife species. The development of a mitigation plan would be undertaken on a site-specific basis.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Big game	In04	17	Page 2-9, second bullet, *Population Thresholds*, states *New well pads would not be authorized without Operator participation in habitat-improvement projects*. Again, what are the criteria for habitat improvement projects? Has the BLM identified these yet? Would energy development operators be denied APD's if they do not want to participate in livestock watering projects?	The types of mitigation or habitat improvements would be determined on a site-specific basis. Because the specific locations of wells, roads, and other facilities is not known at this time, the BLM does not know which specific resources or wildlife species may be affected by surface disturbance. Therefore, to lay out the type of habitat improvement, where it would be located, and how it would be done would unnecessarily restrict the type of mitigation that could be used. Specific habitat improvement projects would be determined at the APD level, when and if necessary. Also, the language regarding denial of new APDs has been removed.
ALT B	Big game	In04	18	Page 2-9, 4th Bullet: The statement is made Fences identified to be a problem for big game migration would be modified to meet BLM fence standards. New fences would be allowed in big game migration corridors, provided they meet BLM fence standards. It should be noted that fencing may be required as part of reclamation and for safety purposes. These fences are not long linear barriers; ranch fencing is not the responsibility of the operators.	Your concern is noted. Thank you for your comment.
ALT B	Big game	In04	19	Page 2-10, Enhanced Resource Protections, second bullet: Noise-reduction technology, such as hospital grade mufflers, sound walls or soundproof buildings, or adding silencers to cooling fans, would be required at compressor stations. Stating that silencers be added to cooling fans is misleading. Cooling fans mitigated through the use of multi-blade fans rather than acoustically designed shrouds are quieter. It would be more appropriate to require noise reducing techniques for cooling fans…..	The text has been modified to read, "Noise-reduction technology, as approved and evaluated by the BLM, would be required at compressor stations."

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Big game	In04	20	Page 2-10, Surface Disturbance Thresholds, second paragraph: Vegetation treatments such as herbicide treatments, seeding, prescribed burning, cutting/chopping for regeneration, planting shrubs or trees, fencing, establishing food plots, etc. would be considered habitat improvement projects. What data are there that water developments are limiting to antelope and mule deer within CWR? Please explain the benefits of vegetation treatments such as herbicide treatments, seeding, prescribed burning, cutting/chopping for regeneration, which are geared more toward warm season forage for livestock than for CWR. How will these habitat improvement projects be identified and what type of environmental analysis will be needed?	Habitat improvement projects, when and if necessary, would be identified at the site-specific level upon receipt of an APD, as would the specific benefits of the habitat improvement project. The ongoing **Wildlife Mitigation and Monitoring Plan (Appendix I)** would aid in the determination of whether oil and gas development were impacting wildlife in a negative way. If this were the case, then habitat improvement projects and other mitigations would be required.
ALT B	Big game	In04	21	Page 2-11, Surface disturbance thresholds, first paragraph: Aerial surveys are performed every two to three years and ≤26% of the herd units are within the CD-C project area. It seems that mitigation actions focused on energy development that do not consider other uses as contributing to decline are unfair, especially given the small areas of CWR involved.	Please see updated text stating that a causal relationship between oil and gas operations and big game impacts would have to be identified prior to implementation of the mitigation measures identified in Alternative B.
ALT B	Buried power lines	In06	4	Page 2-13, first bullet, *burying new power lines and using low-profile facilities within 1 mile of an occupied lek or in winter concentration areas*. Technical, logistical, and economic concerns and the ability to obtain easements across both federal and fee lands may make accomplishing this task unfeasible. BLM should remove this enhanced resource protection measure from consideration.	The requirement referred to in the comment has been removed from the Final EIS.
ALT B	CD-C Consultation Group	C01	25	Environmental Consequences, Page 4-92: Carbon County supports the concept of establishing a CD-C Consultation Group (Interagency and Industry) that would review and respond to evolving energy development issues.	The Preferred Alternative incorporates the formation of a consultation and coordination group that would respond to evolving energy issues and share information and data with the BLM, cooperators, permittees, landowners, and other relevant public.
ALT B	Chain Lakes and Playas	In10	17	We have leases within 0.25 mile of wetlands and playas in the project area. The RMP establishes a 500 foot setback. Expanding the buffer to 0.25 miles is excessive and will limit our ability to develop our leasehold in the project area (valid existing rights issue).	No valid existing rights would be infringed upon through the selection of any of the alternatives.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Cluster development	C02	56	Draft EIS p. 2-7 Consideration of cluster development of production facilities: The statement that BLM would consider cluster development does not address how it would fit into APD process or full field development which are governed by regulation. The Draft EIS should use the word "consolidated" not cluster.	The term "cluster" has been changed to "consolidated."
ALT B	Conclusions	In05, In08	89	The BLM indicates that despite its unreasonable and potentially illegal mitigation or monitoring requirements under Alternative B, Alternative B is still expected to have a high impact on wildlife populations. Because the Proposed Action would still lead to high impacts, the BLM must justify the unnecessary restrictions required by Alternative B.	The restrictions in Alternative B were developed to respond to disruption of already impacted crucial winter range and migration corridors and reduction of habitat. The metric used in determining impact is based on surface disturbance per section, and by not reducing the number of well pads allowed but focusing on reclamation success and habitat improvement, it fell within the high impact category.
ALT B	Develop-ment plans	In05, In08	23	We are concerned about the requirement for overall development plans when submitting APDs within the project area. Oil and gas development in the project area remains very uncertain and operators still have much to learn about development in the project area. New information is gained from ongoing development which modifies drilling plans and locations for future wells. Thus, even if operators were required to submit a plan of operations for a specific geographic area or a lease, those plans would constantly change and be modified as each well is developed. Development operations in the project area are not as static and predictable as BLM intends under this alternative. BLM must eliminate the requirement for operators to strictly comply with development plans under Alternative B. Rather, simply encourage operators to submit geographic area development plans when appropriate. This requirement is particularly troubling because the RFO has routinely resisted attempts by operators to submit multiple APD packages with master drilling plans or geographic area development plans despite BLM policies requiring such plans. If BLM intends to implement this portion of Alternative B, it should first ensure that its staff is willing to review master drilling plans and geographic area plans.	The purpose behind submitting overall development plans would be to encourage future planning and through development plans and proper planning, reduce the amount of surface disturbance and overall disruption to the project area. The BLM understands that development plans change and that development of natural gas is not a static process. There would be some flexibility inherent in the overall development plans.
ALT B	Dust	In04	12	Page 2-7, 2.2.3 Enhanced Resource Protections: The general requirements on dust abatement, education, and remote monitoring are vague and need further clarification.	Please see the updated text. A **Fugitive Dust Control Plan (Appendix P)** has been developed and clarifies the BLM's intention with controlling fugitive dust.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Economic feasibility	In04	38	The additional resource protections proposed under Alternative B, make this Alternative technically and economically unreasonable. With the exclusions and protections, there will not be adequate time for operator's to maintain effective drilling and development programs.	Based on several comments on the Draft EIS, the RFO reviewed the likely effect of the requirements of the CD-C alternatives on drilling rates and total number of wells drilled in the project area. The review concluded: (1) Existing seasonal activity constraints already affect decisions about directional drilling under the Proposed Action as much as they would under the alternatives; (2) The alternatives encourage greater use of directional drilling, a technology that operators are already adopting on their own; (3) While some of the alternative requirements are likely to increase costs, the cost increases would likely be such that they are within the normal realm of operational cost increases (such as those that arise from the switch to directional drilling) or of natural gas price changes; (4) Requirements that emphasize improved reclamation are based on the premise that the project's 15-year development period provides sufficient time to achieve reclamation goals; and (5) Alternative D, Directional Drilling, is likely to result in a decline in drilling rates and well numbers. This has been reflected in the Final EIS. The impact analysis in the Final EIS recognizes this determination.
ALT B	Editorial	C02	62	Draft EIS p. 2-8 Generally, two threshold levels are specified: A lower level, usually 5 percent of protected habitat within a lease and/or right-of-way,.... **CLG Comment:** The Draft EIS uses 5%, but is this more or less since it uses the term "usually" to qualify the standard?	The text in Alternative B has been revised by the removal of the word *usually*.
ALT B	Editorial	In10	11	The provision that the buffers apply on public land only is confusing because state land is also public land. Please clarify that the provision applies to 'federally owned surface'.	As described in Section 2.1 and elsewhere in the EIS, Although the development activities anticipated in the Proposed Action and in the alternatives would take place on federal, state, and private lands, BLM authority applies only to the activities that would occur on BLM-administered lands.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Feasibility	In07	3	Portions of Alternatives B are unworkable. It includes 5% and 10% disturbance thresholds. How does BLM plan on tracking disturbance and reclamation across the area? A determination regarding wildlife thresholds is given to the WGFD. How will the WGFD determine CD-C and reference/control area population levels? How will they determine cause and effect? Many of the enhanced resource protections (e.g., increased setback distances) are not supported by research. There is an assumption in some portions of the document that off-site mitigation can be mandated by BLM.	The BLM will track disturbance and reclamation based on reclamation monitoring reports submitted by the Operators. The WGFD would not be responsible for determining wildlife thresholds nor would it determine CD-C reference/control area population levels. The BLM is aware that off-site mitigation cannot be mandated by the BLM and would work with the Operators to determine where off-site mitigation should be implemented in order to have the most benefit, should it become necessary.
ALT B	Feasibility	In10	2	The additional resource protections proposed under Alternative B, make this alternative technically and economically unreasonable. With the exclusions and protections under this alternative, there will not be adequate time for operator's to maintain effective drilling and development programs. Consequently, Alternative B is not consistent with the BLM's multiple-use mandate under the Federal Land Policy and Management Act (FLPMA) because it would unduly preclude leasing and development of existing leases.	Based on several comments on the Draft EIS, the RFO reviewed the likely effect of the requirements of the CD-C alternatives on drilling rates and total number of wells drilled in the project area. The review concluded: (1) Existing seasonal activity constraints already affect decisions about directional drilling under the Proposed Action as much as they would under the alternatives; (2) The alternatives encourage greater use of directional drilling, a technology that operators are already adopting on their own; (3) While some of the alternative requirements are likely to increase costs, the cost increases would likely be such that they are within the normal realm of operational cost increases (such as those that arise from the switch to directional drilling) or of natural gas price changes; (4) Requirements that emphasize improved reclamation are based on the premise that the project's 15-year development period provides sufficient time to achieve reclamation goals; and (5) Alternative D, Directional Drilling, is likely to result in a decline in drilling rates and well numbers. This has been reflected in the Final EIS. The impact analysis in the Final EIS recognizes this determination.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Fence modifica-tions	C02	64	Draft EIS p. 2-9 Fences identified to be a problem for big game migration would be modified to meet BLM fence standards. New fences would be allowed in big game migration corridors, provided they meet BLM fence standards. **CLG Comment**: Add the qualifier, "as opportunities exist." Fence modifications must be a site specific decision that addresses the actual controversies while still meeting the ultimate grazing purposes. BLM cannot expect grazing permittees to pay for these changes or the operators either. Fences are a BLM program financed through range improvement budgets and there is no extra funding to pay for the changes provided.	The text referred to in the comment is part of the RMP; the text of the Final EIS has not been revised.
ALT B	Fencing	C02	28	Further, fences identified to be a problem for big game migrations should only be modified "where opportunities exist." Id. at 2-9, 4-98.	Thank you for your comment. The text will remain unchanged.
ALT B	Ferruginous hawk	In04	29	Page 2-13, Surface Disturbance Threshold: Operators in all leases that exceed 10 percent of surface disturbance within 1 mile of ferruginous hawk nests would be required to participate in a development/mitigation plan before additional APDs would be issued. Does this threshold apply to federal and fee lands and if so, does the restriction apply only to federal leases/activities occurring on federal leases. Given our need to provide sage grouse conservation, has any recognition been given to the matter that hawks are predators on sage grouse?	Recognition that hawks are predators on Greater Sage-Grouse was considered in the development of the alternative. The analysis for Alternative B in Chapter 4 now recognizes that the extent of private and state holdings within the buffer area would undermine the effectiveness of this provision.
ALT B	Ferruginous hawk	In04	30	Page 2-14, *2.2.3.3 Ferruginous Hawks*, The same concerns with regard to WGFD criteria for the letter of concern, burden of proof, and accountability need to be addressed.	Habitat improvement projects, when and if necessary, would be identified at the site-specific level upon receipt of an APD. The ongoing **Wildlife Mitigation and Monitoring Plan (Appendix I)** would aid in the determination of whether oil and gas development were impacting wildlife in a negative way. If this were the case, then habitat improvement projects and other mitigations would be required.
ALT B	Ferruginous hawk	In04	31	Page 2-15, first line: Please explain the preference for artificial nests on natural substrates.	Artificial nests would be placed on natural substrates (i.e. bluffs or outcroppings) as opposed to artificial substrates (i.e. utility poles) to encourage the species and distract them from sites such as hydrocarbon stock tanks.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Ferruginous hawk	In04	32	Page 2-15, fourth sentence: There is a burden of proof that declines are due to failures to reproduce and not mortality in migration or on wintering grounds before requiring energy operators to engage in mitigation.	Habitat improvement projects, when and if necessary, would be identified at the site-specific level upon receipt of an APD. The ongoing **Wildlife Mitigation and Monitoring Plan (Appendix I)** would aid in the determination of whether oil and gas development were impacting wildlife in a negative way. If this were the case, then habitat improvement projects and other mitigations would be required.
ALT B	Ferruginous hawk	In04	33	Page: 2-15, Population Thresholds: 2. Ten man-made nests would be built outside of existing monitoring territories on natural substrates… and 3. Two artificial nesting structures would be placed outside of existing monitoring territories… following receipt of WGFD's letter of concern. Any nest installation, man-made or artificial, should take into account sage grouse management goals to avoid areas of sage grouse priority/core areas.	Recognition that hawks are predators on Greater Sage-Grouse was considered in the development of the alternative. If the alternative were considered as part of the ROD, that fact would be given site-specific consideration.
ALT B	Ferruginous hawks	C02	67	Draft EIS p. 2-14 No disturbance within 1,200 feet of a ferruginous hawk nest. The distances could vary depending on factors such as nest activity, species, natural topographic barriers and line-of-sight distances. **CLG Comment:** Is this consistent with RMP? Also, these limits should apply to active or occupied nest sites.	The text matches the RMP. Nest activity is one of the mitigating factors.
ALT B	Ferruginous Hawks	In05, In08	44	Devon is also opposed to the proposed management for ferruginous hawks in Alt. B. The proposed mitigation measures are vague, ambiguous, and will be impossible to administer. The proposed surface disturbance threshold of ten percent within one mile of a ferruginous hawk nest could create an unfair and potentially disastrous race for surface disturbance between various operators. It would also create an unfair advantage to operators who already had operations in the area as they would be allowed to continue their O&G activities while other lessees would be foreclosed from development activity unless they participated in an unknown and undefined "mitigation plan."	Please see the updated text. No valid existing rights would be infringed upon; if the surface disturbance were to reach 10 percent within one mile of a nest then mitigation would need to be considered. There would be no "race for surface disturbance" created by this alternative.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Ferruginous Hawks	In05, In08	45	BLM does not indicate how it would consider private and state lands in the calculation of surface impacts within one mile of a nest. With the checkerboard land pattern, operators on private or state land could effectively foreclose future development on federal lands by exceeding the disturbance threshold. This management structure is untenable, unfair, and potentially illegal. If operators were foreclosed from developing their leases for long periods of time, there could be a potential takings claim.	Management identified in this EIS would only apply to activities associated with the development of federal mineral estate. Surface disturbance thresholds would only take into consideration the disturbance associated with federal surface. Development on private/ state would not be affected by these thresholds. This has been clarified in the Final EIS.
ALT B	Ferruginous Hawks	In05, In08	46	We are concerned with BLM's ability to implement the mitigation measures proposed in the event the WGFD expressed a formal opinion regarding the ferruginous hawk population. Alt. B would require operators to install several man-made nests and nesting structures. BLM does not explain how the agency would determine which operators would be responsible for installing the structures or how costs should be apportioned between various companies. It would be unfair to force a single operator to install these nesting structures when the potential impacts may have been caused by numerous operators. Given the number of operators, BLM must develop an equitable means of imposing mitigation measures.	Any potential mitigation would be designed and installed on a site-specific basis, at which time the specifics of how costs may (or may not) be apportioned between companies would be identified. An equitable means of distributing mitigation measures between appropriate Operators would be established when and if necessary. This has been clarified in the Final EIS.
ALT B	Ferruginous Hawks	In05, In08	47	BLM's proposal to require off-site mitigation is not consistent with the most recent guidance in BLM IM 2008-204. The IM makes it clear that it "is not the intent of this policy to solicit or require applicant-committed mitigation that exceeds the impact...."	Please see BLM IM 2013-142, Interim Draft Policy - Regional Mitigation, which replaces BLM IM 2008-204. The more recent IM indicates the BLM's newer direction which is a greater emphasis on regional and off-site mitigation in planning for a landscape scale.
ALT B	Ferruginous Hawks	In05, In08	48	We question the appropriateness of installing additional nest structures for hawks given the fact that they prey on sage-grouse. The construction of additional nests may further reduce SG populations.	Any construction of nest structures for hawks would be considered and approved on a case-by-case basis. If it were determined that the construction of a nest structure in a particular area would result in increased mortality for Sage-Grouse, then the nesting structure would not be constructed in that particular area.
ALT B	Fugitive dust	C02	71	Draft EIS p. 2-17 During the production phase, as well as the construction phase, control by Operators of fugitive dust on well sites, pipelines, and access roads as needed. CLG Comment: Vehicles are minor factor in the distribution of weeds. Birds, wildlife, and wind are far more significant. Delete this entirely as it's burdensome and completely ineffective.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Habitat improve-ments	In04	14	Page 2-9, top of page, *A higher threshold level, usually 10 percent of protected habitat within a lease, would require habitat improvement projects in addition to the above requirements.* This would require habitat improvement projects but the criteria on which they are needed, how they would be done, and where located is not provided. Clarification is needed.	The types of mitigation or habitat improvements would be determined on a site-specific basis. Because the specific locations of wells, roads, and other facilities are not known at this time, the BLM does not know which specific resources or wildlife species may be affected by surface disturbance. Therefore, to lay out the type of habitat improvement, where it would be located, and how it would be done would unnecessarily restrict the type of mitigation that could be used. Specific habitat improvement projects would be determined at the APD level, when and if necessary.
ALT B	Impact Analysis	C02	23	The Draft EIS further states that the Applications for Permit to Drill (APDs) "would not be processed or approved until BLM has received and approved a mitigation plan [for wildlife]."... The Draft EIS ignores the need to determine the causal factor in wildlife declines. There were extensive discussions about the need to document a determination of causation before imposing specific mitigation....It appears that oil and gas development is already the predetermined cause of species population declines within the project area. However... other causal factors could....cause species population decline, such as drought, harsh winter, increase in predators, disease (West Nile), and hunting seasons. Failure to address causation falls within the definition of "arbitrary and capricious" because BLM is not addressing all relevant factors. 5 U.S.C.§ 702	Please see the updated text of Alternative B. The language referred to in the comment has been removed. In addition, text has been added to make it clear that development of natural gas would have to be the causal factor.
ALT B	Lease Rights/ Mitigation	In05, In08	21	Alternative B purports to give the BLM limitless authority to impose COAs on a site-specific basis, regardless of whether such conditions are consistent with an operator's existing lease rights. BLM doesn't have unlimited authority to impose mitigation measures that are contrary to lease rights and cannot impose unreasonable mitigation measures given our existing lease rights.	No valid existing rights would be infringed upon by the selection of any of the alternatives. This has been clarified in the Final EIS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Least restrictive stipulations	In10	9	The draft ignores BLM policy which directs that "the least restrictive stipulation that effectively accomplished the resource objectives or uses for a given alternative should be used." Also, Sec. 363 of the Energy Policy Act of 2005 also requires that lease stipulations are applied consistently and to ensure the least restrictive stipulations are used. In the Preferred Alternative, Yates urges BLM to adhere to its own policy and use the least restrictive stipulation possible to accomplish resource objectives. Alt B stipulations are overly restrictive and fail to comply with this policy.	The BLM is also required to implement and follow the provisions of NEPA and of FLPMA, which require the BLM to approve land use applications with the least amount of environmental damage and impacts possible.
ALT B	Liquids transfer	C02	60	Draft EIS p. 2-8 Consideration of pipelines for transporting liquids offsite or installation of larger-capacity storage tanks to reduce the number of truck trips to well sites; CLG Comment: We do not understand what the Draft EIS means. If BLM required increased tank diameter on multi well pad, then it would need a larger pad, or if taller then there will be other adverse environmental impacts, e.g. higher predator perches and disruption of the view.	The intent of the item is to reduce the number of vehicle trips required for transportation of liquids. Pipelines and larger tanks would achieve that intent.
ALT B	Livestock	C02	32	The Draft EIS states that livestock grazing is a resource that will receive enhanced resource protection, but then livestock forage is specifically excluded as a resource requiring consideration in the development plans submitted with the Applications for Permit to Drill (APDs). Id. at 2-7. Livestock forage is an important part of vegetation and is shared by all forms of wildlife, including sage grouse and wild horses. All resources should be discussed in the development plan....	The development plans are intended to assist with planning, in an effort to reduce the overall surface disturbance of the project. Indirectly, forage would be protected through the use of development plans that would increase planning and ideally, reduce overall disturbance in the project area. In addition, Alternative B does include specific measures that would address impacts to livestock and to livestock operators.
ALT B	Livestock	C02	33	The Coalition agrees that BLM should notify affected grazing permittees of new APDs, but BLM should also seek the grazing permittees input on development projects that affect the land they graze. See id. at 2-17. The Coalition recommends BLM identify a contact person and phone number that can be called as issues arise.	The BLM notifies the public of any proposed development activities that occur on public land through posting the EA to the NEPA register. In addition, a consultation and coordination group is being analyzed under the Preferred Alternative that would foster more communication between the BLM, grazing permittees, and oil and gas operators.
ALT B	Livestock	C02	36	The Draft EIS must also determine causation before it designates one activity or resource as the cause for failing to meet rangeland standards.	This point is recognized in the text of the revised Alternative B: "If it were determined that a species population… were declining at an accelerated rate… due to natural gas development."

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Livestock grazing	In05, In08	52	BLM does not explain what criterion or scientific information it would (use to) determine if water wells are actually impacted by O&G operations. We don't object to certain compensation if its activities actually harm livestock operations, but there must be a causal link, not simply a presumption.	Alternative B anticipates water well development to redistribute livestock if substantial forage has been affected in an area due to natural gas development. A causal link would be identified; this has been clarified in the Final EIS.
ALT B	Livestock grazing	In10	24	"No adverse effects" is a broad restriction that could be misinterpreted to prevent changes caused by operations that aren't problematic or a limitation to livestock watering in the area, such as a modification of trailing routes. We request BLM modify this mitigation requirement to provide them with some flexibility in the protection of livestock water features and allow for an acceptable degree of impact or change in the use of such features.	All such mitigations would be developed on a site-specific basis.
ALT B	Livestock grazing	In10	25	We are not opposed to meetings with permittees, open communication is helpful and a good way to identify and resolve potential conflicts before they arise. However, we may have confidential information that we would prefer to not disclose during such meetings. We request BLM specify that confidential information may not be released until APDs are in the approval process.	No confidential information would be shared by the BLM.
ALT B	Livestock grazing	In10	26	We have no problem notifying affected grazing permittees and providing a map when our operations will impact their grazing operations. It is unclear who is responsible for providing such notice to the permittee (BLM or Operator). We suggest and request BLM handle this by forwarding notice and the map (included in the APD) to the grazing permittees when BLM receives an APD in an allotment.	Please see the updated text. This requirement has been removed as it is something that is already done.
ALT B	Livestock surface disturbance	In04	35	Page 2-17, 2.2.3.6 Livestock Grazing, Surface Disturbance Thresholds: If the surface disturbance due to natural gas development were to reach 5 percent of an allotment, several actions would be triggered as described in the subsequent bullets listed below". How is this threshold integrated into the other thresholds? To maintain consistency, the 5% threshold should be integrated into the high and low density thresholds.	The 5 and 10 percent thresholds are specific to Alternative B and would not come into effect under other alternatives.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Livestock water features	In04	36	Page 2-17, Enhanced Resource Alternative Protections: If water features are adversely affected by activities of natural gas Operators, the Operators would be responsible for drilling, maintaining, and monitoring new stock water wells and/or improving existing water wells, as determined by BLM and the grazing permittees. How will this process be administered? What are the criteria? What is the science basis? Who will make the impacts and mitigation decisions?	If the Operator is responsible for damaging existing infrastructure, then the Operator would be responsible for fixing it. Monitoring and maintaining of existing infrastructure would not be the responsibility of the Operator. Text has been updated.
ALT B	Migration corridors	In10	31	Migration corridors have been vaguely identified with arrows. In application, the location of these corridors is difficult to identify on the ground. Additionally, migration corridors are subject to change from year to year for a variety of reasons. It is difficult and arbitrary to implement protective measures for a resource that has not been clearly identified and that is subject to change. It is unreasonable to adopt additional protective measures for migration corridors. A measure that is effectively implemented one year may become useless and irrelevant the next year when migration patterns change. We request BLM eliminate special protection for mule deer migration corridors as proposed in Alt B.	Migration corridors are established over thousands of years and do not change significantly on an annual basis. If change does occur, it is likely a result of either surface disturbance or disruptive activities. The data for migration corridors in the CD-C project area is not yet complete but stipulations for protecting migration corridors will be adhered to.
ALT B	Migration corridors	C02	65	Draft EIS p. 2-10. Migration corridors would be monitored to determine which fences restrict movement and fences modified to reduce impacts to migrating big game species CLG Comment: The Draft EIS appears to impose mitigation that exceeds the project. The energy companies cannot be expected to solve all public land problems. Permittee or BLM-built and maintained fences exist independent of energy development and the lessees should not be required to modify the fences.	If the Operator is responsible for damaging or altering existing infrastructure, including fences and water developments, then the Operator will be expected to repair the damage. If, for example, an Operator needs to move a fence or construct a road through an existing fence line, the Operator would be required to either install a cattle guard or a gate at the access point. Lessees would not be required to modify fences that they have not impacted. Only fences that have been impacted by the lessee would need to be repaired or replaced by the lessee.
ALT B	Migration corridors, fencing	In10	32	We are not opposed to meeting BLM fence standards in migration corridors, but ranchers are also installing fences in the area and should be held to the same standards. Our experience is that BLM fencing standards may not be acceptable to private landowners and/or permittees creating a potential conflict of interest. Also BLM does not have authority to impose fencing standards on private surface on non-well site facilities. We suggest BLM clarify that the application of fence standards is limited to locations and facilities on federally owned surface.	BLM fence standards apply to BLM-permitted activities on public land managed by the BLM and on federal mineral estate. This does not need to be clarified.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Muddy Creek	In04	13	Page 2-8, third bullet, Muddy Creek and Bitter Creek watershed plans, *No new road crossings of Muddy Creek*. If new crossings of Muddy Creek aren't allowed, significant incremental surface disturbance will be incurred to build a road until it can somehow cross the creek.	The construction of lengthy arterial roads are not anticipated as indicated in **Appendix B: Project Description** and the Proposed Action. Therefore, the necessity of crossing Muddy Creek or creating lengthy parallel roads is low. Most of the road infrastructure that includes arterial and collector roads has already been constructed; and the part of the project area that borders Muddy Creek is already heavily developed. Therefore, the necessity of building a new crossing of Muddy Creek would be extremely low.
ALT B	Muddy Creek	In05, In08	25	BLM must justify the significant new mitigation measures proposed for the Muddy Creek watershed, particularly the prohibition on new road crossings of Muddy Creek. With appropriate engineering and construction practices, adverse impacts could largely be avoided. Additional mitigation measures can be identified through the Section 404 process. Also, requiring operators to avoid crossing Muddy Creek may require far more extensive surface disturbing operations for reroutes which may adversely impact other resources. BLM should ensure it has flexibility to manage all resources in the area and Devon encourages the BLM to revise the direct prohibition on crossing Muddy Creek.	Muddy Creek is a major tributary to the Little Snake River and is in the Colorado River Basin. In addition, the Proposed Action states that because this is an infill development project, new road construction would not be significant. Therefore, the BLM does not agree that not allowing any additional road crossings of Muddy Creek would result in extensive surface disturbance, because the areas around Muddy Creek are already extensively developed and the construction of lengthy new arterial and collector roads would not be necessary.
ALT B	Muddy Creek	In05, In08	26	BLM must provide more detail regarding the type of monitoring and data requirements proposed for the Muddy Creek watershed. Not all operators are familiar with the requirements for Atlantic Rim. The proposal to have operators submit additional data in monitoring is unnecessarily vague and ambiguous. As such, Devon cannot support this proposal.	Please see updated text. A **Muddy Creek Watershed Monitoring Plan** has been included as **Appendix O**.
ALT B	Muddy Creek and Bitter Creek watersheds	In05, In08	49	We are opposed to the proposed mitigation requirements under Alt. B for the Muddy Creek Watershed. The increase of NSO around streams and wetlands from 500 feet to 2,640 feet is not consistent with the existing Rawlins RMP. BLM has not justified this increase in mitigation or demonstrated how it would be consistent with existing lease rights. Since it is not consistent with the RMP, it cannot be adopted by the BLM	Please see the updated text. It has been acknowledged that an RMP amendment would be undertaken should Alternative B be selected.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Muddy Creek and Bitter Creek watersheds	In05, In08	50	BLM must provide more information and detail regarding the monitoring requirements currently required on Upper Muddy Creek as part of the Atlantic Rim ROD. Without more information, we cannot calculate how our operations might be impacted. Further, the BLM must justify the need to increase this monitoring within CD-C given ongoing studies by the University of WY regarding the Muddy Creek watershed. We understand that UW has engaged in a lengthy, detailed study of the area that continues to this day. BLM must also justify the proposed monitoring in light of the proposed NSO. How can both mitigation measures be justified?	The studies being conducted by UW are not similarly designed as the studies that are being conducted by the BLM. Therefore, comparisons between the studies would not be feasible. In addition, the BLM will be responsible for monitoring on Muddy Creek and has taken over the monitoring being conducted on Upper Muddy Creek. Muddy Creek is home to sensitive fish and is on the 303(d) list for Threatened and Impaired waters. The protections that have been in place for mitigating impacts to the creek are not stringent enough; therefore, more mitigation is necessary in order to reduce and/or control these impacts.
ALT B	Muddy Creek and Bitter Creek watersheds	In05, In08	51	We are opposed to the prohibition on discharge of produced water within specified watersheds. Numerous other agencies regulate water resources and that the discharge or water associated with O&G development activities can be beneficial for certain resources. Given the fact that all produced waters are subject to control requirements by WDEQ, BLM should not interfere and prohibit such discharges.	The surface discharge of produced water is not prohibited. The **Operators' Project Description (Appendix B)** specified there would be no surface discharge of produced water; therefore, it is not analyzed in this document. Any proposals for the surface discharge of produced water would be analyzed by the BLM under a separate NEPA document.
ALT B	Muddy Creek buffer	In04	6	We strongly oppose the creation of these arbitrary buffers along Muddy Creek because: 1) No information is presented that provides justification for a 0.25 mile (or 0.5 mile) buffer; 2) Creation of a buffer complicate linear projects crossing Muddy Creek; 3) In a country-wide search, it is difficult to find a stream buffer this wide; 4) BLM has not included exemption criteria and nationwide 404 permits allow stream channels to be crossed provided certain criteria are met. 5) Regulatory mechanisms already exist to address this issue. We suggest BLM focus on the conditions of the stream channel and riparian habitat.	Thank you for your comment. All alternatives have been analyzed.
ALT B	Muddy Creek buffer	In06	10	Page 2-16, 2.2.3.4, *For protection of amphibians and their habitats, avoidance of surface-disturbing and disruptive activities within 0.25 mile of Red Wash, springs, wells, and wetlands. The required avoidance distance would be further increased on perennial streams to 0.5 mile.* There is no explanation why these buffers are necessary and no data or technical basis for either buffer. If buffers are incorporated in the Final EIS, technical back-up should be included.	Impacts to sensitive amphibians, fish, and the water quality of Muddy Creek have been identified in Chapter 4, and concerns were raised during public scoping about further degrading the water quality of Muddy Creek. Therefore, additional measures to address these impacts and concerns are necessary.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Muddy Creek monitoring	In04	34	Page 2-16, Enhanced Resource Alternative Protections, second bullet: The BLM proposes to expand the Upper Muddy Creek Basin monitoring to the lower basin. What is required in the Upper Muddy Creek Basin? Who pays for this monitoring and how expensive is it? How have the results been utilized? Prior to any expansion of monitoring, the existing data should be reviewed. Data from years of monitoring exist. We recommend that these data be analyzed prior to imposition of any new data collection protocols.	Please see updated text. The BLM will be responsible for data collection and monitoring on Muddy Creek.
ALT B	Muddy Creek road crossings	C02	61	Draft EIS p. 2-8 No new road crossings of Muddy Creek; CLG Comment: The provision is duplicative. The ban on no new road crossings for Muddy Creek is not necessary.	Text has not been revised. Impacts to Muddy Creek from road crossings were identified as a concern during scoping and the Draft EIS comment period.
ALT B	Muddy Creek road crossings	In10	16	Muddy Creek extends for several miles across the southern part of the project area and runs through or adjacent to several leases held by Yates. Conducting operations on these leases will require the ability to cross Muddy Creek in a reasonable number of locations. If new road crossings are not allowed in areas that are a significant distance from an existing crossing, unnecessary surface disturbance will be incurred to build a road that follows the creek until it can be crossed. Yates requests the BLM retain flexibility to allow construction of additional road crossings on a case-by-case basis when it can be justified to reduce surface disturbance and allow reasonable access to production facilities.	Based on the project description and the analysis in the EIS, the need for large new roads appears to be very minimal. Creating a crossing of Muddy Creek would be a large infrastructure development and seems to go beyond the description of minor access roads. If major access roads are required for this project, such as one that might cross Muddy Creek, then the project description in **Appendix B** needs to be revised to describe major access roads.
ALT B	Mule deer	In04	9	Page 2-6, first bullet, *Mule deer crucial winter/yearlong range and migration corridors*. Since page 2-10, *Population Thresholds*, indicates herd numbers are well above WGFD objectives, why are mule deer crucial winter/yearlong range and migration corridors an issue?	Mule deer CWR, etc. were included because impacts to winter range are a concern due to the limited amount and sensitivity of this habitat.
ALT B	Mule deer	In05, In08	36	On p. 2-10 BLM describes mule deer populations as well above the WGFD population objectives. Why, then, were mule deer selected as a resource necessitating additional protection? (also see comment 22)	Mule deer were included as a high-value resource that could be affected if future development were more intensive than expected or if development were to result in impacts that were not anticipated or that occurred at a faster pace than anticipated. The text has also been updated to reflect more recent estimates of the mule deer population.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Mule deer	In10	30	Mule deer population in the Baggs Herd Unit are well over the population objective and the project area only contains a small percentage of the CWR for the herd unit. It is hard to justify mule deer within the project area as a high-value resource in need of special protection with these conditions.	Mule deer were included as a high-value resource that could be affected if future development were more intensive than expected or if development were to result in impacts that were not anticipated or that occurred at a faster pace than anticipated.
ALT B	Noise	In06	7	Page 2-13 , second bullet, use of noise-reduction technology so that noise would not exceed 49 decibels measured at 30 feet from the source at all drilling, production and compressor sites. It does not make sense to set a compliance point at the well site, where it would be impossible to implement, when the actual concern is the amount of noise at the lek.	The revised Alternative B has no specific noise limitation.
ALT B	Noise	In06	8	Page C-II, Construction, Item 21, to protect the identified ferruginous hawk nests, Greater Sage-Grouse leks and wintering big game habitat, the project proponent will install housing and/or muffler(s) around equipment that exceeds 55 dBA. This is also unreasonable as virtually all noise from any type of site construction will exceed this level; placing mufflers is neither safe nor feasible.	This is an existing COA that can currently be utilized in the RFO under the RMP.
ALT B	Noise regulation	C02	15	Alternative B would adopt a noise limit when BLM has no legal authority to regulate noise. This far exceeds BLM regulatory authority and needs to be dropped.	The revised Alternative B has no specific noise limitation.
ALT B	Off-site mitigation	In05, In08	33	Devon does not believe the BLM's proposal to require off-site mitigation is consistent with the BLM's most recent guidance regarding off-site or compensatory mitigation in IM 2008-204 (Sept. 30. 2008), which makes it clear that it "is not the intent of this policy to solicit or require applicant-committed mitigation that exceeds the impact of the applicant's proposed project... a certain level of adverse impact may be acceptable and should be identified during the environmental reviews and acknowledged in the decision document."	Please see WO IM-2013-142, which clarifies the regional mitigation and off-site mitigation responsibilities of the BLM and includes a handbook for implementation of regional and off-site mitigation.
ALT B	Opposition	In05, In08	15	We are strenuously opposed to Alternative B and believe the BLM should either drastically modify this alternative or eliminate the alternative entirely from detailed consideration. As currently presented, Alternative B is poorly drafted, vague and would be impossible for the BLM to manage and the operators to plan development. Alternative B would drastically curtail oil and gas development and should not be selected.	Thank you for your comment. All alternatives will be analyzed.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Pipelines	In05, In08	24	Another mitigation measure is consideration of pipelines for transporting liquids off-site or for installation of larger capacity storage tanks to reduce the number of truck trips to the well sites. BLM has been the largest impediment to the use of centralized production facilities due to its refusal to approve off-lease measurement and comingling which has prohibited the widespread use of consolidated facilities, given the checkerboard pattern prevalent within the project area. Before attempting to require consolidated production facilities, BLM should first revise and streamline its procedures to authorize this type of mitigation measures. Also, in the absence of appropriate topography, operators would have to install additional pumps and compression facilities to transport produced water and hydrocarbons to consolidated facilities. This equipment increases surface disturbance and produces exhaust. Larger tanks may have adverse visual impacts and create additional to species such as sage-grouse if utilized as raptor perches.	Consolidation of facilities is considered in Alternative B and Alternative F, Agency Preferred Alternative.
ALT B	Population thresholds	C02	63	Draft EIS p. 2-9 Population Thresholds CLG Comment: The Draft EIS needs to tie impacts to wildlife and bird populations to causal factors from gas development. As written, the Draft EIS assumes, without data, that energy development is the cause. Certainly drought, predators, disease, hunting, and other herbivore grazing behaviors are also important factors and continue to impact wildlife and bird populations.	This point is recognized in the text of the revised Alternative B: "If it were determined that a species population... were declining at an accelerated rate... due to natural gas development."
ALT B	Population thresholds	C02	68	Draft EIS p. 2-14 Population Thresholds **CLG Comment:** This is poorly written and not well-documented.	Thank you for your comment.
ALT B	Power washing	C02	24	One of the Enhanced Resource Protection for livestock in Alternative B is to power-wash field vehicles before they enter or move within the project area. Field vehicles still need to be defined. Does it include light trucks used for personnel transportation or ATVs? How will this be enforced?	All vehicles associated with oil and gas operations that access the project area would be required to power wash their vehicles to deal with weeds as part of this alternative.
ALT B	Power washing	C02	25	Power washing is unlikely to have any benefit and would greatly increase adverse environmental impacts through runoff and use of water.	Power washing of field vehicles can be effective in reducing the spread of invasive species.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Power washing	C02	26	Power washing will fail in reducing noxious weeds. It is well-established that noxious weeds spread by wind, birds, and wildlife. Sakai, et al., The Population Biology of Invasive Species, ANNU. REV. ECOL. SYST. 2001, 32:305–32 at 312. The Draft EIS offers no mitigation to limit such distribution but instead attempts to impose an expensive and inadequate mitigation measure on a minor or de minimus source of seed distribution.	Thank you for your comment.
ALT B	Power washing	C02	70	Draft EIS p. 2-17 Thorough power-washing by Operators of all field vehicles...before entering the project area or when moving from one part of the project area to another. CLG Comment: As noted above, CLG recommends this be deleted since it is expensive and ineffective. In addition, the Draft EIS fails to analyze how many vehicles, the types of vehicles, the amount of water needed, and handling of runoff, to list a few issues. This proposal is not well thought out, needs to be revised for feasibility, or just deleted. Vehicles are a minor contributor to noxious weeds. Wind, birds and wildlife account for the overwhelming majority of vectors to spread weeds.	Power washing of field vehicles can be effective in reducing the spread of invasive species. Thank you for your comment.
ALT B	Power washing	In10	27	The requirement for power-washing is unnecessary and unduly burdensome. What is the justification? The ability to power-wash a vehicle assumes that water and electricity are available. This will not be the case at locations throughout the project area. We request BLM eliminate this requirement.	Generators could be used as a power source for power washing of vehicles.
ALT B	Problems	O04	6	We have no confidence that the assembly of a technical team to establish a mitigation plan would fix the problem if formally identified. Our experience with the JIO and PAPO processes indicates that these teams spent a great deal of money without ever demonstrating a single increase in wildlife populations or viability with all of the off-site mitigation measures that they approved. It is better to prevent or minimize impacts to habitats rather than try to call together a committee to address a problem after impacts have occurred.	Please see the updated text. The role and formation of the CD-C consultation and coordination group has been clarified in the document.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Problems	O04	7	The specific Enhance Resource Protections proposed in this alternative also fail to address fundamental biological realities regarding thresholds of impacts. For example, while prohibiting man camps, removing unnecessary fences, and requiring mufflers on noisy equipment within big game crucial ranges (Draft EIS at 2-10) are all well and good, these measures would be rendered meaningless by the fact that the intensity of development proposed under Alternative B would drive big game off these winter ranges entirely. This is underscored by the fact that a 10% surface disturbance threshold would be reached in crucial ranges before habitat improvement projects would be required. Draft EIS at 2-10. Is there any example documented in science where mule deer are using lands industrialized by the oil and gas industry that have reached this 10% disturbance threshold. Far better for BLM to put together a package of meaningful mitigation measures, such as displacing surface-disturbing project elements entirely away from crucial winter ranges and migration corridors.	The BLM is under the obligation to allow for the development of natural gas in the project area, as almost the entire project area has been leased. Impacts to mule deer and other sensitive species and resources will occur; however, it is the BLM's responsibility to ensure that these impacts are mitigated to the degree possible. Alternative B includes mitigation measures that would be implemented in an effort to reduce such impacts.
ALT B	Problems	O04	8	In other cases, the Enhanced Resource Alternative protections are simply the basic measures that one would expect BLM to undertake in any case, under any alternative, as part of doing its job.	The protection measures identified in Alternative B are not entirely measures that the BLM would always undertake. Some are new and some have been taken from appendices to the RMP that identify potential BMPs that may be applied on a site-specific basis. This alternative would require their use rather then making them voluntary.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Problems	O12/ O13	14	It is ludicrous that mitigations for population impacts will only be taken into consideration if "The WGFD were to express formal written concern that any of the herds within the project area was declining at an accelerated rate." We know that when migration corridors and critical winter range are removed from a population deleterious effects are soon to follow. Once again the proposed mitigation plans are far from sufficient. Addressing failures of reclamation, developing water and proposing vegetation treatment are not going to return acceptable and functional winter range or migration corridors to affected populations. Also depending on well development plans, limiting wells to four per section in CWR will still result in severe fragmentation of habitats and will have little to no benefits to wildlife. The last statement in 2.2.3.1 has little validity unless the energy production proponents of this project are willing to conduct scientifically significant and valid research into ALL populations that will be effected by the development. The statement "If population status of a species were to change...additional protective measures would be developed" implies that sufficient population data has been collected prior to the development, using population status as a benchmark for adaptive management is unacceptable. Also missing in this statement is the cumulative effects of all adjacent developments and how the effects of each individually will be measured and addressed. If these concerns are not addressed prior to the onset of development it will be extremely difficult to determine fault for any population status changes and very easy to redirect blame on other adjacent disturbances.	Development has been occurring in the project area for a number of decades prior to the finalization of this EIS. Data have been collected over at least the last decade for various species in the project area and have recently been compiled into a report available on the CD/WII website. However, please see updated text in the Final EIS that has removed the WGFD's responsibility for identifying declines.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Problems	O12/ O13	26	From an ungulate standpoint potential disruption of CWR due to proposed development could have long term negative impacts on already stressed herds (especially mule deer). The No Action Alt. would be the most beneficial from a wildlife habitat standpoint, but since this is likely not to happen, it would appear that the use of directional drilling would have the smaller footprint of wildlife habitat degradation when compared to other alternatives. I would assume WGFD would have the most up to date data relative to CWR in the proposed area of development. The Proposed Action related to mitigation for ungulate winter range impacts only if WGFD writes a formal letter stating unacceptable impacts take the burden of monitoring away from BLM and other signatories of this proposal and likely inadvertently will allow drastic impacts due to habitat fragmentation and reduction. A letter written after the fact won't suffice to properly mitigate the activities, the damage will already have occurred.	Thank you for your comment.
ALT B	Pronghorn and Mule deer	In05, In08	34	BLM must provide more information on how it will analyze potential impacts to PH and MD migration corridors. How will migration corridors be identified or mapped. Need information on how large the corridors are as well as objective scientific information to determine when - or if - surface disturbance is actually adversely impacting migration. We understand there has already been significant controversy and difficulty implementing the performance-based criterion utilized in the Atlantic Rim area relating to migration corridors and we would not want to see similar mistakes repeated in CD-C.	The **Wildlife Mitigation, Monitoring, and Protection Plan (Appendix I)** is designed to assist both the BLM and Operators with determining potential impacts that the development of natural gas may have on mule deer and pronghorn migration corridors.
ALT B	Pronghorn and Mule deer population thresholds	In05, In08	37	BLM must modify the population threshold criteria for PH and MD, as well as other wildlife resources, to indicate that the WGFD can only consider potential impacts of O&G development when evaluating population thresholds. Otherwise O&G operators would effectively "bear the brunt" of any and all impacts to wildlife such as drought, fire or disease. Further, allowing WGFD to express a formal opinion and, thus, effectively control O&G development within the area gives them inappropriate control over O&G operations on BLM lands. WGFD could effectively coerce and control O&G operations on federal lands with the threat of issuing a formal population opinion. This management approach is entirely inappropriate. (see also 28)	Alternative B has been amended; please see updated text. The WGFD would not determine how and when natural gas development would take place on federal lands. The WGFD would have no decision-making authority that would supersede that of the BLM. Finally, no valid existing rights would be infringed upon by the implementation of any of these alternatives.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Pronghorn and Mule deer reclamation credits	In05, In08	35	BLM has indicated that areas that have been successfully reclaimed would be credited against the surface disturbance thresholds, but has not provided any specific information or criteria on how these will be calculated. Even the guidance in Appendix E does not demonstrate how BLM will evaluate or analyze successful reclamation. Additional information is needed to comment on this. As drafted, Devon is opposed to the surface limits described in Alt. B.	Rollover reclamation would be credited to the Operator when the interim reclamation objective criteria are met, as stated in the IRO Appendix. The **IRO (Appendix M)** would be implemented should Alternative C be selected. **Appendix E** details how reclamation would be implemented if the Proposed Action, Alternative B, D, or F were selected.
ALT B	Reclamation	In04	37	Will successful reclamation under threshold performance allow a second well pad in areas limited to 1 pad/section?	Alternative B does not limit the number of well pads based on successful reclamation. The Greater Sage-Grouse element of Alternative B has been removed in the Final EIS.
ALT B	Remote well monitoring	In10	29	Remote well monitoring may not be feasible under some circumstances and during certain times of year. Remote well monitoring may require communication towers, which may be precluded by other restrictions (e.g. VRM, sage grouse, and raptor stips). We request BLM only require remote well monitoring when it is reasonable and practical to do so.	The use of remote well monitoring would be determined on a site-specific basis and would be included in the COAs for the site-specific APD and Environmental Assessment.
ALT B	Sage-Grouse	O04	28 & 29	Under Alternative the CD-C EIS, No Surface Occupancy buffers are prescribed for the lands within 0.6 mile of leks. The 0.6-mile buffer NSO buffer has no basis in science. True, male sage grouse use the area within 0.6 mile of the lek as a “loafing area” during the breeding season. But it is abundantly clear based on the science that the placement of an oil and gas well, whether actively drilling or in post-drilling production, as close as 0.6 mile from the lek will have deleterious effects on the sage grouse breeding population on that lek (See Holloran 2005). See letter for additional information. The 0.6-mile metric from the lek boundary is not a biologically useful management tool for limiting the placement of surface facilities for oil and gas. The National Technical Team Report includes a full review of the scientific literature on this subject and recommends an NSO buffer of 4 miles when leasing is allowed at all. The limit of one energy development per 640 acres is in line with NTT recommendations, however, diluting the calculation using a DDCT area is not in line with NTT recommendations.	The Greater Sage-Grouse element of Alternative B has been removed. Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Sage-Grouse	In04	10	Page 2-7 first paragraph Basic Protection: The seasonal constraint is applied in all identified sage grouse habitat. Why is this being applied in all sage grouse habitat considering the Executive Order (EO) and the 2 mile seasonal radius stipulated in the WY BLM IM sage grouse non-core. Core and non-core habitat should be managed pursuant to the EO and IM's.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
ALT B	Sage-Grouse	In04	23	Page 2-11, Area of Concern: As this process unfolds and the RFO RMP amendment is finalized, the requirements for sage-grouse conservation in the RFO may change from the current condition. The Wyoming Core Area strategy (SWED 2011) applies to all activities, proposed in a designated core area, that require a permit from any State of Wyoming regulatory agency. The Wyoming conservation strategy for Greater Sage-Grouse continues to evolve and the requirements that would be applied to proposed activities in all seasonal sage-grouse habitats will change as the strategy changes. This statement suggests that the situation for sage grouse is dynamic until the BLM revises its RMP's and that the state strategy maybe be dynamic as well. Companies will be commenting on the RMP revisions for sage grouse, but until it is released we reserve the right to supplement these comments with those we plan to submit with the Rawlins RMP revision. We also take exception to the statement that Wyoming's state policy is dynamic and subject to change. It is our understanding that the State of Wyoming will be maintaining the Executive Order until the Sage Grouse listing decision in 2015.	Please see response to IN04-10 above.
ALT B	Sage-Grouse	In04	24	Page 2-13, first bullet: *Burying new power lines and using low-profile facilities within 1 mile of an occupied lek or in winter concentration areas;* it may not be possible to bury power lines because of concerns over other species, technical, logistical or economic concerns and the ability to obtain easements across both federal and fee lands.	Thank you for your comment. All resource concerns will be taken into account when considering facility placement.
ALT B	Sage-Grouse	In04	25	Page 2-13, third bullet: No more than one oil and gas or mining location per 640 acres and no more than 5 percent habitat disturbance (related to all programs or applicable sources of disturbance).The BLM cannot impose this standard in non-core areas. It violates IM WY-2012-019 and the Governor's Executive Order.	Please see response to IN04-10 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Sage-Grouse	In04	27	Page 2-13, middle of the page: If surface disturbance were to reach 10 percent or 2 oil and gas or mining locations per 640 acres of non-core sage-grouse lek, nesting/early brood-rearing habitat, or winter concentration areas in a lease, habitat improvement projects would be required. The BLM cannot impose this requirement in non-core areas. It violates IM WY-2012-019 and the Governor's Executive Order. This is a consistent concern in the Draft EIS. There seems to be little recognition being given to the Wyoming Executive Order and the concept with core and non-core areas for sage grouse. Non-core areas are directed to be available for existing and planned oil and gas activities. This does not seem apparent with the tone of the language found in the Draft EIS.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
ALT B	Sage-Grouse	In04	28	Page 2-13, Population thresholds, Timing and Distance Restrictions (Non-core areas to conform with core areas): The BLM cannot impose this standard in non-core areas. It violates IM WY-2012-019 and the Governor's Executive Order. This standard should be deleted in the Final EIS. No difference is provided between core and non-core. These measures should be applied to non-core and this should be stated in the Final EIS.	Please see response to IN04-27 above.
ALT B	Sage-grouse	In05, In08	41	BLM should revise its statement on p. 2-13 that it has the authority to apply a number of protective measures to minimize impacts upon SG and their habitats to be consistent with the existing precedent from IBLA. Although IBLA acknowledged that the BLM may impose mitigation measures to protect GSG, the Board noted the agency could only do so when such mitigation requirements are based on site-specific concerns and detailed analyses. Absent site-specific research and analyses, BLM cannot simply ignore existing lease rights, requirements in the RMP, BLM policy or regulations at 43 CFR 3101.1-2. It would be inappropriate and potentially illegal to do so.	Please see response to IN04-27 above.
ALT B	Sage-grouse	In05, In08	42	We strenuously oppose the sound restrictions limiting potential sound levels to 49 decibels only 30 feet from the source. It is not technically possible.	The noise restriction has been removed from Alternative B.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Sage-grouse	In05, In08	43	We are also concerned about the proposal to require all power lines to be buried. In many situations burial of power lines will cause significantly greater surface disturbance and may cause additional impact to big game, cultural and paleontological resources. Given the difficult reclamation conditions in the area, BLM should not assume the burial of power lines will have less impact on wildlife and other resources.	The potential for the burial of power lines would be considered on a case-by-case basis and all potential impacts to wildlife and other resources would be assessed prior to implementation.
ALT B	Sage-Grouse EO	C02	14	Alternative B exceeds the Executive Order 2011-5 for sage grouse.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
ALT B	Sage-Grouse EO	C04	5	Alternative B is not consistent with the State of Wyoming Sage-Grouse Executive Order's (EO) core area strategy. Actions which require core area protections outside of core areas, or actions which add additional protective stipulations inside of core areas, are inconsistent with the EO and therefore contrary to the agreement that the stakeholders reached.	Please see response to C02-14 above.
ALT B	Sage-Grouse EO	C04	6	Where the sage-grouse EO is silent, we ask that the BLM abide by WY-2012-019 instructional memorandum.	Please see response to C02-14 above.
ALT B	Sage-Grouse EO	C04	7	Limiting development to one oil and gas location per 640 acres throughout the CD-C planning area under the guise of sage-grouse protection is contrary to the intent of the EO.	The potential limitation of one well pad per section is not aimed at the protection of only Greater Sage-Grouse, but rather the goal of reducing surface disturbance and thus impacts on all resources. In addition, please see updated text regarding Greater Sage-Grouse.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Sage-Grouse EO	In05, In08	38	We are extremely concerned about and opposed to BLM's proposed management for GSG in Alt. B. It is not consistent with Wyoming's GSG core area protection policy in EO 2011-5 or BLM IM WY-2012-019. BLM should revise its proposed GSG management to be consistent with the current policies. In development of the Preferred Alt., BLM should not select any portion of the strategy contained in Alt. B. Since BLM notes that management of GSG may be impacted by the ongoing revision to its land use plan, and given the uncertainty created by the plan amendment, Devon reserves the right to submit additional comments regarding the CD-C Draft EIS when the draft plan amendment for the RFO is completed.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
ALT B	Sage-Grouse EO	In05, In08	39	BLM needs to define and explain how it will define SG habitat including nesting/early brood-rearing habitat and winter concentration areas. Currently the BLM has not identified these areas or provided a map of them. This is particularly concerning for winter concentration areas, which are not defined or mapped in the Draft EIS, despite the fact the operators funded wildlife studies to locate and identify winter concentration areas during the pendency of the CD-C EIS. It is irresponsible and inappropriate for the BLM not to make this data available in the Draft EIS. They should also explain whether they will utilize the general definitions for sage-grouse in EO 2011-5 or another set of criterion. Without this information, Devon cannot adequately assess how the proposed restrictions under Alt. B will impact its operations. Far more detail regarding these definitions must be included in the Final EIS.	Please see updated text and **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Sage-Grouse EO	In05, In08	40	We are strenuously opposed to BLM's proposal to limit O&G activities within the entire CD-C project area to not more than one O&G location per 640 acres and no more than five percent habitat disturbance. This proposal is not consistent with EO 2011-5 or IM WY-2012-019. BLM would effectively impose core area protection measures on lands not identified as core. We are opposed to the proposed surface disturbance cap prohibiting more than two O&G locations per 640 acres in non-core SG areas. Such a prohibition is contrary to both the EO and IM. It is irresponsible for the BLM to propose an alternative that is so clearly inconsistent with both the EO and IM. The WY sage grouse policy was carefully revised and endorsed by the USFWS and BLM has not identified sufficient reason to ignore the policy.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
ALT B	Sage-Grouse EO	In06	3	Page 2-7, 2.2.3, Enhanced Resource Protections, all identified sage-grouse habitat is subject to seasonal constraints outlined under the Basic Protection paragraph; and page 2-13, if surface disturbance were to reach 10 percent or 2 oil and gas or mining locations per 640 acres of non-core sage-grouse lek, nesting/early brood-rearing habitat, or winter concentration areas in a lease, habitat improvement projects would be required. The Executive Order (EO) and BLM IM WY -2012-019 do not include the same constraints. These requirements would violate the EO and thus should be deleted from the Final EIS.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
ALT B	Sage-Grouse EO	In10	22	Several of the protections in Alt B are not consistent with stipulations provided for under EO 2011-5. A highly qualified professional team spent significant time and resources developing the EO to establish a policy that would effectively protect sage grouse from potential impacts of oil and gas development operations. USFWS supports this strategy. As such, the protections in Alt B or other sage grouse stipulations that go beyond the EO are unnecessary and have not been justified by BLM. Following this statement are a list of items in Alt B and comments on why they are not needed.	The Greater Sage-Grouse element of Alternative B has been removed. Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
ALT B	Seasonal restrictions	C02	27	a. Pronghorn Antelope and Mule Deer There should be exceptions, waivers, and modifications for seasonal restrictions on construction, drilling, and other activities from November 15 through April 30.	Whether or not to approve an exception request will be at the discretion of the BLM wildlife biologist and authorized officer on a site-specific basis. Information pertaining to exceptions, waivers, and modifications can be found in the Rawlins RMP Appendix 9.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Selection of resources	In05, In08	22	BLM must justify why certain resources were selected to receive enhanced protection. Most mule deer herds are currently above or very close to WGFDs population objective. Given these levels, there seems no reason to create additional mitigation measures for mule deer. Also, why do ferruginous hawks need additional protections given the significant protections provided under the MBTA and RMP. Finally, BLM has not adequately explained why additional monitoring or mitigation measures are necessary for Muddy Ck. and Bitter Ck. given extensive monitoring already on-going in the Atlantic Rim Project Area.	The mule deer herd numbers have been updated to more accurately illustrate the declining herd numbers. The project area is habitat to a large population of ferruginous hawks; therefore, additional measures to ensure the population does not decline are necessary. Muddy Creek and Bitter Creek are tributaries to the Colorado River; segments of Muddy Creek are on the 303(d) list for Threatened and Impaired waters, and additional natural gas development may contribute to detrimental impacts. Monitoring of Muddy Creek will be the responsibility of the BLM.
ALT B	Selenium/ salinity	In10	14	The RMP establishes stipulations for protection of fish which are reasonable and adequate. We suggest retaining these to protect sensitive fish species in Muddy Creek and its drainage.	Thank you for your comment. The scoping process and the Draft EIS comments identified numerous concerns regarding not only the species of sensitive fish but also the potential impacts to water quality as a result of this project. The buffers analyzed in Alternative B are not in place solely for sensitive fish.
ALT B	Selenium/ salinity	In10	15	Prohibiting all surface discharge of produced waters in the Muddy Creek and Bitter Creek watersheds is overbroad. Some surface discharge of water with satisfactory selenium and salinity concentrations will not negatively impact surface waters and should be permitted. Similarly, surface discharge in some locations within the drainage will not have the potential to negatively impact surface waters within the drainage. Such discharges should be permitted. Yates requests the BLM limit this salinity and selenium stipulation to restrict only surface water discharges that will potentially negatively impact surface waters in the drainage.	The **Operators' Project Description (Appendix B)** states that no surface discharge of produced waters is anticipated. If the Operators would like to amend this, they should do so in their project description. There is no analysis of surface discharge in this document. However, should a proposal for surface discharge be brought to the RFO, it will be analyzed under a separate NEPA document.
ALT B	Sensitive species protections	O04	9	We recommend applying the additional sensitive species protective measures in Alternative B as outlined at Draft EIS page 4-121; while most of these measures are not so fundamental that they would overcome the impacts of well and road construction and siting, every little bit helps with regard to protecting BLM Sensitive Species.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Surface disturbance	In04	15	Page 2-9, second full paragraph, Disturbance that is counted against the threshold includes all disturbance... that serve the Operator's lease and off-lease rights-of-way on adjacent BLM lands that also service the lease. This could be problematic for leases that may have long roads and pipeline connections that extend out several miles. Clarification should be provided that pipeline routes should not be included as part of the surface disturbance if 70% revegetation has been achieved.	Page 2-19, under the description of Alternative C, states that "[a]ll pre-existing and current surface disturbance associated with natural gas well pads, their access roads, and gathering pipelines would count against the cap." If a location or disturbance has reached successful interim reclamation as described in **Appendix M**, then that disturbance would not count against the cap.
ALT B	Surface disturbance thresholds	In05, In08	27	BLM must provide more information on how it intends to apply the surface disturbance threshold and how it has sufficient resources to implement it. BLM cannot mandate or assume the operators will provide funding. Such funding must be provided voluntarily. As such, BLM must explain how it has the resources to enforce and manage this alternative if not funds are volunteered. BLM also needs to explain how it will manage the surface disturbance thresholds. While analyzing surface disturbance within a lease may be possible, it could be very difficult to manage measure, or mitigate surface disturbance thresholds when applied to rights-of-way. Some questions include: what width will be used, disturbed acres or something broader; operators have little control over how disturbance is measured outside of their leasehold, but within a proposed right-of-way; could one operator use up the threshold and then another not be allowed a right-of-way? Attempting to apply the surface disturbance thresholds for rights-of-way is infeasible and must be eliminated from Alt. B.	The surface disturbance threshold would be applied as described in Alternative B. The Operators are required to submit reclamation monitoring data, as-builts, and other information pertaining to any approved surface disturbances. The BLM would be responsible for maintaining the database associated with existing and proposed disturbance in the project area. No funds for tracking would be expected from Operators; however, Operators would be expected to supply the BLM with accurate and timely information concerning their respective development in the project area as required by federal regulations. Rights-of-way would be included in the threshold measurement; this is surface disturbance and would potentially have impacts to the identified sensitive resources. No valid rights to develop the resource would be infringed upon. This has been clearly articulated in the Alternative.
ALT B	Surface disturbance thresholds	In10	28	There are dozens of well locations within the Cyclone Rim allotment. A large portion of this area has been leased to Yates and other Operators. To some degree the same can be said for the 3 allotments in the southern end of the area (Continental, South Flat Top and Red Creek). Exceeding the 5% and 8% surface threshold in Alt B is a possibility. We request BLM limit actions triggered by exceeding the thresholds to those that are practical and workable from the operators perspective. At this time, it does not appear that the Proposed Actions are unreasonable.	All alternatives are reasonable; hence their inclusion in the Draft EIS. If the 5 or 10 percent thresholds are exceeded, then mitigation would need to occur.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Taking	In05, In08	32	In Alt. B the BLM proposes to limit or prohibit development on certain oil and gas leases when it believes various thresholds have been reached. Depriving the lessee of the opportunity to develop its oil and gas leases is inconsistent with the terms of the lease as a contract and also inconsistent wit BLM's regulations that provide the lessee the opportunity to use as much of the lease as necessary to develop and transport the resources. These actions may constitute a taking in violation of the Fifth Amendment. Additionally, any alternative that would substantially modify Devon's lease rights could subject the BLM to a rescission and restitution claim. BLM must avoid adopting alternatives that would result in the unconstitutional taking of Devon's property and contract rights.	No valid existing rights would be infringed upon by the selection of any of the alternatives. This has been clarified in the Final EIS.
ALT B	Technical team	In04	22	Page 2-11, second paragraph: If the Wyoming Game and Fish Department (WGFD) were to express formal written concern that a species population, within the project area were declining at an accelerated rate compared to the rest of the population, a technical team would be assembled to prepare a mitigation plan as described above. Comment: What is the composition of the technical team? What is the basis on which declines are considered “accelerated”? What if it has nothing to do with oil and gas? To preclude APD’s on these criteria until a specific and known conclusion is reached should be reconsidered.	Please see the updated text. The CD-C consultation and coordination group's duties have been further defined. The **Wildlife Mitigation and Monitoring Plan (Appendix I)** would be implemented to monitor relevant wildlife species and to determine what impact, if any, oil and gas development is having on those wildlife species. The development of a mitigation plan would be undertaken on a site-specific basis.
ALT B	Technical team	In05, In08	31	In this section is the first time the term "technical team" is mentioned. There is no information on the members of the team or how it will be implemented. BLM needs to specify whether the team will be a FACA committee and whether the "technical team" is the same as the "interagency CD-C working group or the "interagency CD-C consultation group. This needs to be clarified. Also Devon encourages BLM not to utilize a FACA committee given the procedural difficulties and mandates imposed thereby. We also urge BLM to delete this 'technical team' from Alternative B.	Please see the updated text. The CD-C consultation and coordination group's duties have been further defined. The group will not be chartered under FACA as it would not require the group's consensus to change management direction. Operators would not be included in the group. Management decisions will not be delegated to the group and the BLM will make the ultimate decision on any proposed management actions.
ALT B	Travel plan	C02	57	Draft EIS p. 2-8 A travel plan that minimizes vehicular traffic for monitoring and servicing wells and other facilities and that includes closures and/or time-of-day restrictions for production roads during the winter season; CLG Comment: One road would not be adequate, especially if there are different facilities or operators. Necessity or need should be the determinative factor.	Thank you for your comment. The travel plan as described in Alternative B does not indicate that only one new road would be authorized.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Unintended consequen-ces	In07	6	Page 4-93, Fish, last paragraph. The unintentional consequence of these protections being applied only to BLM land could be to increase drilling activities on private and state land could occur under any action alternative with increased restrictions and/or for any potential species/area on which additional protections may be applied. This potential consequence should be identified wherever it might apply. Consideration should be given to the Proposed Action as opposed to encouraging private land commitments that operators and the state are not in a position to make.	Thank you for your comment.
ALT B	Valid existing rights	In05, In08	16	The combination of enhanced mitigation measures and thresholds triggering additional mitigation is most likely contradictory to the express terms of Devon's valid existing lease rights and the Rawlins RMP. For example, the alternative proposes to increase surface occupancy stipulations around Chain Lakes and wetlands from 500 feet to 0.25 miles. Such a requirement is inconsistent with the express terms of the RMP and valid existing rights.	No valid existing rights would be infringed upon by the selection of any of the alternatives. This has been clarified in the Final EIS.
ALT B	Valid existing rights	In10	10	Yates holds leases within the 1/2 mile buffer of perennial streams within the area. Full development of such leases will be significantly limited by expanding the surface avoidance distance from 500 feet to 1/2 mile around perennial streams. Similar concerns apply to the 1/4 mile buffer around springs, wells and wetlands. The buffers established in the RMP are adequate to protect these resources. Larger buffers are excessive and will unnecessarily restrict operations. In some situations, these large buffers will make development of a lease impractical if not impossible. They also infringe on valid existing rights. We request BLM retain the RMP buffers and use site specific mitigation measures on a case-by-case basis to protect the resource.	No valid existing rights would be infringed upon through the selection of any of the alternatives.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	WGFD determina-tions	C02	66	Draft EIS p. 2-10 If surface disturbance reached 10 percent of pronghorn or mule deer CWR and migration corridors in a lease, habitat improvement projects would be required in addition to the requirements above. The BLM would establish an interagency CD-C working group and consult with them to determine which projects would be beneficial. CLG Comment: WGFD's delegated authority is too broad to demand changes in the production or operation. As written, the WGFD could make a demand for a change without independent data supporting a determination of causation. It is an improper delegation, fails to follow APA procedures and cannot lawfully be part of the Preferred Alternative. The working group should include land owners, permittees, and local governments as well as state and federal agencies.	Please see updated text.
ALT B	WGFD role	In05, In08	28	Devon is strenuously opposed to the population threshold concept for several reasons. First BLM needs to explain and justify why it is transferring its responsibility to manage public lands to the WGFD. BLM, not the WGFD, is charged with management of the federal lands and only the BLM can manage its lands in compliance with FLPMA's multiple use mandate. By allowing the WGFD to determine how and when oil and gas development will take place on federal lands, the BLM is improperly and potentially illegally attempting to delegate its management responsibilities. Second, BLM has not identified what criterion would be utilized by the WGFD to make population decisions. Third, BLM must explain how it will protect operators' rights if impacted by a WGFD decision. How could an operator potentially challenge a WGFD decision that is implemented by the BLM? The process for this alternative has not been sufficiently developed and must be eliminated.	Alternative B has been amended; please see updated text. The WGFD would not determine how and when natural gas development would take place on federal lands. The WGFD would have no decision-making authority; the BLM would retain those rights. Finally, no valid existing rights would be infringed upon by the implementation of any of these alternatives.
ALT B	WGFD role	In05, In08	30	We are strenuously opposed to the position that all operations in the project area would be halted under Alt. B if the WGFD issues an opinion letter. Forcing operations to halt is inconsistent with existing lease rights and would have a profoundly negative impact on the local and regional economy.	Please see response to In05-28 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT B	Wildlife technical team	In10	33	The scope of authority, responsibility and composition of the technical team is unclear. It is also unclear what triggers assembly of the team. How is accelerated rate of decline determined? What burden of proof must the WGFD meet in making their determination and is this subject to review? What is the timeline for preparing a mitigation plan and continuing APD approval?	See revised Alternative B in the Final EIS. The WGFD would no longer be responsible for making a determination. The mitigation plan would be developed on a project-specific basis; therefore, it would not be feasible to state the requirements and the timeline that would be required in this programmatic EIS. More clarification of the technical team has been provided.
ALT C	Acreage calculation	O04	13	Under Alternative C, neither natural gas processing and transmission facilities nor county, state, and federal roads would count against the acreage disturbance cap. Draft EIS at 2-19. This loophole directly contradicts the point of having an acreage disturbance cap. If one assumes that acreage of surface disturbance is correlated with wildlife impact (which is intuitively appealing but has yet to be shown through scientific studies), then an acre of county road and an acre of gas field access road have identical impact. Wildlife does not know and does not care about the administrative purpose for which an impact was constructed; the impact comes from the ecological disturbance and subtraction of habitat, not from administrative responsibility. These impacts should be counted toward the acreage of surface disturbance under this Alternative, just as they are for sage grouse Core Area DDCT calculations.	Alternative C is directed at the development activity of the individual Operators. It is the intent of the alternative that they be held accountable only for their own activities and not the prior, concurrent, or future activities of others. This EIS analyzes the impacts of natural gas development and alternatives and responds to issues raised due to natural gas development, not existing disturbances unrelated to natural gas such as existing county roads.
ALT C	Economic feasibility	In04	39	The surface cap concept in Alternative C, when combined with a specific time requirement is not reasonable or practical in application. Soil, vegetation and reclamation potential data presented in the Draft EIS clearly support this. Please include reclamation standards in the approved project that allow for interim and final reclamation at reasonable times, rather than a set number of years or growing seasons.	Alternative C does not have a specific time requirement for reclamation, nor does the Rawlins RMP.
ALT C	Feasibility	In07	4	Portions of Alternatives C are unworkable. Thresholds have been met in many areas. How does BLM plan on tracking disturbance and reclamation, particularly at locations with multiple leases, some less than 640 acres in extent, and given private/public land mix?	The BLM will track disturbance and reclamation based on reclamation monitoring reports submitted by the Operators.
ALT C	Feasibility	In10	3	The surface cap concept in Alternative C when combined with a specific time requirement (years/seasons) is not reasonable or practical in application. Soil, vegetation and reclamation potential data presented in the Draft EIS clearly support this.	Alternative C does not have a specific time requirement for reclamation, nor does the Rawlins RMP.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT C	High and low density	O04	12	Under Alternative C, the designation of the project into areas of high and low density is problematic, because many areas of low well density have been lumped into the “high density” category making them a sacrifice zone. For this alternative, the boundary lines should be redrawn tightly around lands with 4 well pads per section or more.	The establishment of these zones is based on previous development and high-density areas may have low well density now, but may not in the future.
ALT C	High and low density areas	In05, In08	58	We suggest that BLM develop a criteria under Alt. C whereby the high density and low density areas could shift over time based on new geologic information. As new technology is developed, areas which were previously considered to have low potential may have much higher potential for oil and gas development. By developing criteria by which the BLM could modify the high and low development areas the BLM will ensure it has sufficient flexibility to adequately manage this important natural gas resource.	Allowing for flexibility in the locations for high-density development would defeat the purpose of creating the high- and low-density development areas.
ALT C	Implementa-tion	In01	20	When discussing Alternative C: Surface Disturbance Cap on page 2-18, the BLM should does not clearly identify which party would be obtaining the existing disturbance information and which party would be determining the current acreage for long-term and successful interim reclamation. Also, the BLM should state how the cost of managing a BLM designed disturbance cap and monitoring program will be fairly distributed between operators and the agency. Analysis of costs should be completed for this requirement.	As stated in the description of Alternative C, "The Operators would be required to update their reported disturbance annually in order to certify the accumulated disturbance on their federal lease holdings to date and the amount of interim reclamation that had occurred. Under the alternative, the BLM would perform quality control on the reported data and evaluate the reported interim reclamation and the success of that reclamation. The BLM would then calculate net available surface disturbance under the cap for each section. As new drilling proposals were received, they would be evaluated against the net available surface disturbance within the section where the drilling was proposed. For oil and gas leases smaller than a section, the acreage cap would be adjusted on a pro-rata basis."

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT C	Intensity of development	O04	10	Alternative C is an environmentally unacceptable alternative, because both high and low density areas will result in an intensity of development that will destroy the land's capability to support many types of BLM Sensitive Species. See Draft EIS at ES-5. It is notable that the current "high density" area averages 33 acres of surface disturbance per section, which has voided this area of habitat value for sage grouse, elk, and other species. The proposal that a similar level of surface disturbance (30-acre disturbance cap) be permitted in low density areas as well is antithetical to the BLM's multiple-use mandate to allow resource extraction while also providing adequate habitat for native wildlife. Note: We are assuming that the 60-acre cap applies to 40-acre spacing while the 30-acre cap applies to 80-acre spacing; the reverse is described multiple places in the Draft EIS. See Draft EIS at 2-18.	Thank you for your comment.
ALT C	Interim reclamation and rollover credit	In05, In08	55	BLM must clarify the criterion it intends to use to determine when interim reclamation will be adequate for rollover credit. There are three separate interim reclamation standards in Appendix E. As currently presented, we can't determine which BLM plans to adopt. We encourage BLM to develop objective, reasonable criterion that can be utilized to determine when reclamation is sufficient for rollover credit. Without clearly defined objective criteria, BLM's future management of reclamation could be subject to litigation and future challenges.	The rollover criteria that would be used are identified in **Appendix M, Interim Rollover Objective (IRO) For Alternative C.**
ALT C	Reclamation	In05, In08	57	BLM acknowledges the difficulties in achieving successful reclamation within the project area. Given the difficulties, BLM should ensure that interim reclamation standards are sufficiently flexible to allow the operators to demonstrate successful interim reclamation.	Thank you for your comment. Please see the updated **Appendix E, Reclamation Plan**.
ALT C	Reclamation criteria	In05, In08	56	The lack of objective criterion also make it difficult for the operators to plan future operations. Before committing the resources necessary for future operations, operators must be assured that they will be able to proceed with development. If there is insufficient assurance that projects will be allowed to proceed, financial resources will be diverted to other assets.	No valid existing rights would be infringed upon by the selection of any of the alternatives. This has been clarified in the revised document. Projects would be allowed to proceed on a case-by-case basis, with appropriate mitigation measures incorporated as design features into the Proposed Action.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT C	Reclamation standards	O04	11	We also find it objectionable that acres of interim reclamation are subtracted from the acres disturbed. *Id*. Interim reclamation should be required to be restored back to the original site vegetation before these acres are "released" for more surface disturbance to be allowed. Thus, if the original vegetation was Wyoming big sagebrush of canopy height 45 cm and canopy cover 25%, the reclamation should be required to achieve these metrics before the reclamation area is "released." *(see more info in letter)* Rollover of lands should only be provided after the re-establishment of the original vegetation composition and growth form.	Thank you for your comment.
ALT C	Rollover credit	In01	21	When discussing Alternative C: Surface Disturbance Cap on page 2-19, the BLM should analyze a well-defined process for receiving credit for roll over acres. Without said analysis, the conflicting standards referenced in the Appendices create ambiguity.	When the disturbed acreage meets the proposed rollover criteria as defined in **Appendix M**, then Operators would be credited with rollover. The determination of whether the disturbed area meets the rollover objective would be at the discretion of the BLM authorized officer, based on data collected by the Operator and a site visit conducted with the BLM and the Operator.
ALT C	Subcontrac-tors	In05, In08	54	We are concerned regarding BLM's assumption that it would utilize subcontractors hired by the operators to perform quality control and evaluate interim reclamation success. See previous comment regarding funding concerns. Given these uncertainties, BLM should describe how it would implement Alt. C if the operators are unwilling to provide funding for third-party contractors. Does BLM have the resources to monitor surface disturbance caps? In the event the operators are will to fund contractors, how long will such contractors be needed?	Operators are required to monitor reclamation and to - submit this data to the BLM. Third party contractors are generally hired to complete this task. If contractors are not hired, then the Operator is responsible for collecting this information. Once information is submitted to the BLM, the BLM would be responsible for tracking the surface disturbance.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT C	Surface disturbance accounting	In05, In08	53	We appreciate the BLM's attempt to create an Alternative whereby each individual operator would be incentivized to reduce surface disturbance and maximize interim reclamation to the maximum extent possible. Compared to Alternative B in particular, Alternative C allows each oil and gas operator within the CD-C Project Area to control its own destiny. By tracking surface disturbance on a lease-by-lease basis, operators will be, for the most part, only responsible for surface disturbing operations related to their operations and, thus, under their control. The BLM should clarify the language in the first paragraph under Section 2.2.4 to clearly state that the BLM would only count surface disturbance associated with natural gas development against the cap. CD-C Draft EIS, pg. 2-18. Although the BLM includes this language on page 2-19 of the EIS, the BLM does not use consistent language when describing this alternative throughout this section. This lack of clarity could create ambiguity in the future. Obviously only disturbance related to oil and gas operations should count against the proposed cap.	The description of Alternative C makes it clear that only prior surface disturbance committed to long-term use for natural gas development roads or on-pad production facilities and all disturbance that had not been successfully reclaimed would count against the cap.
ALT C	Valid existing rights	In01	2	APC strongly emphasizes with regard to Alternative C that has legal existing lease rights that cannot be voided by claiming in the Draft EIS that a disturbance cap will be or should be imposed on the Project. *See Theodore Roosevelt Conservation Partnership v. Salazar*, 605 F.Supp.2d 263, 284 (D.C. Cir. 2009) (Actual drilling that exceeds projections in the RMP (and NEPA documents) does not foreclose or limit the number of wells that can be drilled). We urge BLM to carefully review the mitigation measures proposed and only impose those measures that are truly necessary to protect sensitive resources and not utilize a fixed development cap.	No valid existing rights would be infringed upon by the selection of any of the alternatives. This has been clarified in the Final EIS.
ALT C	Disturbance calculation	C02	72	Draft EIS p. 2-18 Within the high-density development areas, a 60-acre cap would be placed on the amount of unreclaimed surface disturbance at any one time in a section of public land or federal mineral estate. CLG Comment: BLM cannot prevent a private landowner from plowing his land or mowing for alfalfa. This appears to do exactly that. It would also interfere with state land lessee rights.	The description of Alternative C in **Section 2.2.4** states that "federal, state, county, and local roads and highways, railroads, and disturbances created by ranching operations would not count against the cap."

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT C	Disturbance calculation	C02	73	Draft EIS p. 2-18 Only the 16 acres used for roads and production facilities would continue to count against the cap. CLG Comment: The disturbance cap should be limited to public land surface.	The disturbance cap applies to public lands and to federal fluid mineral leases.
ALT C	Valid existing rights	C02	74	Draft EIS p. 2-18 Map 2-1 shows the high-density development and low-density development areas within the project area. Of the 1,697 sections within the project area, 744 sections (about 44 percent) are within a high-density development area..... CLG Comment: The described roll over for reclamation may not conform to lease stipulations or regulations. There is no provision for drought and other factors. It also contradicts law and leasing rules. BLM cannot revise leasing rules.	No valid existing rights would be infringed upon by the selection of any of the alternatives. This has been clarified in the Final EIS.
ALT D	Density loopholes	O04	14	Under Alternative D, in areas where leases are less than one square mile in extent, well pad density should still be capped at one per square mile rather than allowing loopholes for greater density due to small leaseholds. In some circumstances, single leases less than one square mile will abut other leases held by the same company, for a total acreage under lease for that company greater than one square mile. But even where this is not the case, unitization can be required by BLM as part of the ROD approval for this project so that patchwork leaseholds for many different companies can be managed so the surface disturbance presented by well pads never exceeds 1 per square mile. BLM should avail itself of this management capability in the ROD to ensure that well density never exceeds one per square mile in presently undeveloped or lightly developed areas, and the field can be developed as efficiently as possible from both a road and pipeline network standpoint and from a wildlife habitat impact standpoint.	Any decisions made through this EIS would not infringe on any valid existing rights. The BLM would not preclude development on any leaseholds.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT D	Density loopholes	O04	15	BLM should not offer a loophole in currently undeveloped sections to allow more than one well pad per section. See Draft EIS at 2-21. It is technically impossible to "establish that the drilling objective cannot be achieved from a single well pad" unless the objective is to have two pads or the objective is to avoid drilling all wells from a single pad. And neither of these two excuses should be considered valid objectives. BLM should stick to making a simple requirement (one well pad per section) as a Condition of Approval and let the operators use their expertise and ability to figure out how to get the job done.	Thank you for your comment.
ALT D	Disturbance	O04	16	Alternative D has the lowest surface disturbance acreage figure of the action alternatives, and therefore would have the lowest impact among all action alternatives on vegetation (Draft EIS at 4-76), and all the other resources. Balanced against this, the mineral resources within the project area would be fully developed under each action alternative.	Thank you for your comment.
ALT D	Economic feasibility	In04	40	The one well pad concept per 640 acres in Alternative D is technically and economically unreasonable. Existing agreements, safety concerns, well spacing requirements, drainage protection and numerous other flaws exist with this alternative. Allowing for additional pads by request is an uncertain process, and not conducive to long term multiyear development planning and financial commitment.	After evaluation of the potential for the alternatives to reduce the rate of drilling or the number of wells drilled, the BLM concluded that alternative D could reduce the number of wells. The impact analysis of Alternative D in the Final EIS reflects this conclusion.
ALT D	Exemptions	C01	6	Operators should be able to request that an APD be exempted from the general rule when an extraordinary situation exists that could limit full development of the resource.	No valid existing rights would be infringed upon. Text has not been revised.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT D	Feasibility	In05, In08	59	We are opposed to Alternative D. Currently, no operator active in the area is capable of completely developing natural gas resources within a section from a single well pad. An alternative that requires future development be directionally drilled form a single pad within the section is simply not technologically or economically possible at this point in time. As such, Alt. D is not a reasonable alternative. Although the BLM indicates it will consider allowing operators to use more than one pad per section or lease when the "drilling objective cannot be achieved from a single-well pad" the BLM does not define or elaborate on the criterion it will utilize to make this decision. CD-C Draft EIS, pg. 2-21. In order to avoid the potential for future arbitrary and capricious decision-making, the BLM should define and develop criterion it will utilize to determine when directional drilling from a single pad will not be required.	Criteria have not been developed at this point, although language has been added to explain why criteria have not been developed. It is likely than exceptions would be granted based on geological reasons (such as the need to develop CBM as opposed to conventional gas), but developing criteria at this point may lead to the exclusion of other factors not yet known.
ALT D	Feasibility	In06	11	Page 2-12, 2.2.3.2. Alternative D proposes one well pad per 640 acres. Existing agreements, safety concerns, well spacing requirements, drainage protection and numerous other flaws exist with this proposed Alternative. This is unrealistic and not at all economically feasible for development and planning purposes given the uncertainty of the authorization process.	After evaluation of the potential for the alternatives to reduce the rate of drilling or the number of wells drilled, the BLM concluded that Alternative D could reduce the number of wells. The impact analysis of Alternative D in the Final EIS reflects this conclusion.
ALT D	Feasibility	In07	2	Requiring all future natural gas wells to be drilled from multi-well pads as proposed in Alternative D will preclude development of portions of the field. Depending on leasehold, geology, formation, general safety concerns and other site-specific conditions, directional drilling is not appropriate or feasible in every situation.	No valid existing rights will be infringed upon. No unreasonable restrictions will be applied or implemented.
ALT D	Feasibility	In10	4	The one well pad per 640 acres concept in Alt D is technically and economically unreasonable. Existing agreements, safety concerns, well spacing requirements, drainage protection and numerous other flaws exist with this proposed Alternative. Allowing for additional pads by request is not conducive to long term multiyear development planning and financial commitment given uncertainty of the authorization process.	No valid existing rights would be infringed upon by the selection of any of the alternatives. This has been clarified in the Final EIS. In addition, exceptions to the one well pad per 640 acres is included as part of Alternative D. Therefore, if it were determined that an Operator would not be able to develop the resource through the use of only one well pad, then an exception would be granted. After evaluation of the potential for the alternatives to reduce the rate of drilling or the number of wells drilled, the BLM concluded that alternative D could reduce the number of wells. The impact analysis of Alternative D in the Final EIS reflects this conclusion.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
ALT D	Sustainable balance	C01	7	Alternative D appears to be the alternative that is in general compliance with goal 1 of the Carbon County Comprehensive Land Use Plan, "achieve a sustainable balance between energy development agriculture, and the environment."	Thank you for your comment.
BMP	Appendix C	In04	59	Appendix C, page C-1: BMPs are described as general principles for resource protection and COAs are described as being attached to an approved APD to ensure environmental protection, safety, and/or conservation of the mineral resource. However, page C-1 says that BMPs are often expressed in natural gas leaseholders' plans of development, in reclamation plans, or, attached to approved Applications for Permit to Drill, as Conditions of Approval, which are described below. Clarification must be provided as to which of the items listed are BMP's or COAs.	Please see updated Appendix C. COAs are requirements attached to an APD or right-of-way grant or other authorization; BMPs are voluntary measures put forth by the proponent or suggested by the BLM as features of responsible development.
BMP	Appendix C, Clarification	In07	5	Reference is made to Appendix C throughout the Draft EIS without clarifying language that Appendix C contains many measures that are not applicable in every situation. Please add such clarifying language, which does appear on C-2, to the body of the EIS to avoid confusion.	The applicability of COAs as appropriate to site-specific situations is a BLM practice with which the oil and gas industry is familiar. The list is often adapted as needed for site-specific use. The use of COAs has been described more fully in Section 1.7.
BMP	Appendix C, clarification	In09	14	"**Construction Differences. Appendix C** has several areas specifically written for well pad construction but does not address the specific differences inherent in pipeline construction. (Please see the Pipeline Reclamation Plan for proposed insight.) "	COAs are provided in individual APDs and ROW grants and are not subject to revision in this document.
BMP	Appendix C, clarity	In04	60	Appendix C, Page C-8, Operations, Item 25, says that Upon APD expiration, it is the responsibility... The beginning of this COA should be revised to read Upon APD expiration, if an extension is not requested or cannot be obtained, it is the responsibility... to remind the operator and the BLM that an extension can be obtained.	Outside the scope of this document; COAs will not be modified at the EIS level.
BMP	Appendix C, clarity	In04	61	Appendix C, Page C-9, Construction, Item 1, states that All facilities on location that have the potential to leak/spill oil, glycol, methanol, produced water, condensate, or other fluids... shall be within secondary containment, impervious to those fluids... and able to contain a minimum of 110% of the volume of the largest storage vessel. The phrase impervious to those fluids should have a specific reference. The term largest storage vessel applies to tanks, but should not apply to pass-through process vessels such as separators.	Please see response to In04-60 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
BMP	Appendix C, COAs	In07	20	Appendix C, Specific unnecessary COAs include (pages C-14 to C-17), 2a, 2b, 2c, 5c, and 14.	COAs are provided in individual APDs and right-of-way grants and are not subject to revision in this document.
BMP	Appendix C, frozen soils	In09	15	"**Frozen Construction.** Item 6, page C9, references frozen soils and prohibits their use during well pad construction. In prior RFO decision documents this language has resulted in a general prohibition of any construction with frozen material [and thus] included in pipeline right of way grants. This prohibition was not developed with proper consideration of its impact on pipeline construction [which] results in better reclamation when done in frozen conditions. Williams recommends, therefore, the prohibition on construction in frozen material is much too general and should be amended to specifically address situations where frozen conditions are acceptable and/or preferred based on the type of construction."	Please see response to In07-20 above.
BMP	Appendix C, Mitigation	In04	62	Appendix C, Page C-11, Construction, Item 21, states... the project proponent will install housing and/or muffler(s) around equipment that exceeds 55 dBA. This requirement is too broad and does not take into account that virtually all construction equipment will exceed 55 dBA and that construction equipment is short term in duration and only occurs during daylight hours. While mufflers can be installed to lessen noise from construction equipment, placing housing around it is not feasible or safe.	Outside the scope of this document; COAs will not be modified at the EIS level.
BMP	Appendix C, Mitigation	In04	63	Appendix C, page C-13, Pits, Item 6 contains the phrase “Approved netting (mesh diameter no larger than one inch) is required over any pit that contains or is identified as containing hydrocarbons or hazardous substances. Netting over evaporation ponds or other pits that could contain hydrocarbon substances or hazardous substances have not been found to be effective because 1) they are difficult to install and remain effective and heavy snow load can cause the netting to sag and compromise the integrity of the mesh material. It would be much better to allow alternative means to netting such as strobe lights, bird alarms, flagging, or other mechanisms to discourage use by wildlife and livestock.	Please see response to In04-62 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
BMP	Appendix C, recommend-dation	In09	13	"**Construction Holes. Appendix C**, page C-27, item L, requires covering all construction holes left open overnight. This requirement should be removed and alternative management practices should be made available. While a cover... is intended to prevent access by wildlife, this is not a foolproof method. The cover can make the hole or trench an inescapable trap... Alternatives, such as allowing soft plugs with sloped sides, would allow an escape route for any wildlife that may enter the hole or trench."	COAs are provided in individual APDs and right-of-way grants and are not subject to revision in this document.
BMP	BMP assessment	S04	16	The ROD should require monitoring of the success or failure of BMPs to control erosion. BMPs needing replacement or maintenance would be addressed. We recommend using the performance triggers outlined in the Atlantic Rim Aquatic Workgroup document.	The installation, monitoring, and replacement of BMPs for the control of stormwater by the Operators is required by the Wyoming Department of Environmental Quality and is not the responsibility of the BLM. BMPs that are required by the BLM on locations on a site-specific basis are inspected by BLM surface compliance technicians and Operators are required to install, monitor, and maintain these BMPs based on H212 site-specific inspections.
BMP	Mitigation	P10	1	• Require direction drilling throughout the project area and designate a maximum acreage for drilling pads. • Cluster drilling areas to lessen overall surface impact. • Require the best technology throughout. • Require cleanest technology for non-mobile engines, i.e. drill rigs and frack/completion operations • Examine fracking/completions operations and pinpoint best areas to reduce VOC and NOx emissions, i.e. fleet idling. • Designate minimum gas well standards. • Require all existing facilities to be brought to best standards before permitting new wells. • Do not allow venting and flaring.	Thank you for your comment. BMPs and COAs are considered on a case-by-case basis.
BMP	Mitigation	P10	5	• Establish an aggressive timeline for replanting of native plants, and pad renovation • Plant in a natural pattern	Thank you for your comment.
BMP	Mitigation	In09	10	"Rip Rap. Appendix A, page A-3, states rip rap and double ditching (taking 1' off the top in the stream bed) should be used for bank stabilization on ephemeral streams. Williams recommends neither rip rap nor double ditching is necessary for bank stabilization in this environment.	The cited reference is to a comment made during scoping for this project. Use of rip rap would only be indicated on a site-specific basis.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
BMP	Surface pipelines	C02	19	The Proposed Action should consider surface pipelines where the nature of the gas transported allows. See id. at 2-4. Buried pipelines increase surface disturbance, leave long term scars on the landscape, and may remain there for a number of years before causing more surface disturbance upon removal.	The Proposed Action is the description of the project provided to the BLM by the Operators (**Appendix B**). This is not a BLM proposal; therefore, whether to propose surface or buried pipelines in the Proposed Action is at the discretion of the Operators.
BMP	Surface pipelines	C02	20	"It is also possible that buried pipelines could be prohibited or have seasonal restrictions on their construction when within occupied sage-grouse leks, brood-rearing habitat, and/or winter concentration core areas. See, e.g., BLM IM WY-2012-019, at 4-6 (Feb. 10, 2012). The Wyoming Sage Grouse Resource Management Plan (RMP) Amendments are currently in process, and this project must be aware of and consider any changes to the Rawlins RMP in regards to sage grouse management."	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
CH 1	Oil and other hydro-carbons	In05, In08	6	BLM must ensure itself sufficient flexibility to authorize the development of natural gas, as well as, oil resources within the project area. Throughout the Draft EIS, the BLM does not specifically discuss the potential development of other hydrocarbons including oil and condensates. In particular BLM appears to focus too much emphasis on natural gas from the Almond member of the Mesaverde formation. Many formations within the project area contain potential for hydrocarbon development.	The development of this EIS was based on the Proposed Action and the Project Description (**Appendix B)** that was submitted by the Operators. No mention of oil development or the use of horizontal drilling was made in the project description. The Proposed Action and alternatives were developed based on the presumption that the Operators were intending to develop natural gas, not oil. Therefore, horizontal drilling and the development of oil is not analyzed in this EIS. If Operators intend to develop oil, then applications for such would be analyzed under a separate NEPA document to address the different impacts associated with the development of oil.
CH 1	Valid existing rights	In10	7	It is clear that the BLM is infringing upon Yates existing lease rights via a number of stipulations and resource management decisions. Yates' leases issued within the CD-C project area grant Yates the right to remove and dispose of all the oil and gas in the lands described subject to laws, regulations, orders, terms, conditions, and stipulations consistent with lease rights granted or specific provisions of the lease. Stipulations to protect the Muddy Creek and Bitter Creek corridors (setbacks >500 ft. from water), wetland communities (setbacks >500 ft. from water), livestock grazing, and pronghorn/mule deer crucial winter range restrict or effectively prohibit oil and gas operations on leased lands within the CD-C project area by preventing use of lands necessary to produce all of the oil and gas in the subject lands.	No valid existing rights would be infringed upon through the selection of any of the alternatives.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
CH 1	Valid existing rights	In10	8	As the lease is issued "granting the exclusive right to drill for, mine, extract, remove and dispose" these minerals, preventing offset drainage and protection of correlative rights is a fundamental right established in the lease. Infringement upon this valid existing lease right raises concerns with offset drainage and protection of correlative rights if offsetting acreage is in a better position to drain the subject lease due to lease restrictions. This is a strong possibility if the stipulations described above are implemented. The BLM must not adopt lease restrictions that infringe upon this right. Yates urges the BLM to clearly state in the Final EIS that restrictions proposed in the Preferred Alternative will not apply to lands already under oil and gas lease and will not infringe upon valid existing lease rights. Moreover, it must be made clear that the BLM has no authority to impose restrictions through Conditions of Approval (COA) on applications for permit to drill (APD) if they would abrogate the valid existing lease rights. Once a lease has been issued, stipulations may not be legally modified absent voluntary agreement by the lessee. Therefore, in accordance with 43 CFR 3101 and federal case law, we recommend that BLM clearly disclose its limited authority to add conditions of approval to a drilling permit (i.e. conditions must remain consistent with the terms of the issued lease). These principles are particularly important given the fact that protections identified in the CD-C Draft EIS could very much impose significant limitations on existing leases that were not anticipated at the time the leases were acquired from the federal government in good faith. Such qualifiers are consistent with current rules and policies of the BLM and must be clearly disclosed in the planning documents. An acceptable example of appropriate language is included in the Rawlins RMP adopted in 2008, page 20	No valid existing rights would be infringed upon through the selection of any of the alternatives.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
CH1	All hydro-carbons	C04	8	We ask that the BLM ensure the CD-C EIS retains the ability for the operators to develop not only natural gas, but also oil. The Draft EIS gives short change to the potential to develop oil in the project area. Development of hydrocarbons other than natural gas is a high potential in many of the formations within the project area.	The original project proposal submitted by the Operators is included as **Appendix B, Operators' Project Description**. This proposal only refers to the development of natural gas. This EIS has therefore been developed in response to the action proposed by the Operators, which only included natural gas. If the BLM were to include the development of oil at this point, it would require the preparation of a supplemental EIS.
CH1	Editorial	C01	28	Table 1-3: Comments Carbon County: Delete: Issues construction and conditional use permits for all new structures, Replace with: Requires construction/building permits and conditional use permits to insure all structures and uses comply with the health, safety and welfare standards of the Carbon County Zoning Resolution and goals and policies of the Comprehensive Land Use Plan.	The text in the Final EIS has been revised as requested.
CH1	Editorial	C01	29	Table 1-3: Delete: Administers zoning changes where applicable. Replace with; Reviews zone change applications to ensure that the proposed land use is consistent with the Carbon County Comprehensive Land Use Plan and zone change criteria listed in the Zoning Resolution.	The text in the Final EIS has been revised as requested.
CH1	Editorial	C01	30	Table 1-3: Add: Carbon County Weed & Pest District and move "provides control of noxious weed." (Same as Sweetwater County entity.)	The text in the Final EIS has been revised as requested.
CH1	Editorial	C01	31	Table 1-3: Add: under Carbon County: Local Emergency Planning Committee: (same as Sweetwater County entity)	The text in the Final EIS has been revised as requested.
CH1	Editorial	C02	1	"The Energy Policy Act of 2005... should be included in the list of applicable laws."	Thank you for your comment.
CH1	Land Use plans	C02	2	"The Draft EIS...omits the land use plans of the SWCCD and LSRCD. These plans have been discussed in past oil and gas development projects and should be included in this Draft EIS."	These plans are now described in **Section 4.15.3.3**.
CH1	Previous development	In05, In08	9	BLM has studied the impacts of numerous O&G developments in the current CD-C area and in surrounding areas and must acknowledge this development when analyzing potential impacts and selecting a Preferred Alternative in the Final EIS.	Thank you for your comment. The BLM has taken into account all the existing development and associated impacts.
CH1	Purpose & Need	P19,P 27, P28	1	"Domestic need for natural gas has diminished. Nationally, a surplus exists. Projected needs when the proponents applied in 2005 no longer pertain."	Domestic demand for natural gas continues unabated; increased reserves have resulted in lower prices.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
CH1	Reasonably foreseeable development	In05, In08	13	BLM should explain that the RFD Scenario is only a tool utilized to estimate the potential impacts of O&G development.	As stated in **Section 1.8**, the RFD in the RMP was used "for analysis purposes only. The estimates should not be construed as a cap or limit on the number of wells that could be drilled, or on the amount of surface disturbance resulting from the development of oil and gas resources within the resource area."
CH1	Regulatory Setting	In05, In08	11	Page1-7. BLM identifies regulations and manuals utilized to implement NEPA. Missing from the list is the BLM's own NEPA regulations at 43 CFR, part 46. 73 FR61314 (Oct 15, 2008). BLM should add these regulations to its list and ensure it has complied with them.	**Section 1.6** has been modified to include reference to Department of Interior NEPA regulations.
CH1	RMP confor-mance	In05, In08	12	Alternative B may not conform to the existing Rawlins RMP. It is inappropriate for the BLM to analyze, develop or even consider an alternative that does not conform to the existing land use plan. Because the BLM has not scoped the EIS as a potential amendment to the RMP, we strenuously urges the BLM to eliminate any alternatives, or portions of alternatives that do not comply with the RMP.	The revised text describing Alternative B in the Final EIS notes that "Because several of these enhanced resource protections for the Muddy Creek watershed go beyond the scope of the current RMP, the selection of this alternative would require an RMP amendment to ensure those enhanced protection measures are in conformance with the RFO RMP."
CH1	RMP scope	O12/ O13	4	The 2008 RMP estimated that an additional 8822 wells and 57,819 acres of additional disturbance would occur. The Draft EIS has 8,950 wells and 47,200 acres of disturbance in one project area. This does not appear to be in line with the scope of the RMP. The RMP does not set a limit on the amount of drilling, but the parties that agreed to the plan did so in good faith that the BLM would be able to consider multiple resources and not over commit to industrial development within the FO area.	The number of wells analyzed in the RMP is only the reasonably foreseeable development scenario, and does not function as a cap on potential development in the field office.
CH1	Table 1-3	C03	11	Sweetwater County Permits: Sweetwater County Oil & Gas Construction/Use Permits are required for all oil and gas wells proposed within the leased area. Other County permits such as Construction, Use, Conditional Use, and Zone Changes, may be required for other facilities such as compressors, processing/separation facilities and production water disposal facilities. For more information on zoning permits, please contact Mr. Eric Bingham, Land Use Director, at (307) 872-3916.	**Table 1-3** has been modified to indicate that oil and gas wells are included among structures requiring a Construction/Use Permit in Sweetwater County.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
CH1	Table 1-3	C03	12	Sweetwater County Roads: Any crossing, access to, or utilization of a Sweetwater County road right-of-way requires an access permit or license from Sweetwater County's Engineering Department. Project developers are encouraged to contact the Sweetwater County Engineer to obtain necessary roadway permits prior to lease development.	**Table 1-3** has been modified to show that Sweetwater County issues County Road permits and licenses including road access and road crossings.
CH1	Table 1-3	C03	13	To ensure that public roads, cattle guards and bridges are maintained in a safe condition and are not damaged by heavy construction traffic, the Sweetwater County Engineering Department requests that, before contractors move heavy equipment over County roads, they contact Mr. John Radosevich, Public Works Director, at (307) 872-3921.	Thank you for your comment.
CH1	Table 1-3	C03	14	Where oil and gas developments cause significant increases in traffic or impacts on County roads, developers are encouraged to work with the Sweetwater County Engineering Department to evaluate and to implement any identified roadway construction, maintenance or safety improvements that may be required. In some cases, at the discretion of Sweetwater County, the County may require a Road Use and Maintenance agreement to address County road use and responsibilities for road maintenance. Dust control is of special concern.	Thank you for your comment.
CR	Appendix J, Class III Surveys	In05, In08	117	This comment is almost identical to comment #95.	No valid existing rights would be infringed upon by the selection of any of the alternatives. This has been clarified in the Final EIS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
CR	Class III inventory	In05, In08	98	BLM states that a Class III cultural resource inventory would be required for any area of disturbance associated with an APD or other proposed activity. CD-C Draft EIS, pg. 4-139. The BLM should revise its requirements that a Class III cultural survey always be required on both private and federal lands. The BLM's practice of refusing to approve projects if private surface owners object to surveys on their private surface is not consistent with existing laws and regulations. (several paragraphs of supporting citations, ending with, "Given the fact the Solicitor's office has expressly rejected the position that private surveys are always required, the BLM must modify the text in the CD-C Draft EIS."	If a project requires the use of federally owned surface lands and privately owned surface lands, two authorities require federal agencies to apply the same NHPA Section 106 compliance standards to private lands as they do federal lands. The regulations at 36 CFR Part 800.4(b) require the federal agency to "take the steps necessary to identify historic properties within the area of potential affect." It is implicit throughout the statute and the regulations that federal and nonfederal lands are included because the regulatory definition of "area of potential effect" is the "geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties." (36 CFR, Part 800.16[d]). The regulations do not distinguish between federal and nonfederal lands. Executive Order 11593, entitled, "Protection and Enhancement of the Cultural Environment" is more explicit. It states that all federal agencies: "…in consultation with the Advisory Council on Historic Preservation, institute procedures to assure that federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, objects of historical, architectural, or archaeological significance." BLM's responsibility for inventory, evaluation and protection of cultural properties on lands outside BLM's administrative jurisdiction is limited according to the degree to which the Field Manager's decisions determine or control the location of surface disturbing activities on those lands. Before BLM can authorize any project that may adversely affect significant cultural resources, the BLM has the legal responsibility to take into account the effects of its actions on these resources. For BLM to fully consider effects of its actions, it also has the responsibility to gather the information necessary to determine what cultural resources may be affected, evaluate the resources for eligibility for inclusion in the National Register of Historic Places, and mitigate adverse effects to historic properties where possible. If cultural resource data are lacking from private lands so that the BLM Authorized Officer cannot make an informed decision, BLM cannot allow the undertaking to proceed.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
CR	Impact analysis	In05, In08	70	The BLM notes that there have been a significant number of cultural resources discovered within the Project Area. CD-C Draft EIS, pg. 3-141. The BLM should more clearly acknowledge that these discoveries resulted primarily from oil and gas exploration as survey for roads, pipelines, power lines, seismic projects, and block surveys for well locations were conducted. It is only as a result of oil and gas development that these discoveries have been made, mitigated, and the overall understanding of cultural resources in the area increased. Given existing protection of historic resources under the National Historic Preservation Act and the Archeological Resources Protection Act, oil and gas development more often leads to the discovery and protection of cultural resources rather than their inadvertent destruction. The BLM should make the public aware of this information.	The text of **Section 3.14.2, Summary of Extant Cultural Resources** has been revised to state "Many of these projects have been linear Class III cultural resource inventories for roads, pipelines, well pads, power lines, and seismic projects." **Section 4.14.3.1, Direct and Indirect Impacts,** states that, "Data derived through mitigation could provide beneficial information on prehistoric and historic use in the CD-C project area, as well as contribute to the regional database for cultural resources."
CR	Impact analysis	O02	1	"While you do note the different acreage totals to be impacted by the various alternatives, you seem to have done no extensive analysis of how each alternative presented would actually affect the cultural and historical resources in the project area [and assume that adverse effects will be sufficiently addressed through Section 106]."	Using BMPs, sites are generally avoided, impacts to sites are minimized, and then mitigated. All adverse effects will be addressed through Section 106; this is not an assumption.
CR	Impact analysis	O02	4	"...we find no evidence that NRHP-eligible landscapes [settings for the historic Overland and Cherokee Trails, Lincoln Highway, freight roads, and rail beds] were considered....the initial focus seems to have been on 'historic sites' only. The presence of historic or cultural landscapes, and also how they may be impacted by the often more extensive ancillary facilities... [pipelines, power lines, etc.], can often necessitate a much larger APE... [with] natural boundaries that create a logically defined space.]"	As stated in **Section 4.14.1**, paragraph 3, the BLM has established a 2-mile analysis area around the trails for consideration of the elements of setting. **Section 4.14.6** references mitigation measures in Appendix C that would affect Historic Properties for which setting is an aspect of integrity (visual, auditory, atmospheric) and lists additional mitigation measures that would be implemented to minimize effects to those elements of a setting. Surveys and analysis would be conducted on a case-by-case basis when APDs are submitted to the BLM.
CR	Impact analysis	O02	5	"As ground-disturbing, large-scale energy development consumes more and more of Wyoming's historic open spaces, the necessity to fully evaluate a project area for the existence of potential landscapes becomes ever more important...we encourage you to take a larger view of these historic routes, recognizing that whenever any segment of them is degraded, the entire resource has suffered a blow."	The analysis in Chapter 3 of the Draft EIS indicates that extensive alteration has occurred in the project area due to a variety of natural and human causes. Potential increases in those changes that might be produced by additional oil and gas development would be minimized and mitigated by BLM's requirements. Contributing segments on public lands would be protected.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
CR	Impact analysis	O02	6	"...some impacts to... our traditional cultural resources would be more effectively... addressed directly through NEPA [Section 106 deals only with NRHP-eligible properties]... Alternative B pays extensive... attention to “resource protection,” [but] these protections never seem to have been considered as they might or should apply to the equally important historic and cultural resources [e.g. wide-open vistas, unobstructed views and the ability to transport visitors back in time]."	The BLM has protections for historic trails and their settings that would apply under all alternatives, including Alternative B. Please refer to the RMP and **Appendix C** of the EIS for this information.
CR	Mitigation	O02	10	"… it is especially important that the field operators understand their obligations under both NHPA and the Archaeological Resources Protection Act (ARPA). We hope you will consider adding such requirements to your NEPA analysis and any listing of best management practices."	Thank you for your comment. The field operators are informed of their obligations under these and other federal laws. These requirements are already included as standard COAs in **Appendix C**, Operations, Items 3, 6, 7, and 8.
CR	Monitoring	O02	11	"… we want to emphasize the importance of developing a comprehensive monitoring and cultural resource discovery plan for this project."	Thank you for your comment. All locations are thoroughly inventoried and investigated prior to any development being authorized. The standard protections under Section 106 of the NHPA provide for monitoring and discovery and are outlined in **Appendix C**, Operations, Items 3, 6, 7, and 8.
CR	Protections	C03	16	Protection of important Natural Features (cultural, historical, recreational, and environmental) Sweetwater County encourages the BLM, BP and other project proponents to apply standard inventory and mitigation protocols to provide reasonable protection to any important natural, cultural and historic features that may be identified within the project area.	Inventory and mitigation protocols would be standard attachments to all APDs within the CD-C project area.
CR	Significance criteria	In05, In08	97	When describing potential significance criteria, the BLM utilizes inconsistent language. It identifies a series of four potential significance criteria, identified as Criteria 1 through 4, but the text later refers to Criterion A, B, C, and D. The BLM should revise this language to ensure that members of the public clearly understand the BLM's significance criteria. CD-C Draft EIS, pgs. 4-138 -139.	The references to significance criteria have been corrected to match the designation of Criteria A through D as defined in 36 CFR 60.4.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
CR	Trails	In05, In08	96	BLM states that it utilizes a two-mile analysis area around historic trails for consideration of elements and setting. CD-C, Draft EIS, pg. 4-137. Given the fact that the majority of the CD-C Project Area is within the checkerboard, we encourage the BLM to reconsider its two-mile analyses area. Given the presence of private lands within the checkerboard, the BLM can never hope to control, modify, or mitigate impacts on private lands within this analysis area.	A 2-mile analysis area around historic trails is not an attempt on the part of the BLM to control, modify, or mitigate impacts on private lands within the project area. When projects are proposed that may impact a historic trail, the BLM archaeologist would use a 2-mile buffer to determine what the impacts would be, based on land use and other disturbance within the 2-mile buffer.
CR	Trails designations	C02	50	The BLM has designated a quarter-mile buffer surrounding the contributing segments of the Overland and Cherokee Trails as highly sensitive without first determining whether the trails are eligible for protection under the National Park Service (NPS) guidelines. See id. at 4-137. A trail must have visible physical features to qualify for protection under the National Register of Historic Places (NRHP). NPS, National Register Bulletin, #15, Sec. VIII (last amended 2002). Before determining that an area is highly sensitive and requires particular mitigation measures, it must first be determined whether the historic trails are even visible in the areas where project will be located. Cherokee Trail is no longer visible in a number of areas and any remnants of the trail have been erased; therefore, it would not qualify for protection under the NRHP. Further, many of these trails may be expansionary roads that either do not meet the required integrity requirements or have no remnants of their historic origin.	During the scoping period for the CD-C EIS, data gaps were identified in regard to the location of historic trails within the checkerboard area. Locational information for historic trails is essential for accurate management of those trails. One aspect of integrity that conveys the significance of historic trails is the associated setting, defined in 36CFR 60.4 as “The physical environment of a historic property.” The 2-mile analysis area was used to assist the BLM in filling in those data gaps, conducting an accurate assessment of the historic trails’ condition for the NEPA analysis, and making an informed decision prior to permitting undertakings that may have an effect on the historic trails including their associated settings.
CR	Tribes	O02	9	"....we encourage you to make extensive and effective outreach to any potentially affected tribes as early as possible and to offer them the opportunity to conduct extensive on-the-ground surveys to identify landscape-wide cultural sites of importance... prehistoric and cultural features identified by SHPOs [often] do not come close to being as inclusive or extensive as the sites and landscapes identified by THPOs and tribal elders."	Thank you for your comment. The BLM makes every effort to consult and coordinate with potentially affected tribes for their input and knowledge.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
CR/VRM	Historic trails	O04	61	To date, the BLM, state agencies, and private checkerboard land and mineral owners have failed utterly to manage oil and gas development to prevent major impacts to the historic settings of the Overland and Cherokee Trails. Most egregious is the permitting of roads, pipelines, and well pads in the immediate viewshed beside these trails, with the net effect that visitors seeking to enjoy these trails in their historic and natural setting are instead presented with trail segments through heavily industrialized oil and gas fields in places. BLM has designated a ¼-mile NSO buffer for the Overland Trail (Draft EIS at ES-22), which is woefully inadequate. Moving forward, BLM should prevent these types of impacts by applying a 3-mile buffer (at minimum) where surface occupancy and disturbance is not permitted as a Condition of Approval, and developments between 3 and 5 miles from trails are permitted on a Controlled Surface Use basis and only to the extent that they do not present visual intrusions that can be seen from these historic trails. BLM only considered a 2-mile analysis area around historic trails for the impact analysis on setting. Draft EIS at ES-22. This is an inadequate area given that drilling rigs can be seen from a much greater distance on flat country.	The protections afforded were developed as part of the RMP process and are found in Appendix 5 to the Rawlins RMP beginning on page A5-8, Standard Measures to Reduce Visual Contrast. However, portions of these trails do cross an extensive area of the checkerboard and the BLM cannot regulate activity on private and state land within the checkerboard.
General	Adaptive manage-ment	C02	22	The Draft EIS does provide performance goals, soil data, and monitoring, however, it fails to recognize that it must adopt and follow the DOI Adaptive Management Guidelines. The Draft EIS also fails to consistently provide collaboration and coordination with stakeholders, such as state and local governments, landowners, and permittees, throughout all resource management decisions...Under Alternative B, it is the WGFD and a technical team...making most of the management decisions without any coordination with stakeholders or local governments. See e.g. CD-C Draft EIS at 2-9, 2-11, 2-13.	Please see updated text for clarification on the role of the CD-C consultation and coordination group.
GEO	Impact analysis	C02	76	Draft EIS p. 2-25 Table 2.4-2 Paleontology - Intermediate Impact CLG Comment: ARPA and NHPA prohibit adverse impacts unless disturbance is found to not affect a significant resource. All alternatives should be low impact. It does not qualify as an adequate discussion of impact. The Table shows that alternatives are essentially the same or that there is an insufficient range of alternatives.	**Tables 2.4-2 and ES-2** have been modified to indicate that although impacts would vary according to the amount of disturbance, they would be low under the Proposed Action and all alternatives.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
GEO	Impact analysis	In05, In08	76	The BLM very appropriately recognizes that oil and gas development within the CD-C Project Area may actually lead to beneficial discoveries of previously unknown paleontological resources. CD-C Draft EIS, pg. 4-12. Devon and other oil and gas operators conducting operations in the Project Area routinely have paleontological reports and surveys prepared prior to operations. These often lead to beneficial discoveries that can then be mitigated and better studied.	Thank you for your comment.
GEO	Site clearance	O04	59	The Green River, Lance, and Wasatch formations are rated Probable Fossil Yield Class 5, having “very high” potential for yielding scientifically important fossils. Draft EIS at 3-16. The Lance formation is known for its potential for dinosaur fossils. Draft EIS at 3-16. The Wasatch formation is known for Eocene mammal fossils (*id.*), while the Green River formation is known for fossil fishes and birds. Draft EIS at 3-18. In addition, the Fort Union formation is PFY Class 3 (moderate), but the importance of fossil finds is quite high as this formation contains fossils from the dawn of the age of mammals (J. Lillegraven, *pers. comm.*). BLM should require site clearance by a trained paleontologist of areas proposed for surface-disturbing activities in all areas of PFY Class 5 and also in the Paleocene Fort Union formation area.	As stated in **Section 4.2.2.2**, "IM 2009-011 calls for the BLM to assess the possible effects on paleontological resources of all proposed surface-disturbing activities on public lands or split-estate lands. If the assessment indicates '(a) the presence or high probability of occurrence of vertebrate fossils or uncommon nonvertebrate fossils (PFYC Class 4 or 5), or that the probability is unknown (Class 3)...and (b) a reasonable probability that those resources will be adversely affected by the Proposed Action,' then measures such as a field survey, onsite monitoring, special stipulations, avoidance, or other mitigation may be required… The preferred mitigation technique is to change the project location based on the results of the field survey."
GN	Cumulative RFD	C01	27	Map 5.0-1: Add the Zephyr transmission line and possibly the Whirlwind Project to the "past, present and reasonably foreseeable future actions."	The Zephyr Power Transmission Project and Whirlwind are not currently identified as reasonably foreseeable future actions by the BLM.
GN	Developmen t	O04	2	The development of this project will be acceptable from a conservation standpoint as long as it minimizes the additional footprint of oil and gas development through the implementation of directional drilling and well clustering as well as other methods, and maintains presently undeveloped lands of critical importance for wildlife habitat (such as Chain Lakes and sage grouse core areas) to the maximum extent possible.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
GN	Editorial	C02	39	The Draft EIS has conflicting average precipitation numbers for the project area. On page 32, it states that the "project area is dominated by semiarid desert that receives an average of 7.1 inches of annual precipitation, ranging from 3.8 inches to 13.6 inches." Then on pages 3-18 through 3-19, it states that the "project area is dominated by the 10 to 14 inch precipitation zone..." The second quoted language...is outdated. The Draft EIS should use the USDA/NRCS precipitation zone map... or the RAWS time series precipitation graphs from the Western Regional Climate Center Cow Creek Wyoming station.... The average of 7.1 inches or lower of annual precipitation for the project area is more consistent with the USDA NRCS's map and the graphs created by the Western Regional Climate Center. See http://www.wcc.nrcs.usda.gov/ climate/prism.html, and http://www.raws.dri.edu/cgi-bin/rawMAIN.pl?wyWCOW. It is also consistent with BLM's range gages yearly precipitation averages in Appendix F. See CD-C Draft EIS at F-1 (Average for all gages within and adjacent to the project area is 7.54 inches.).	Specific references to precipitation have been standardized to data available from the Western Regional Climate Center (WRCC), but the wide variation in precipitation throughout the 1.1-million-acre project area is often noted.
GN	Editorial	S02	1	Page 2-17, last bullet, describes control of fugitive dust. The WDA requests that the text be changed to read: "Uniform application of dust-abatement procedures during construction and drilling operations year-round and seasonally, as needed, on well site, pipelines, and collector and well access roads."	The description of the Preferred Alternative states, "A fugitive dust control plan (**Appendix P**) would be adhered to by the Operators in conjunction with the BLM and updated on an annual basis, and dust control measures would be applied during all phases of the well's life cycle in specific areas and during specific times as indicated in the dust control plan and the COAs for the APD.
GN	Editorial	S02	2	Page 3-83, second paragraph: Change *western Wyoming* to *south-central Wyoming*.	The text referenced in this comment uses *western* Wyoming intentionally to distinguish that broader area from the south-central area of Wyoming in which the CD-C project is located.
GN	Editorial	S02	5	Page 3-125, third paragraph: The WDA asks that the word *unfortunate* be removed.	The text has been changed as requested.
GN	Enforcement of ROD	C03	22	Enforcement: Sweetwater County strongly encourages the BLM to commit the necessary monetary and staff resources to provide the necessary enforcement to ensure development is implemented in a manner that complies with the final ROD.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
GN	Lease rights	In05, In08	74	CD-C is an infill project. Decision has already been made to develop and it has been authorized. BLM's options are limited and they cannot prohibit all O&G development on those existing leases. Once BLM issues a lease without NSO stipulations and in the absence of a nondiscretionary statuary prohibition, they cannot completely deny development. Nothing in the Draft EIS or ROD can modify existing lease rights through COAs or other means. (citations)	No valid existing rights would be affected through the selection of any of the alternatives. Site-specific development in the CD-C project area has not yet been authorized, however, and the BLM has the responsibility to enforce restrictions on any development proposals that would cause unnecessary and/or undue degradation.
GN	Multiple use	C01	4	Maintaining multiple use of public lands is important to preserve the customs and culture that forms the basis of the local economy. The economy of Carbon County is directly tied to the use of public lands, therefore, the continued availability of these lands to sustain economic growth, including but not necessarily limited to, agriculture, industry, and recreation is vital to a strong and diversified economic future of the County and its residents.	Thank you for your comment.
GN	NEPA	In05	3	NEPA does not impose any requirement on agencies to reach a particular decision and does not require agencies *to elevate environmental concerns over other valid concerns*. BLM must recall that it is not required to eliminate all potential significant impacts to the environment; it is merely required to analyze and disclose such impacts to the public.	Thank you for your comment.
GN	Preferred Alternative	C04	1	The absence of a Preferred Alternative hampers the public's ability to comment effectively on the CD-C Draft EIS. We are not asking the BLM to release a supplemental Draft EIS with a Preferred Alternative.	CEQ regulations at 40 CFR 1502.14(e) direct that a Preferred Alternative be identified in the draft statement if one exists. As stated in the Draft EIS in **Section 2.1**, ”The BLM does not have a Preferred Alternative for the CD-C Natural Gas Development Project at this time. The BLM believes that the Proposed Action and the action alternatives all have elements that would address the project purpose and need and will review public comment on the Draft EIS before determining a Preferred Alternative. A Preferred Alternative will be designated in the Final EIS.”

Category	Sub-Category	Comment		Comment	Response
		Code	No		
GN	Schedule	C01	2	The Carbon County Board of County Commissioners strongly favors expedited approval by the BLM of the Record of Decision (ROD). This project will provide significant tax and employment benefits for the County, the State, and the Nation. this project has been under analysis by the BLM for the past seven years and the Board would encourage development of this project as quickly as feasible, taking into consideration the goals and policies of the Carbon County Comprehensive Land Use Plan (CCCLUP).	Thank you for your comment.
GN	Schedule	In05, In08	119	We appreciate the BLM's tireless efforts on this project. Given the fact the BLM has been analyzing continued development in the CD-C Project area for over seven years Devon encourages the BLM to finalize the Final EIS and ROD for this project as soon as possible.	Thank you for your comment.
GN	Spacing	In05, In08	75	In the CD-C Draft EIS the BLM suggests that spacing units reflect the judgment of operators with only the concurrence of the Wyoming Oil and Gas Conservation Commission ("WOGCC"). CD-C Draft EIS, pg. 4-8, para. 2. The BLM should correct this incorrect statement in the Final EIS. Spacing unit determinations are made by the WOGCC based on expert testimony of landmen, geologists, and engineers. It is a highly scientific process and one in which the BLM itself is authorized to participate. To suggest that spacing determinations are made at the whim of operators is not accurate or consistent with the responsibilities of the WOGCC.	This statement has been revised to read as follows: "Generally, spacing units reflect the judgment of the Operators, based on the opinions of landmen, geologists, and engineers, with the concurrence of WOGCC, and on federal minerals, with input from the BLM, as to the number of wells that would be required to efficiently develop and recover the natural gas resource in an area.″

Category	Sub-Category	Comment		Comment	Response
		Code	No		
GN	Surface disturbance	O04	4	It is disingenuous to report the acreage of surface disturbance for each alternative as the long-term surface disturbance or the surface disturbance from the infill project only, when the combined initial surface disturbance is a much more meaningful metric. *See* Draft EIS at Table ES-1. In these landscapes, with short growing seasons and small amounts of annual precipitation, lands initially disturbed and subject to interim reclamation can take a century to recover back to their original habitat cover. The fact that at least 1.2% of the Project area is currently infested with halogeton (Draft EIS at ES-17), which invades following surface disturbance, underscores this problem (halogeton is rated by BLM as "an ecological and economic threat," Draft EIS at 3-83). And the ecological footprint of the proposed new drilling must be combined with the impacts already on the ground to appropriately measure the scale of impact for the project. With these factors in mind, the disturbance acreages of the respective action alternatives range from 9-11.4% combined surface disturbance, a very heavy level of impact.	Please refer to **Tables 2.4-1 and 4.0-1**, which provides a summary of existing and proposed new disturbance by alternative.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
GN	Sweetwater County Comprehen-sive Plan	C03	1	The Sweetwater County Board of County Commissioners (Board)... strongly encourages the BLM to expedite the approval of Continental Divide-Creston Natural Gas Development Project while ensuring that the following Sweetwater County Comprehensive Plan -2002 goals and objectives are addressed in the BLM's EIS review process: • Encourage and support environmentally responsible resource exploration/development within the region. • Evaluate natural resource development proposals for their effects on air, water and environmental quality. • Encourage a balance between resource development and environmental protection. • Identify and protect the County's natural environment and resources. • Identify and protect the County' s unique cultural, recreational, environmental and historical resources. • Encourage/support public land uses consistent with orderly development and efficient use of renewable and non-renewable resources. • Locate worker housing within existing communities where services are/can be provided, where feasible. • Support and participate in federal and state land use planning activities	Thank you for your comment.
GN	Valid existing rights	In05, In08	5	The ROD cannot defeat valid and existing rights through COAs or other means. BLM must recall that it cannot impose new, unreasonable mitigation requirements on existing leases. Courts have recognized that once the BLM has issued an oil and gas lease, the BLM cannot later impose unreasonable mitigation measures that take away those rights.	No valid existing rights would be infringed upon by the selection of any of the alternatives. This has been clarified in the Final EIS.
GN, VEG	Timeframes	In04	44	Page 4-71, 4.6.1 Introduction: Please explain exactly the time frames associated with short and long term AND utilize these terms consistently throughout document.	Short-term and long-term have differing meanings for different resources and/or in different contexts. However, to clarify the meanings of short-term and long-term in this instance, definitions have been added.
H&S	Opinion	P17	2	I find many of the 'wildlife stips' ridiculous and it leads to everyone packing people into a compressed timeframe and not a level based work schedule. I believe it leads to greater safety concerns as well due to hurry-up issues.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
HAZ	Produced water	C01	9	Pages ES - 25 & ES-26: Waste and Hazardous Materials: Carbon County is concerned with the increased quantity and need for treatment and disposal of produced water. Currently authorized and approved projects are already exerting stress on the permitted and authorized disposal facilities near the project area. Alternative D may serve to extend the life of existing facilities and minimize the need for new facilities.	Please see the revised text in **Section 4.21.2.1**, which describes current and projected produced-water disposal facilities.
INV	Baseline data	S02	3	Page 3-83, fifth paragraph: WDA urges BLM to provide scientific evidence regarding livestock use and feed grounds as sites for halogeton infestation.	Thank you for your comment.
INV	Editorial	In01	19	When discussing non-native, invasive plant species on ES-18, leafy spurge is not discussed as being one of the principal invasive weed species known in the area. Yet, the Draft EIS later identifies and references to leafy spurge as a principal invasive weed species in the area. The BLM should revise the EIS to either include leafy spurge or exclude leafy spurge for accuracy and consistency.	Leafy spurge has been removed from the text.
INV	Impact analysis	O03	4	While the presence of non-native, invasive species was recognized, acreage was not tallied for the Proposed Action or alternatives. Neither was a procedure outlined to mitigate the impacts. Attention must be paid to the quality of remaining habitat, which non-native, invasive species can drastically impact.	An inventory of invasive species infestations in the project area is outside the scope of the CD-C EIS. Avoidance and mitigation strategies are part of this EIS and part of the BLM's ongoing management of public lands.
INV	Impact analysis	In04	46	Page 4-77, 4.7.3 Direct and Indirect impacts : Please acknowledge that all activities that alter disturbance regime e.g. recreation and livestock operations also impact native plants and provide opportunities for non-native plants and promote their spread within the RFO.	As the text indicates, disturbance creates the opportunity for invasive species to compete with native vegetation.
INV	Impact analysis	In04	47	Page 4-77, 4.7.3 Direct and Indirect impacts, fourth paragraph: *Without proper management and control, invasive plant species may cause widespread infestations*. Invasive plants cannot cause widespread infestations of themselves. This sentence should be reworded.	The sentence has been reworded in the Final EIS.
INV	Impact analysis	In04	48	Page 4-77, 4.7.3 Direct and Indirect impacts, fifth paragraph: Halogeton has increased and spread throughout the west, even in areas without oil and gas development. In the absence of peer-reviewed scientific literature to back up the assertion that the continued establishment and spread of Halogeton is only due to energy-related activities we suggest BLM delete that part of the sentence.	The phrase "due to energy-related activities" has been removed.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
INV	Impact analysis	In04	49	Page 4-81,top of page: The power washing bullet presents some issues: Who will set up and maintain the wash stations? Who determines which zones require washing? What is considered a field vehicle? Power washing in the winter may present a safety issue due to ice buildup. Also it seems unreasonable to require washing by operators and not of others; recreational users and livestock operations can also spread weeds.	Recreationists and others will not have the same volume of traffic as Operators and will not be traveling between as many areas. The Operators would be responsible for setting up and maintaining the power washing vehicle stations. All vehicles that access the project area for the purpose of natural gas development would be considered field vehicles.
INV	Impact analysis	C02	42	Further, Operators should reestablish a competitive grass/forb cover immediately after disturbance, not “as soon as feasible.” CD-C Draft EIS at 4-80. In order to prevent the establishment of invasive weeds at disturbance sites and to increase the chance for the return of native plant species, it is imperative that reclamation occurs as soon as the disturbing activity is completed.	The phrase has been removed. Reclamation on public lands in the CD-C project area will proceed according to the guidance provided in Appendix 36 of the Rawlins RMP.
INV	Mitigation	O14	3	"We recommend periodic inspection of roadways for... weeds even if this employs the use of local residents for weed patrol. With our partners, we would be happy to help organize these…good stewardship suggests... vigilance and mitigation to catch new invasive species while they are easily eliminated, instead of noting their existence after control is impossible..."	Thank you for your comment and your willingness to assist with such a difficult and challenging task. Your offer has been passed along to our weed specialist.
INV	Mitigation	O14	4	"BLM must mitigate threats [from noxious and invasive plants] in the CD-C project area by avoiding impacts as possible (reduce road construction). minimizing impacts (weed control), and considering off-site mitigation. Species of particular concern include Halogeton (*Halogeton glomeratus*), Russian Thistle (*Salsola kali*), and Black Henbane (*Hyocyamus niger*).	Thank you for your comment. The BLM works cooperatively with many partners to reduce the presence of any and all weeds.
INV	Mitigation	O01	17	Recommendations: - Wash vehicles daily to reduce spreading unwanted seeds - Reclaim sites with native plant species	Thank you for your comment. As part of mitigation measures, power washing of all field vehicles is being promulgated as part of Alternative B. In addition, all disturbances must be reclaimed with native vegetation as required by the RMP.
INV	Plant identification	In04	42	Page 3-83, fourth paragraph: *Chenopodium berlanderi* is a native plant, not an invasive weed. Likewise the reference to *wild mustards* is vague. The term should be replaced with exactly the plants of concern.	*Chenopodium berlanderi* has been deleted. The term *wild mustards* has been deleted.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
INV	Reclamation costs	In05, In08	82	Costs for reclamation are provided for various locations and vary between 20 and 43K per acre. This information is not directly comparable to the project area. Reclamation costs are running from 12 to 18K per acre in the project area. Nevertheless, we agree with BLM's statement that operators should minimize initial surface disturbance whenever possible and seek to establish interim reclamation asap.	It is recognized that reclamation costs may vary greatly throughout the project area. The published and detailed study mentioned in the text was used to illustrate the potential difference of total costs between properly or improperly reclaiming a site.
NO	COAs	In04	5	The requirement on page 2-12, second bullet: "*Use of noise-reduction technology so that noise would not exceed 49 decibels measured at 30 feet from the source at all drilling, production and compressor sites.*" is arbitrary and unjustifiable.	Alternative B no longer includes a noise restriction for Sage-Grouse. However, the Approved Resource Management Plan Amendment (ARMPA) for Sage-Grouse Management includes the following management decision (SSS 12): "New project noise levels, either individual or cumulative, should not exceed 10 dBA (as measured by L50) above baseline noise at the perimeter of the lek from 6:00 pm to 8:00 am during the breading season (April 1–May 15). Specific noise protocols for measurement and implementation will be developed as additional research and information emerges."
NO	COAs	In07	10	Page 4-11 2, Sage-grouse, first bullet series, second bullet and page 4-208, 4.17.3.3, Alternative B, paragraph 1, line 4. Requiring noise levels to be less than 49 decibels at 30 ft. from source is not achievable for construction, drilling, and completion operations. Limiting noise at a 30' distance from a source is unnecessary when a specific sensitive site, such as a lek, may not be in the neighborhood.	Please see response to In04-5 above.
NO	Editorial	In07	16	Page 4-208, 4.17.3.2, Alternative A, paragraph 2. The additional 7 days indicated for directional well development is inconsistent with Table 4.1 5-1.	The statement has been removed from the Final EIS.
NO	Editorial	In07	17	Page 4-209, 4.17.5, Unavoidable Impacts, paragraph 1, lines 4 & 5. It appears the durations for directional wells and conventional wells are stated incorrectly and may need to be interchanged.	The reference to drilling times for conventional and directional wells has been removed due to the great changes in this parameter that have occurred in the last 10 years.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
NO	Impact analysis	In04	58	Page 4-204, 4.17.1, fourth paragraph: Emerging research relative to the impact of noise on wildlife, specifically Greater Sage-Grouse and mountain plover, indicates this level of noise or the 49-dBA level (10 dBA over background) commonly found in BLM documents may not be sufficiently protective (Blickley and Patricelli undated, Blickley and Patricelli 2010). We object that BLM has relied upon research that has not been fully evaluated for accuracy or validity to set the noise requirements in this Draft EIS. The referenced study failed to follow proper research protocols, as well as accepted standards of practice or standard accepted procedures used by acoustical engineers and specified by the ASA and ANSI.	Thank you for your comment. The BLM has used research that was available for this analysis. Text has not been revised.
NO	Impact analysis	C02	54	The discussion on possible noise limitations is very open-ended and does not allow for discussion or analysis on possible impacts from such limitations. CD-C Draft EIS at 2-12. The Draft EIS does provide noise standards (noise would not exceed 49 decibels measured at 30 feet from the source) within sage-grouse habitat under the Enhance Resource Protections section. Id. at 213. The first discussion on noise limitations needs to incorporate this language or similar language, such as in Chapter 4 (CD-C Draft EIS at 4-205), in order to provide an actual standard for analysis purposes.	Alternative B no longer includes a noise restriction for Sage-Grouse. However, the Approved Resource Management Plan Amendment (ARMPA) for Sage-Grouse Management includes the following management decision (SSS 12): “New project noise levels, either individual or cumulative, should not exceed 10 dBA (as measured by L50) above baseline noise at the perimeter of the lek from 6:00 pm to 8:00 am during the breading season (April 1–May 15). Specific noise protocols for measurement and implementation will be developed as additional research and information emerges.”
NO	Mitigation	P10	6	Establish guidelines for light and noise pollution, including installing shielding on light sources.	Thank you for your comment.
NO	Mitigation	S04	6	We think the noise stipulation that would not allow noise to exceed 49 decibels measured at 30 feet from the source at drilling, production and compressor sites overreaches the sage grouse guidance and should be eliminated.	Please see response to comment C02-54 above.
NO	Wildlife impacts	In06	9	Page 4-204, 4.17, *Emerging research relative to the impact of noise on wildlife … indicates this level of noise or the 49-dBA level (10 dBA over background) … may not be sufficiently protective (Blickley and Patricelli undated, Blickley and Patricelli 2010)*. This study has technical flaws which should prevent BLM from using this paper as a reputable resource.	Thank you for your comment. The BLM has used research that was available for this analysis. Text has not been revised.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
OG	Alternatives	In05, In08	7	BLM impermissibly assumes that the same level of O&G development will occur under all four of the action alternatives. Under no circumstances will the same number of wells be developed under Alternatives B, C, and D as will be developed under the Proposed Action. The uncertainty inherent in Alternatives B, C, and D will necessarily limit the number of wells that could be developed in the project area. Alternative B and D will substantially increase costs; rendering the development of natural gas resources uneconomic.	Based on several comments on the Draft EIS, the RFO reviewed the likely effect of the requirements of the CD-C alternatives on drilling rates and total number of wells drilled in the project area. The review concluded: (1) Existing seasonal activity constraints already affect decisions about directional drilling under the Proposed Action as much as they would under the alternatives; (2) The alternatives encourage greater use of directional drilling, a technology that operators are already adopting on their own; (3) While some of the alternative requirements are likely to increase costs, the cost increases would likely be such that they are within the normal realm of operational cost increases (such as those that arise from the switch to directional drilling) or of natural gas price changes; (4) Requirements that emphasize improved reclamation are based on the premise that the project's 15-year development period provides sufficient time to achieve reclamation goals; and (5) Alternative D, Directional Drilling, is likely to result in a decline in drilling rates and well numbers. This conclusion is reflected in the Final EIS and its impact analysis.
OG	Impact Analysis	In04	2	Mandatory multi-well pads or a maximum acreage limitation may have significant effects on recoverability of natural gas, on access, and on safety. The Draft EIS does not provide enough information about how proposed surface use constraints will affect development time and output over the life of the project and about how seasonal limitations may affect the ability of operators to develop multi-well pads that will require longer periods of time to construct.	Please see the response to In05-7 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
OG	Impact Analysis	C02	6	"This is even more the case since the social and economic analysis was confined to the Proposed Action and not adjusted to the other alternatives. The Draft EIS incorrectly states the same number of wells will be drilled... This is untrue, since Alternative C imposes a surface disturbance limit that will delay or preclude production."	Based on several comments on the Draft EIS, the RFO reviewed the likely effect of the requirements of the CD-C alternatives on drilling rates and total number of wells drilled in the project area. The review concluded: (1) Existing seasonal activity constraints already affect decisions about directional drilling under the Proposed Action as much as they would under the alternatives; (2) The alternatives encourage greater use of directional drilling, a technology that operators are already adopting on their own; (3) While some of the alternative requirements are likely to increase costs, the cost increases would likely be such that they are within the normal realm of operational cost increases (such as those that arise from the switch to directional drilling) or of natural gas price changes; (4) Requirements that emphasize improved reclamation are based on the premise that the project's 15-year development period provides sufficient time to achieve reclamation goals; and (5) Alternative D, Directional Drilling, is likely to result in a decline in drilling rates and well numbers. This conclusion is reflected in the Final EIS and its impact analysis.
OG	Impact Analysis	C02	7	"This assumption also means that if true, then the other alternatives would not have less environmental impact. The Draft EIS assumes Alternatives A-C are necessary to reduce impacts. This can only occur in a gas field if there is less drilling which means less income. Hence again the assumptions made in the Draft EIS are incorrect and make the resulting analysis equally, if not more, incorrect."	Please see the response to C02-6 above.
OG	Impact Analysis	C02	9	The Coalition has always maintained that the Mineral Leasing Act requires development to occur in a manner that would provide the best recovery of the resource and thus revenue to the U.S. Treasury. Considering alternatives that may well lead to reduced gas production is not consistent with this direction. It also will lead to the unfair administration of the field, since existing wells will preclude future wells thus denying the lessees their rights to produce.	Thank you for your comment.
OG	Impact Analysis	C04	2	The socioeconomic analysis is flawed as it concludes that the socio-economic impact will be the same no matter what alternative is selected, failing to take into account the effect of resource use restrictions and seasonal limitations applied in the alternatives.	Please see the response to C02-6 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
OG	Impact Analysis	C04	3	The socio-economic impact analysis concludes that the same number of jobs and the same revenue will be generated in Alternative B as the Proposed Action, which does not contain the same seasonal restrictions. We ask that the BLM fix the socio-economic analysis to ensure that an accurate picture of the socio-economic impact is portrayed.	The socioeconomic analysis was based on well number estimates for each alternative produced by the BLM. Based on several comments on the Draft EIS, the RFO reviewed the likely effect of the requirements of the CD-C alternatives on drilling rates and total number of wells drilled in the project area. The review concluded: (1) Existing seasonal activity constraints already affect decisions about directional drilling under the Proposed Action as much as they would under the alternatives; (2) The alternatives encourage greater use of directional drilling, a technology that operators are already adopting on their own; (3) While some of the alternative requirements are likely to increase costs, the cost increases would likely be such that they are within the normal realm of operational cost increases (such as those that arise from the switch to directional drilling) or of natural gas price changes; (4) Requirements that emphasize improved reclamation are based on the premise that the project's 15-year development period provides sufficient time to achieve reclamation goals; and (5) Alternative D, Directional Drilling, is likely to result in a decline in drilling rates and well numbers. This conclusion is reflected in the Final EIS and its impact analysis.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
OG	Impact Analysis	S01	3	The BLM did not adequately consider the impact of seasonal stipulations and surface controls across alternatives. The socioeconomic analysis developed to support the CD-C EIS should be expanded. It does not seem plausible that the Proposed Action and the alternatives would have similar well numbers and the same pace of development. The combination of limiting factors in each of the alternatives will have differing impacts on the pace of well development.	The socioeconomic analysis was based on well number estimates for each alternative produced by the BLM. Based on several comments on the Draft EIS, the RFO reviewed the likely effect of the requirements of the CD-C alternatives on drilling rates and total number of wells drilled in the project area. The review concluded: (1) Existing seasonal activity constraints already affect decisions about directional drilling under the Proposed Action as much as they would under the alternatives; (2) The alternatives encourage greater use of directional drilling, a technology that operators are already adopting on their own; (3) While some of the alternative requirements are likely to increase costs, the cost increases would likely be such that they are within the normal realm of operational cost increases (such as those that arise from the switch to directional drilling) or of natural gas price changes; (4) Requirements that emphasize improved reclamation are based on the premise that the project's 15-year development period provides sufficient time to achieve reclamation goals; and (5) Alternative D, Directional Drilling, is likely to result in a decline in drilling rates and well numbers. This conclusion is reflected in the Final EIS and its impact analysis.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
OG	Impact Analysis	C03	4	Sweetwater County requests that the BLM provides a more complete and clear analysis regarding the effects that the environmental policies within each alternative will have on production, employment, tax revenue and other economic factors. Of particular concern are the potential negative economic effects that the environmental restrictions of seasonal limitations and surface disturbance caps may have on a producer' s ability to accomplish Project drilling objectives within the time frame specified in the Draft EIS. Sweetwater County understands seasonal restrictions and surface disturbance caps benefit wildlife and the overall management of the range but these restrictions, if not applied in a balanced manner, may severely reduce the ability of companies to develop their leases, which could result in an economic loss to the local governments and the State of Wyoming. To prevent this economic loss from occurring, Sweetwater County encourages the BLM to re-analyze the socioeconomic impacts related to environmental restrictions and work closely with BP and other operators to reconsider how these restriction may be applied in a manner that maximizes drilling and economic opportunity while sustaining wildlife, grazing and the overall viability of the range resources.	Based on several comments on the Draft EIS, the RFO reviewed the likely effect of the requirements of the CD-C alternatives on drilling rates and total number of wells drilled in the project area. The review concluded: (1) Existing seasonal activity constraints already affect decisions about directional drilling under the Proposed Action as much as they would under the alternatives; (2) The alternatives encourage greater use of directional drilling, a technology that operators are already adopting on their own; (3) While some of the alternative requirements are likely to increase costs, the cost increases would likely be such that they are within the normal realm of operational cost increases (such as those that arise from the switch to directional drilling) or of natural gas price changes; (4) Requirements that emphasize improved reclamation are based on the premise that the project's 15-year development period provides sufficient time to achieve reclamation goals; and (5) Alternative D, Directional Drilling, is likely to result in a decline in drilling rates and well numbers. This conclusion is reflected in the Final EIS and its impact analysis.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
OG	Impact Analysis	C03	7	Surface Use Limitations: The BLM should retain discretion to permit development that is appropriate for existing surface features, reservoir characteristics and other factors. The Draft EIS does not provide enough information about how the proposed surface use constraints and seasonal limitations will affect development time and output over the life of the project or the ability of operators to utilize multi-well pads that could potentially reduce the overall footprint of the project.	Based on several comments on the Draft EIS, the RFO reviewed the likely effect of the requirements of the CD-C alternatives on drilling rates and total number of wells drilled in the project area. The review concluded: (1) Existing seasonal activity constraints already affect decisions about directional drilling under the Proposed Action as much as they would under the alternatives; (2) The alternatives encourage greater use of directional drilling, a technology that operators are already adopting on their own; (3) While some of the alternative requirements are likely to increase costs, the cost increases would likely be such that they are within the normal realm of operational cost increases (such as those that arise from the switch to directional drilling) or of natural gas price changes; (4) Requirements that emphasize improved reclamation are based on the premise that the project's 15-year development period provides sufficient time to achieve reclamation goals; and (5) Alternative D, Directional Drilling, is likely to result in a decline in drilling rates and well numbers. This conclusion is reflected in the Final EIS and its impact analysis.
OG	Level of development	In05, In08	8	BLM assumes that the same level of development will occur under all four of the action alternatives. Under no circumstances will the same number of wells be developed under Alts. B, C, and D as will be developed under the Proposed Action. Alt. B will substantially increase costs associated with the numerous mitigation measures imposed and the substantially increased costs associated with the directional drilling in Alt. D will render the development of natural gas resources from the project area uneconomic. Operators will be unable to develop in the area and the immense economic benefits associated with the project will not occur.	Please see the response to C03-7 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
OG	Sage-Grouse	In04	1	The Operators believe that the Draft EIS analysis does not realistically portray the results of seasonal limitations, mandatory pad well development, air quality limitations, and other surface use limitations on the timeliness of well development and production. The combination of limiting factors in each of the alternatives will have impacts on the pace of well development so that production, employment, and tax revenue would be reduced or slowed.	Based on several comments on the Draft EIS, the RFO reviewed the likely effect of the requirements of the CD-C alternatives on drilling rates and total number of wells drilled in the project area. The review concluded: (1) Existing seasonal activity constraints already affect decisions about directional drilling under the Proposed Action as much as they would under the alternatives; (2) The alternatives encourage greater use of directional drilling, a technology that operators are already adopting on their own; (3) While some of the alternative requirements are likely to increase costs, the cost increases would likely be such that they are within the normal realm of operational cost increases (such as those that arise from the switch to directional drilling) or of natural gas price changes; (4) Requirements that emphasize improved reclamation are based on the premise that the project's 15-year development period provides sufficient time to achieve reclamation goals; and (5) Alternative D, Directional Drilling, is likely to result in a decline in drilling rates and well numbers. This conclusion is reflected in the Final EIS and its impact analysis.
OG	Target resources	In05, In08	73	We believe the BLM places far too much emphasis on oil and gas development from the Lance formation and the Mesaverde group. Although oil and gas development in the CD-C Project Area has primarily focused on the Mesaverde group and the Almond formation, these are not the only formations with hydrocarbon potential. As oil and gas development technology continues to improve, operators within the CD-C Project Area will target other formations. The BLM incorrectly assumes that all future oil and gas development within the CD-C Project Area will take place using vertical or directional deviated vertical drilling technologies. Oil and gas operators in the CD-C Project Area, and other portions of Wyoming, are utilizing horizontal development techniques with increased frequency. The BLM should carefully analyze the potential for horizontal development within the CD-C Project Area and ensure that the agency has sufficient flexibility to authorize horizontal development in the future within the CD-C Project Area.	The emphasis on gas development from the Lance and Mesaverde groups was derived from information the BLM received in the Project Description (**Appendix B**) that was submitted by the Proponents. If there are issues with the Project Description, then these need to be addressed by the Proponents.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
OG	Target resources	In05, In08	102	As discussed earlier, the BLM focuses far too much emphasis on oil and gas development in the Mesaverde and the Almond formations. Many operators are analyzing and even testing oil and gas production from other formations within the Project Area. The BLM must ensure that it has sufficient flexibility to authorize oil and gas development from many formations using many development techniques, and should not constrain itself to only so-called traditional vertical development.	The focus on the Mesaverde and Almond formations is part of the Project Description (**Appendix B**) as received from the Operators. In addition, the Project Description focused on the development of natural gas resources and did not include the development of oil nor of the use of horizontal drilling. This EIS analyzes the development of natural gas.
PA	Appendix B, abandon-ment	In09	12	"**Abandonment.** Appendix B, page B-23, discusses abandonment of well pads [but] no reference is made to the possible abandonment of pipelines. Although few pipelines are officially abandoned at this time, this practice may become common as the field changes... How the RFO manages pipeline abandonment may have a significant impact on reclamation following construction and following abandonment. Williams recommends, therefore, that pipeline abandonment be addressed in this document."	**Appendix B** is the Operators' Project Description and can only be changed by the Operators.
PA	Appendix B, clarification	In09	11	"**Average Pipeline Length. Appendix B**, page B-6, line 1.2, Bullet 5, assumes average pipeline length will be .25 mile [which] is inaccurate when compared to actual field results. Construction of larger well pads results in construction of larger diameter pipe. This increases the average pipeline length beyond .25 mile. Since 2010, Williams' average combined pipeline length of both 4" and 6" pipe is .53 mile. The average pipeline length for 6" pipe alone is slightly less than 1 mile."	Thank you for your comment. Because the figures on average length and average disturbance are from the **Operators' Project Description (Appendix B)**, they are used in the EIS.
PA	Appendix B, editorial	O01	3	The project overview on p B-3 references the Great Divide RMP and should reference the Rawlins RMP of Dec. 2008.	At the time the **Operators' Project Description** was written (August 2006), the Rawlins RMP had not yet been completed.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
PA	Appendix B, Interim rollover credit	In05, In08	107	BLM must explain how it intends to utilize the proposed interim roll-over objectives for the Continental Divide/Creston Natural Gas Project Environmental Impact Statement and ROD dated February 25,2011, developed by the State of Wyoming and several oil and gas operators ("Working Group Reclamation Plan"). The proposed reclamation document is currently included in part of Appendix E, but the text of the Draft EIS itself makes no mention on how, or if, the BLM will utilize this criterion. Similarly, the BLM must explain how, or if, it intends to use the document entitled BLM Roll-Over Criteria, Continental Divide/Creston Environmental Impact Statement ("BLM Reclamation Plan") also included in Appendix E. These two documents have very different components and standards and it is unclear how each document will be utilized. The reclamation guidance developed by the Working Group was intended to define meaningful and objective criterion to determine when and if reclamation was tending toward success. The BLM reclamation plan, however, appears to be generally vague, ambiguous, and potentially arbitrary and capricious. The BLM's Reclamation Plan does not provide clear criteria that will be utilized to determine when reclamation has been successful. The BLM's proposed "I know it when I see it" standard does not provide Devon the regulatory assurance it needs to develop successful on-site reclamation plans. Devon encourages the BLM to carefully review the Working Group Reclamation Plan and adopt portions of said plan as the reclamation rule or criteria for the CD-C Project.	As revised in the Final EIS, the description of Alternative C now make clear that the "standards to be met for successful interim reclamation of surface disturbance on public lands are described in Appendix M: Interim Rollover Objective (IRO) for Alternative C, which includes two documents that apply to interim reclamation and the concept of rollover: the Proposed IRO for the CD-C Natural Gas Project and the CD-C Rollover Criteria.″
PA	Beneficial use of produced water	C01	23	Appendix B, Plan of Development: The NEPA alternatives analysis should include the treatment and beneficial use of produced water to off-set the loss of livestock grazing values and wildlife habitat	That potential was not included in the **Operators' Project Description (Appendix B)**.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
PA	Clarification	In09	2	"Additional Facilities. In the Proposed Action alternative item 2.2.1,...page 2-1, the EIS discusses the number of proposed wells and possible additional facilities. At the bottom of paragraph one, page 2-2, the CD-C EIS mentions that gas will be transported by sub-surface pipelines. While this statement is accurate, it implies [that] the only pipelines to be considered by the CD-C EIS are those already in place. Williams recommends specifically including gathering and transportation pipelines in the list of facilities at the beginning of the paragraph (rather than just the word "gas" in the list of additional facilities) that will be constructed in other sections of the Proposed Action. (See notes on Appendix B for further description in the plan of development.)	The text was not changed. As written, the description, which comes from the **Operators' Project Description (Appendix B)** seems to clearly convey how pipelines will be used without implying that only existing pipelines would be used.
PA	Clarification	In09	3	"**Construction Activities.** Line 2.2.1.1 makes no mention of pipeline construction associated with well pads and roads. Because additional pipeline disturbance will accompany each well pad, pipelines should be included in this statement even if the pipelines are to be constructed by a third-party pipeline company rather than the director operator of the well. The EIS also estimates average pipeline length associated with each well pad will be .25 miles [which] would result in an average additional disturbance of 1.52 acres per well pad. As later addressed in this document, the .25 mile average pipeline length is incorrect."	**Section 2.2.7.4, Pipeline Facilities**, describes the role of pipelines in natural gas development. The figures on average length and average disturbance are from the **Operators' Project Description (Appendix B)**.
PA	Clarification	In09	4	"**Construction Activities Listed.** Table 2.4 shows estimated disturbance but limits its reference to 'related O&G facilities' {and] makes no mention of what those facilities may be. Williams recommends this table include express reference to pipelines. "	**Table 2.4** has been modified to clarify the constituents of Related O&G facilities.
PA	Clarification	In09	5	"**Pipeline Definitions**. Section 2.2.1.4, Pipelines, should include additional clarification of the differences between gathering pipelines and transmission pipelines [and] that operators will use existing transmission lines also should be included (see In09-4)."	The section, now numbered **2.2.7.4**, has been revised to clarify the distinction between transmission lines and gathering lines.
PA	Clarification	In09	6	"**Pipeline Location.** Line 2.2.1.4... should state 'pipelines will follow access roads ***where practical***.' In many instances, it is more practical and will result in less surface disturbance if pipelines are allowed to diverge from existing access roads."	The text was not changed. The statement, "pipelines will follow access roads where possible" has the same meaning as the suggested replacement language.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
PA	Clarification of drilling methods	O01	2	There appear to be discrepancies between BLM's public claims regarding minimization of impacts and the actual alternatives discussed. The BLM Fact Sheet for this project claims that the operators have made a commitment to consolidate wells on well pads to disturb less land and reduce development costs. We commend the operators for this decision and support utilizing each well pad to its fullest extent possible, including directional drilling. Looking at Appendix B - Plan of Development, indicates that most of the new wells will be drilled either conventionally with a single well bore from one pad or with many wells from one well pad. Elsewhere the Draft EIS states that an estimated 42% of wells would be located on multiple-well pads. These noncommittal and conflicting claims fail to provide clear, enforceable explanations of the commitment claimed by operators in the BLM Fact Sheet. Clarification is needed.	The Fact Sheet available on the CD-C web site at http://www.blm.gov/pgdata/etc/medialib/blm/wy/information/NEPA/rfodocs/cd_creston.Par.78701.File.dat/CD-C-Facts.pdf does not describe a commitment by the Operators to consolidate wells and they have not made such a commitment. As the **Operators' Project Description (Appendix B)** states, "This proposal assumes that the gas wells may be drilled conventionally, i.e., with a vertical well bore on a single pad, or with multiple directional well bores from a single pad." Individual operators make their own plans for drilling, or not drilling, multiple wells from a single well pad. The Project Description also contains aggregate and individual assumptions about disturbance (Table 1) that allow an inference that 42 percent of the wells would be drilled directionally. No commitment was made.
PA	Coalbed methane	O04	64	The EIS appears not to analyze the disposition of coalbed methane produced water under this project (Draft EIS at 2-5), although up to 500 of the approved wells would be coalbed methane wells (Draft EIS at 2-1). Coalbed methane wastewater disposal needs to be addressed, and BLM should require underground injection of such produced water into formations of equal or lower quality that have no hydrological connection to surface waters. BLM states that in any case additional NEPA analysis would occur if coalbed methane wells were pursued under this project. Draft EIS at 4-21. If the BLM has no intention of analyzing the produced water disposal issues for coalbed methane, then all coalbed methane drilling approvals should be stricken from this Project.	The disposition of CBM-produced water is not analyzed in this document. If and when the BLM receives an application for CBM development and disposal of CBM-produced water, then it will be analyzed. This has been clarified in the Final EIS.
PA	Directional drilling	In05	18	BLM should also recognize that the estimate of directional drilling that will occur within the project area is likely very conservative. When the POD was originally submitted in 2005, directional drilling was a relatively new practice within the project area. Since that time, it has become more common, more effective, and more economical. It is highly likely that far more than 42% of the wells within the project area will be directionally drilled if the BLM were to select the PA as the Preferred Alternative in the Final EIS and ROD.	The estimate of directional drilling in the Proposed Action is based on information included in the **Operators' Project Description (Appendix B)**. Because this estimate is based on the Proposed Action, the BLM cannot change this assumption.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
PA	Directional drilling	F03	8	Page 2-6. Section 2.2.2. The Draft EIS makes an assumption that 42 percent of the wells will be directionally drilled. We could not find any operator commitment to this effect. We recommend the Final EIS clearly identify what the Proposed Action is under each alternative, and identify any commitment made by the operators that would modify them.	As described in **Section 2.2.2, Alternative A**, the 42 percent of the wells that would be drilled as part of the Proposed Action is implicit in their numbers but the proposal contains no commitment on the part of individual Operators or the group as a whole to implement that amount of directional drilling.
PA	Drilling methods	C02	18	The Draft EIS needs to clarify the differences between conventional drilling and coalbed natural gas drilling. See CD-C Draft EIS at 2-2 and 2-3. The specific operations related to drilling coalbed natural gas wells must be addressed, as well as differences between the two types of wells as it relates to the location and timing of drilling and the production facilities. The Coalition understands that the differences are quite significant and these differences should be fully analyzed and disclosed.	For the purposes of this EIS, what matters are the similarities between the two methods of developing fluid mineral resources: the surface disturbance, the drilling and production activity, and the transportation of gas and liquids. The greatest dissimilarity--the production of large quantities of produced water by CBM production-- is explicitly removed from consideration in the EIS. Any proposal for surface discharge of produced water would be analyzed in a separate NEPA document.
PA	Editorial	In05, In08	19	Page 2-5, 2.2.1.7: BLM incorrectly states that it imposes additional COAs and other mitigation measures through NEPA. Although the BLM often utilizes the NEPA process to determine appropriate COAs, such COAs are not imposed using authority conferred by NEPA. Instead, COAs are applied using BLM's authority under FLPMA, the Mineral Leasing Act of 1920, and other laws. BLM should correct this misleading statement.	The source of the cited language was the **Operators' Project Description (Appendix B**). The phrase "implemented through NEPA" has been removed from the text.
PA	Horizontal drilling	In05	17	BLM does not mention the possibility that horizontal development could be utilized within the area. BLM should not eliminate the possibility that future development in the project area may utilize horizontal development techniques. Impacts are nearly identical to that of vertically or directionally developed wells. BLM should specifically analyze the potential impacts of horizontal drilling techniques within the project area and disclose these potential impacts to the public in the Final EIS.	The development of this EIS was based on the Proposed Action and the **Operators' Project Description (Appendix B)** that was submitted by the Operators. No mention of oil development or the use of horizontal drilling was made in the project description. The Proposed Action and alternatives were developed based on the presumption that the Operators were intending to develop natural gas, not oil. Therefore, horizontal drilling and the development of oil is not analyzed in this EIS. If Operators intend to develop oil, then applications for such would be analyzed under a separate NEPA document to address the different impacts associated with the development of oil.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
PA	Horizontal drilling	In05, In08	104	BLM should develop and include specific language in the plan of development noting that oil and gas operators may pursue horizontal drilling and development techniques within in the CD-C Project Area. As currently drafted, the plan of development assumes that operators will utilize directional or vertical drilling techniques exclusively. As oil and gas development technology continues to improve, operators may utilize other drilling and development techniques, including horizontal development. Horizontal drilling techniques are virtually identical to conventional or directional, sometimes deviated, drilling techniques, except that surface pads may be slightly larger and drilling completion timelines slightly longer than those included within the CD-C Draft EIS. (more information on horizontal drilling in letter.)	The development of this EIS was based on the Proposed Action and the **Operators' Project Description (Appendix B)** that was submitted by the Operators. No mention of oil development or the use of horizontal drilling was made in the project description. The Proposed Action and alternatives were developed based on the presumption that the Operators were intending to develop natural gas, not oil. Therefore, horizontal drilling and the development of oil is not analyzed in this EIS. If Operators intend to develop oil, then applications for such would be analyzed under a separate NEPA document to address the different impacts associated with the development of oil.
PA	Water quantities	C01	10	Section 2.2.1.2 Drilling and Completion: Drilling and Completion activities require 24,000-42,000 barrels (bbls) of water per well. Please express water quantity in barrels, gallons and acre feet and include an estimated cumulative ground water demand for the project area.	The requested information is found in **Section 4.4.4.1** of the Draft and Final EIS. The total water demand for the project (up to 48,720 ac-ft) has been added to the text in **Section 2.2.7.2** of the Final EIS.
PA	Well numbers	O03	1	The Proposed Action projections need to be analyzed and the number of proposed wells needs to be reviewed to determine if the target resource can be fully developed or if additional wells will be needed. BLM should analyze the assumption that drilling will occur at well densities of up to one well per 40 acres (page 1-3). The potential total number of wells, assuming 1697 sections in the project area, is actually 13,406.	The Proposed Action represents the Operators' best estimate as of August 2006 (the date of their Project Description) with regard to the CD-C project area's overall potential, with presumed variation in different parts of the area. It does not assume uniform drilling throughout the project area.
RCL	Appendix C / Appendix E clarification	In07	19	Appendix C, pages C-14 to C-15. Many of the Reclamation Plan requirements identified are unnecessary. It is recommended that the reclamation specifications identified in Appendix E be followed and that, as identified in the High Desert District Letter (in Appendix E), emphasis be placed on success full reclamation not reclamation planning.	Please see the updated **Reclamation Plan (Appendix E)**. Specific criteria for interim reclamation are identified.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RCL	Appendix E	In01	24	The reclamation guidance introduction on page E-3 refers to guidance and requirements documents such as, Appendix 36 to the Rawlins RMP, High Desert District Policy for Reclamation of Disturbed Lands, and Wyoming BLM State Reclamation Policy. These guidance and requirements documents are not consistent with each other in terms of objectives and standards which results in unclear guidance as to the goals and objectives for the CD-C project area. APC suggests that the BLM clarify the guidance that is to be used.	Please see the updated document. **Appendix E** is the reclamation plan for the Proposed Action and Alternatives B, D, and F; **Appendix M** is the reclamation plan for Alternative C.
RCL	Appendix E	In01	25	APC believes Instructional Memorandum 2012-005 cited on page E-16 provides a suitable approach to reclamation plans for the CD-C project area. However, the CD-C IRO outlined later in appendix E creates over-burdensome requirements – something to be avoided as stated in the High Desert Instructional Memorandum. APC recommends the BLM use IM WYD 2012-005 consistently throughout Appendix E to eliminate conflicting references.	Please see the updated document. **Appendix E** is the reclamation plan for the Proposed Action and Alternatives B, D, and F; **Appendix M (Interim Rollover Objective)** is the reclamation plan for Alternative C. The IRO document does not create over-burdensome requirements but rather attempts to deal with the complicated task of determining rollover criteria and when rollover is justified. The criteria presented in Appendix M for achieving rollover are not more stringent than that required by the RMP; they are simply more specific for rollover and interim reclamation.
RCL	Appendix E	In01	26	Page E-26 states “It is understood that many of the items we are recommending may appear duplicative to the existing Wyoming BLM Reclamation Instructional Memorandum or other Field Office reclamation policy. As part of the more flexible rollover criteria outlined below, we recommend that many of these duplicative practices should be required as part of the rollover criteria and not be optional.” While there are duplicative required practices, the practices are inconsistent. The BLM should provide a clear understanding of reclamation requirements.	Please see the updated document. **Appendix E** is the reclamation plan for the Proposed Action and Alternatives B, D, and F; **Appendix M** is the reclamation plan for Alternative C.
RCL	Appendix E	In01	27	The reference site selection requirement on page E-28 provides a redundant effort necessitating operators to complete extensive pre-site vegetation inventories, but also use a reference site to measure successful interim and final reclamation. To determine success of reclamation, BLM should only require pre-site vegetation inventories or reference sites, not both.	Operators are only required to submit data on either pre-disturbance locations or reference sites, but are not required to submit data on both.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RCL	Appendix E	In01	28	Page E-28 discusses the development of a site-specific invasive/noxious (invasive) plant management plan; however, this requirement is already in place. APC suggests referring to the existing PUP process to eliminate redundant efforts.	The site-specific invasive/noxious (invasive) plant management plan can be written similarly to the PUP but must also specifically address monitoring and success criteria.
RCL	Appendix E	In01	29	Page E-31 states “Both soil and water samples should be tested before application and water source should meet appropriate limits for SAR and EC.” The BLM should list the appropriate limits for SAR and EC in the Draft EIS.	If the IRO is associated with the ROD, appropriate SAR and EC will be specified.
RCL	Appendix E	In01	30	Where monitoring and reporting protocols are discussed on page E-31, the process by which BLM will make “changes” to the operator’s reclamation plan is unclear. APC requests the BLM provide further description of how and through what process an operator may pursue a reduction of monitoring and reporting.	The BLM will provide the Operator with comments concerning where further clarification is needed. There will be no opportunities for a reduction in monitoring as this is not consistent with the Rawlins RMP or other BLM regulations regarding reclamation. The Operator is responsible for maintaining successful reclamation. Operators would still be responsible for monitoring to ensure that reclamation is successful. This may be accomplished through a reduced monitoring program (if the IRO is implemented through the selection of Alternative C) but does not mean that Operators will not be required to continue monitoring disturbed sites to some degree, as required by the BLM. The BLM would have to approve any reduction in monitoring; a reduced monitoring program would only be applicable through Alternative C and the IRO, and only be approved if the IRO were consistently met.
RCL	Appendix E	In01	31	Appendix E refers to BLM monitoring methodologies to be used, which conflicts with the statement made on page E-31 that “Monitoring should be designed and implemented by the Operator to document continuing successful reclamation rollover using methodologies approved by BLM.” APC requests that the BLM provide clarity and consistency in monitoring protocols and identify who is to “design” them.	Monitoring methodologies would be determined by the Operator, but would be required to be BLM-approved. Therefore, the actual design and implementation of the monitoring would be the responsibility of the Operator, but would have to conform to BLM standards and requirements.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RCL	Appendix E	In01	32	Page E-31 states “Once the IRO is achieved and reclamation rollover granted by BLM, the Operator will continue to monitor the condition of the reclamation, document that the revegetation continues to meet IRO.” This statement is inconsistent with an above paragraph (C.8.a) which suggests a reduction in monitoring and reporting when IRO is achieved. Please consider revising these items to eliminate the contradiction.	The BLM will provide the Operator with comments concerning where further clarification is needed. There will be no opportunities for a reduction in monitoring as this is not consistent with the Rawlins RMP or other BLM regulations regarding reclamation. The Operator is responsible for maintaining successful reclamation. Operators would still be responsible for monitoring to ensure that reclamation is successful. This may be accomplished through a reduced monitoring program (if the IRO is implemented through the selection of Alternative C) but does not mean that Operators will not be required to continue monitoring disturbed sites to some degree, as required by the BLM. The BLM would have to approve any reduction in monitoring; a reduced monitoring program would only be applicable through Alternative C and the IRO, and only be approved if the IRO were consistently met.
RCL	Appendix E	In05, In08	106	We appreciate that under the Rawlins RMP, the BLM and the project proponent are encouraged to establish "reasonable, achievable, and measurable reclamation goals." CD-C Draft EIS, Appd. E, pg. E-5. Devon supports this statement but in the past has found that the BLM's determination of reasonable reclamation is neither achievable nor consistent. As noted above, Devon encourages the BLM to establish achievable and realistic reclamation goals that can be objectively monitored. Devon also is concerned with the BLM's continued use of language from the Rawlins RMP suggesting that the BLM and the project proponent are required to return the land condition better than that which existed before it was disturbed. CD-C Draft EIS, Appd. E, pg. E-6. It is unreasonable to require operators or other users of the public lands to return the conditions to better-than-those which they found them. Finally, the BLM reclamation guidance from the Rawlins RMP indicates that monitoring reporting is due on December 1. CD-C Draft EIS, Appd. E, pg. E-12. The BLM currently requires operators to submit their monitoring data on April 1. Devon suggests that BLM synchronize their dates for the CD-C Area so the operators clearly know when their monitoring reports are due.	Thank you for your comment. Please see updated **Appendix E, Reclamation Plan**.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RCL	Appendix E	S03	2	WDEQ worked with other state cooperators, the BLM, the University of Wyoming, and the producers to develop the Proposed Interim Rollover Objective (IRO). Although developed for interim reclamation, the WQD requests that the guidance in the IRO be incorporated into the Preferred Alternative.	The **Interim Rollover Objective (Appendix M)** has been included as part of Alternative C. Because the Agency Preferred Alternative does not incorporate the use of a disturbance cap, the use of rollover criteria would not be applicable. Please see updated **Appendix E, Reclamation Plan** for information on the proposed reclamation plan for the Agency Preferred Alternative.
RCL	Appendix E, criteria	In04	68	Appendix E, page E-6, last sentence of the third paragraph: Please list the criteria under which addressing interim reclamation guidelines on a case-by-case basis is appropriate.	There are no such criteria. All disturbances are evaluated on a case-by-case basis to determine the appropriate measures necessary to "initiate or accelerate the recovery of an ecosystem."
RCL	Appendix E, pre-disturbance inventory	In09	22	"Minimum Level of Pre-disturbance Data. Page E-16, is part of the Wyoming State Reclamation Policy. Paragraph I states the RFO is more interested in actual reclamation than in preliminary data gathering. The policy further states: 'To that end it is imperative that we require the reclamation plans to include no more than the minimum level of pre-disturbance site data and project component description than is essential to assure the plan will meet the reclamation objective for the site.' The recommended data initially required by the RFO to be included in the site specific reclamation plan and the reporting protocol after initial reclamation requires more than the minimum level to be successful, particularly as it applies to pipeline construction."	The information recommended to be compiled in the reclamation appendices is what is considered by the Rawlins BLM to be what is necessary to ensure successful reclamation that is consistent with the goals and objectives of the BLM.
RCL	Appendix E, seed mixes	In09	20	"Pre-Disturbance Vegetation. Page E-8, SEED, paragraph 2, requires a list of pre-disturbance vegetation. A high percentage of vegetation in the Wamsutter area has no commercially available seed. Seed mixes, therefore, are based on a few of the existing plants and on soil type. Seed mixes should be developed based on soil type, annual moisture, and existing vegetation. It is not necessary to gather information to the extent noted in this section. Also, paragraph 3 states wildlife and livestock use should be taken into consideration when planning the seed mix. This contradicts paragraph 2 and allows leeway in developing seed mixes."	The BLM is responsible for ensuring that reclamation is occurring in a manner consistent with the goals and objectives of the BLM. This includes identifying and implementing methods that would result in successful reclamation and includes the use of native seeds and specific seed mixes.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RCL	Appendix E, clarity	In04	64	Appendix E, page E-4, last sentence: Increasing the cap by roll-over disturbance could lead to a situation where the cap is met and previously rolled over acreage is requiring disturbance for P and A activities. It should be stated that roll over acreages can be re-disturbed for activities that will lead to environmental gains such as P and A.	Re-use of rolled-over acreage is permitted by definition.
RCL	Appendix E, clarity	In04	67	Appendix E, page E-6, the first sentence states that reclamation will return land to a condition approximate to or better than that which existed before. The recommended fix is: or otherwise agreed to condition.	Thank you for your comment.
RCL	Appendix E, clarity	In04	73	Appendix E, page E-11, Planning and Monitoring, first sentence of the second paragraph: *With the exception of active work areas, disturbed areas anticipated to be left bare and exposed will be stabilized with at least a 50-percent cover of mulch to prevent soil erosion*. This statement requires further definition. How many weeks, days, or minutes can soil be left bare? Are other erosion controls, acceptable?	Thank you for your comment.
RCL	Appendix E, clarity	In04	74	Appendix E, page E-12, Project Proponent Reclamation Monitoring Reports, second open circle bullet states that sites will be identified by reclamation years. Sites may experience re-disturbances (i.e. staging of equipment) such that a site is a mosaic of restoration years. Please explain.	The indicated text is intended as general guidance.
RCL	Appendix E, clarity	In04	75	Appendix E, page E- 31, 6.b. State the appropriate SAR and EC limits and please list them.	If the IRO is associated with the ROD, appropriate SAR and EC will be specified.
RCL	Appendix E, correction	In07	21	Appendix E. The RMP reclamation success criteria (80% of pre-disturbance ground cover, 90% by dominant species, etc.) are applicable for bond release, not interim reclamation.	Please see the updated **Reclamation Plan (Appendix E)**. Specific criteria for interim reclamation are identified.
RCL	Appendix E, correction	In07	24	Appendix E. Generally topsoil piles are listed as being less than 13 ft deep, seeded, and having slopes less than or equal to 3:1; these slopes may not be attainable.	If certain criteria as required in **Appendix E or M** are not attainable, they would be addressed on a site-specific basis in the reclamation plan that would be submitted with the APD or right-of-way application. These would be approved (or not) by the BLM on a case-by-case basis.
RCL	Appendix E, correction	In07	25	Appendix E. Cover monitoring the first year post-seeding is unnecessary, what is required is an evaluation of germination and establishment which is not well described by measurements of cover.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RCL	Appendix E, correction	In07	26	Appendix E. Both basal and foliar cover monitoring are required annually. Will alternate site-specific monitoring schedules and protocol included with APDs and ROW applications be accepted?	If certain criteria as required in **Appendix E or M** are not attainable, they would be addressed on a site-specific basis in the reclamation plan that would be submitted with the APD or right-of-way application. These would be approved (or not) by the BLM on a case-by-case basis.
RCL	Appendix E, correction	In07	27	Page E-26. Proposed IRO Reclamation Criterion, paragraph 2: A 70% cover standard is identified. It is recommended that this be replaced by the qualitative standards proved at other locations in this appendix.	Thank you for your comment.
RCL	Appendix E, cost estimate	In04	66	Appendix E, page E-5, second paragraph, third bullet: *An estimate of the specific costs of reclamation.* It seems this is irrelevant information and shouldn't be public.	Thank you for your comment.
RCL	Appendix E, Invasive species	In01	33	Page E-32 states "No invasive weeds will be allowed. Invasive species cover no greater than adjacent invasive species cover will be allowed. All other undesirable perennial or annual plants as defined in the site-specific APD should be controlled or eradicated on the disturbed area." "No invasive weeds will be allowed." is in direct conflict with the rest of the statement. Additionally, the BLM has not provided any guidance as to which species will be included within the statement "All other undesirable perennial or annual plants…" or how these species will be determined.	If the IRO is associated with the ROD, the apparent contradiction would be clarified.
RCL	Appendix E, inventories	In09	24	"Vegetation Inventories. Vegetation inventories listed [on] page E-27, item 3. Conduct a Vegetation Inventory, have limited value, not only for pipeline construction but for all disturbances in general. Many of the seeds for native plants in the Wamsutter area are not commercially available [and] often are replaced by suitable alternatives. A basic overview of vegetation, including type of community (such as saltbush or greasewood), soil type (loam, sandy loam, clay, etc.), and precipitation levels, will provide the same value as a specific vegetation inventory and will fulfill the reclamation requirements of stabilizing soils and establishing a self-perpetuating plant environment that will, over time, reach pre-construction conditions.	The BLM is responsible for ensuring that reclamation is occurring in a manner consistent with the goals and objectives of the BLM. This includes identifying and implementing methods that would result in successful reclamation and includes the use of native seeds and specific seed mixes.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RCL	Appendix E, monitoring	In09	17	"Monitoring and Reporting. The introduction, page E-3, states operators should develop a monitoring and reporting strategy as per the Wyoming State BLM Reclamation Policy. The RFO has created criteria for monitoring and reporting primarily focused on well pads, not pipelines. The CD-C EIS should utilize the Pipeline Reclamation Plan to adjust these criteria for pipelines."	All of the information found in company-specific and project-specific reclamation plans will be applicable to the project area, on a site-specific basis.
RCL	Appendix E, monitoring	In09	25	"Annual Monitoring. Page E-32, provides a suggested list of monitoring items to be recorded for annual submission [that] is beyond what is necessary to determine if reclamation is progressing. The list should either be reduced to basic information regarding the progression of soil stabilization and establishment of a self-perpetuating plant environment (presence of weeds, if any, and growth of desirable, similar vegetation to the surrounding area), or operators should be given the leeway to determine what will add value for their specific project, or to report when they are ready to request rollover credit for the disturbance."	The BLM is responsible for ensuring that reclamation is occurring in a manner consistent with the goals and objectives of the BLM. This includes the submission of annual data by the Operators as outlined in the reclamation appendices and as is also required by the Rawlins RMP.
RCL	Appendix E, pre-disturbance inventory	In09	23	"Soil Inventories. Page E-27, item 2. Conduct a Suitable Soil Inventory, discusses the need for soil sampling and testing to determine what type of soil is being disturbed and potential soil horizons. These activities are appropriate when soil will be stripped, segregated and stored for an extended period of time [but] have no beneficial use when applied to pipeline construction. Because the minimum possible amount of topsoil is removed and immediately replaced, gathering soil data neither will have any impact on the method of construction, nor will it benefit reclamation. An exception from the soil sampling data requirement should be included in the CD-C EIS for pipeline construction and reclamation."	The Reclamation appendices have been updated to incorporate specific information that pertains to pipelines.
RCL	Appendix E, preference	In07	22	Appendix E. The interim reclamation success criteria established here are preferable to those identified in Appendix C.	COAs are provided in individual APDs and right-of-way grants and are not subject to revision in this document.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RCL	Appendix E, rationale	In04	65	Appendix E, page E-5, second paragraph: The reclamation plan will contain sufficient monitoring requirements, reports, and components to ensure the reclamation plan is current. Explain why these items are necessary to make the plan current and what items comprise the content.	The cited text is from Appendix 36 of the Rawlins RMP, Reclamation Plan. The term 'current' in that context is explained by an earlier sentence in the same paragraph: "The reclamation plan... for the expected reclamation condition of the disturbed lands and must be periodically reviewed and modified as necessary." The reclamation plans, or portions of plans, may need to be updated or modified as part of an adaptive management program that takes into account existing and/or changed conditions. Please refer to the ROD of the Rawlins RMP for the full text of Appendix 36.
RCL	Appendix E, reclamation	In09	16	"Reclamation. Language in Appendix E is drawn directly from Appendix 36 of the RMP. Williams recommends Appendix E include appropriate elements from the Pipeline Reclamation Plan to augment and improve the issues related to pipeline construction and reclamation."	All of the information found in company-specific and project-specific reclamation plans will be applicable to the project area, on a site-specific basis.
RCL	Appendix E, reporting	In09	18	"Reclamation Plan Monitoring and Reporting. Page E-5 paragraph 2 describes the requirement for reclamation plan monitoring and reporting as being 'sufficient.' Later suggestions in the document become excessive and unnecessary thereby exceeding the RFO standard of 'sufficient.' Other language allows flexibility depending on the type of disturbance. This document, however, does not provide guidance as to what types of disturbances or flexibility will be allowed."	Reclamation guidance in this document does not exceed what the RFO describes as sufficient.
RCL	Appendix E, rollover	In05, In08	105	We remain concerned that the proposed reclamation roll-over criteria identified on page E-4 are vague and arbitrary. The determination of a successful roll-over can be dependent purely on the person reviewing each location rather than a set of objective criteria. We encourage the BLM to develop a clear and objective set of criteria that can be utilized to determine when reclamation is successful.	Thank you for your comment.
RCL	Appendix E, seed mix	In04	70	Appendix E, page E-8, Seed. The first sentence requires seed to be weed free. Since the term weed is defined variously, it would be more useful to have a list of species prohibited within a seed mix. Or example, Indian rice grass could be a weed present in a sand dropsied planting.	'Weed free seed' refers to the 2006 BLM seed policy. All seed to be applied on public land must have a valid seed test from a registered seed analyst. The seed lot shall contain no noxious, prohibited, or restricted weed seeds according to state seed laws in the respective state(s).

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RCL	Appendix E, seed mix	In04	71	Appendix E, page E-9, Seed Suppliers, last sentence: *Do not rely on a single supplier for all seed needs.* Many seeds may only be available through a single supplier.	Seeds will be purchased from suppliers where the desired species are available. The BLM is the largest native seed buyer in the United States. Currently, native seed is not available in the quantity and quality the BLM needs. Therefore, a single supplier cannot be relied on for all BLM needs.
RCL	Appendix E, seed mix	In04	72	Appendix E, page E-10, Mulch, last sentence: *Any mulch used must be certified free from mold or fungi…* Molds are fungi, so the term mold is redundant. Fungi are ubiquitous, and may not be. There are fungi that live in soils but enter and spore within plants only to be released when the plant decays. Certifying a mulch from plant material as fungus free may be impossible. Please reconsider this requirement.	Thank you for your comment.
RCL	Appendix E, seed mixes	In09	21	"Standard Seed Mixtures. Page E-9, "Standard Seed Mixtures," states the ultimate responsibility for reclamation lies with operators. It also states there are standard seed mixes available at the RFP. This statement conflicts with other areas of the document where it states site specific seed mixes should be suggested by the operators and approved by the RFO. Standard seed mixes should be acceptable depending on soil type."	Operators are ultimately responsible for successful reclamation, both interim and final. The BLM is responsible for ensuring that reclamation is occurring in a manner consistent with the goals and objectives of the BLM. This includes approval of seed mixes, reclamation techniques, and other information that may be pertinent to reclamation.
RCL	Appendix E, topsoil	In04	69	Appendix E, page E-7, Soil. In the second and last paragraphs adding top soils is discussed. Typically, thin soils indicate high erosive potential and trucked-in soils will also be vulnerable to erosion. We suggest these areas of thin soils represent unique habitats and are also important.	Thank you for your comment.
RCL	Appendix E, topsoil	In09	19	"Topsoil. Page E-7, paragraph 2, states topsoil should be salvaged so that 4" to 6" of topsoil can be re-spread over the disturbance area. This requirement may have a negative impact on pipeline reclamation. Unlike well pad and road construction practices, pipeline construction often removes less topsoil to preserve root base consistent with the Pipeline Reclamation Plan. The RFO has allowed Williams to bypass extra topsoil removal because of its unique construction techniques. This paragraph should include an exception for pipeline construction."	All of the information found in company-specific and project-specific reclamation plans will be applicable to the project area, on a site-specific basis.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RCL	Baseline data	C02	77	Draft EIS p. 3-28 The reclamation potential of the CD-C project area is primarily poor, with 537,228 acres or 50 percent of the total project acreage having this rating (Map 3.3-5, Table 3.3-1). Locations identified as “No Rating” on Map 3.3-5 generally consist of rock outcrops or rock surfaces that did not include a topsoil rating since topsoil is not present in these locations. CLG Comment: The map needs to be revised. The field trip showed how a site said to have low potential featured excellent reclamation. The sweeping generalization would lead to the conclusion that all reclamation will fail and that is incorrect. CLG believes that assessment of reclamation potential needs to be made on a site specific basis not generalized conclusions at a programmatic level.	Thank you for your comment. Please see the updated **Reclamation Plan (Appendix E)**. Reclamation potential is based on a site-specific assessment when APDs are submitted to the Field Office. However, the overall quality of the soils, the low precipitation, and other factors in the CD-C project area are consistent with a generally poor reclamation potential.
RCL	Bonding	C03	20	Sweetwater County encourages the BLM and the Wyoming Oil and Gas Commission to require sufficient upfront bonding to cover the complete cost of final reclamation at the end of the project's life.	The BLM has bonding requirements in place that have been deemed sufficient by the regulatory authorities.
RCL	Challenges	O03	2	Page 4-76, *long-term impacts would be positive, assuming successful re-vegetation.* However, the Draft EIS also reference the challenges of reclamation. *Extended drought conditions throughout southwestern and south-central Wyoming have adversely impacted many native shrub communities and several drought-related die-backs and die-offs are evident throughout the project area* (page 3-67). The lack of local seed sources, slow recovery rate, and high salt concentrations in the soils are all also specifically referenced (pages 4-73 and 4-227). Failed mitigation and ineffective revegetation efforts should be included in future evaluations.	Annual monitoring will identify any issues impacting reclamation efforts and areas in need of additional reclamation (**Appendix E**).
RCL	Clarification	In09	7	"Reclamation Guidance. Chapter 4 -Line 4.3.3 page 4-15 references the RFO RMP and its Appendix 36... These 2008 documents were written with little consideration for pipelines...Although the RFO has worked with pipeline companies to remediate these differences, the implementation of a new RMP and ROD provides an opportunity to make necessary distinctions and clear up potential issues. This clarification would benefit both the pipeline companies and the Rawlins Field Office. (Please see the Pipeline Reclamation Plan for proposed insight.)"	Please see updated **Appendix E, Reclamation Plan**. Pipelines have been incorporated as part of the reclamation guidance.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RCL	Clarification	In09	8	"Seed Mixes. Section 4.6, line 4.6.2, item 1,refers to the need for seed mixes 'consistent with site potential.' Allowing modified seed mixes that do not necessarily match existing vegetation, but which provide the same benefit to the soil and which are adapted to the soil in that location, would allow the RFO to grant approval for different seed mixes while supporting the removal of the pre-disturbance vegetation inventory, and will provide the same level of detail as has been historically required. (see In09-20, Pre-disturbance vegetation, for further discussion regarding vegetation analysis)."	Thank you for your comment. Reclamation practices must be consistent with Field Office, BLM Washington, and BLM State guidance.
RCL	General	In09	1	The draft CD-C EIS does not mention Williams Master Reclamation Plan for the Wamsutter Area Gathering System (Pipeline Reclamation Plan) developed in 2012 by Williams and the RFO and specifically tailored to Williams' gathering pipelines in the CD-C EIS area. Nor does [it] acknowledge the significant differences between the construction and reclamation of gathering pipelines [and] well pads and roads. This oversight could have material adverse effects on natural gas development within the CD-C EIS area. [Williams recommends] including the Pipeline Reclamation Plan as an exhibit to the draft CD-C EIS [and that] appropriate elements from the Plan [be used] to augment and improve the issues related to pipeline construction and reclamation.."	Please see updated text in the **Reclamation Plan (Appendix E)** regarding pipeline reclamation. Information specific to pipeline reclamation has been included.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RCL	Grazing rights	O12/ O13	10	The area is extremely difficult to reclaim to native vegetation due to levels of precipitation and poor soils. Traditional reclamation techniques are not sufficient! There must be an increased interest in developing acceptable reclamation techniques and standards prior to permitting this level of development. Due to the loss of native vegetation due to invasive plant infestations initiated by prior developments in the area, the assumption that use of native seed and traditional procedures will result in "sufficient" quality and quantity of reclaimed disturbances will be challenging if not impossible to achieve. Reclaimed lands are attractive to both wildlife and livestock due to the vigor and higher nutritional quality of the regeneration. This must be addressed prior to development. One possible remediation to this problem is to have the energy companies that are proposing this development purchase the grazing rights of affected public land grazing allotments from the affected livestock producers. This would be a small, negligible cost compared to the scale of development and the potential profits from the minerals extracted. By compensating the livestock producers for losses accrued by not grazing impacted allotments, increased success of reclaimed areas would be expected and impacts to wildlife lessened by the proposed development.	Please see the revised **Reclamation Plan (Appendix E)** which places a greater emphasis on interim reclamation and provides specific criteria that must be achieved for interim reclamation to be considered successful. The BLM has worked with Operators in the past and will continue to work with both livestock and natural gas operators to mitigate impacts to reclaimed areas.
RCL	Impact analysis	O12/ O13	23	Due to hydrology, soil and vegetative complex within the area, it seems more data needs to be provided on reclamation of habitat and potential mitigation of impacts. There is conflicting data as to the use of non-native species as acceptable reclamation and in a xeric area, potential negative impacts of currently used/accepted reclamation plant species may have detrimental impacts on a large scale. Would like to see more data included in this document to support HOW reclamation and mitigation will occur.	Information is provided in Appendix E, Reclamation Plan. In addition, the Rawlins RMP has reclamation guidance and criteria, and the BLM Wyoming reclamation policy is available online at: http://www.blm.gov/wy/st/en/programs/reclamation.html
RCL	Interim reclamation	C02	43	The Draft EIS should also provide for interim reclamation similar to those described in the Proposed Interim Rollover Objectives in Appendix E (E-26 - E-32).	Please see the updated **Reclamation Plan (Appendix E)**. Specific criteria for interim reclamation are identified.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RCL	Interim Rollover Objective	C02	10	The Draft EIS fails to identify when roll-over reclamation will be credited to the operator... the Draft EIS fails to analyze or disclose how it would work....and it is still unclear whether BLM intends to use the reclamation plan.	Rollover reclamation would be credited to the Operator when the interim reclamation objective criteria are met, as stated in the **Interim Rollover Objective (Appendix M)**. The IRO would be implemented should Alternative C be selected. **Appendix E, Reclamation Plan** would be applicable to the remainder of the Alternatives, with the exception of Alternative E, No Action.
RCL	Process	O12/ O13	29	There needs to be better description of reclamation processes that would occur by the widespread impacts from adding an additional 8950 wells in the affected area. Specifically would like to see more information on how reclamation activities can occur in this type of hydrology, climate, soil system where natural vegetation is a slow process and more importantly how would reclamation and mitigation efforts be monitored. This could be better quantified.	Information is provided in Appendix E, Reclamation Plan. In addition, the Rawlins RMP has reclamation guidance and criteria, and the BLM Wyoming reclamation policy is available online at: http://www.blm.gov/wy/st/en/programs/reclamation.html
RCL	Process	S04	10	Reclamation has been extremely difficult in CD-C due to limited precipitation and poor soils. There must be increased attention to developing and implementing acceptable reclamation techniques, reclamation management and standards prior to permitting this level of development. There have been significant invasive weed infestations that need to be reduced. Since reclaimed lands are attractive to both wildlife and livestock, this must be addressed prior to development. We suggest that energy companies work with permittees to prevent grazing on reclamation sites until successful reclamation is achieved. By compensating the livestock producers for losses accrued by not grazing impacted allotments, increased success of reclaimed areas would be expected. We also suggest that BLM and developers make a concerted effort to develop successful CD-C project area reclamation techniques including a reclamation office to track and monitor disturbance, reclamation and invasive weeds.	Please see the updated **Appendix E** with regard to reclamation planning in the CD-C project area. More coordination between the BLM and affected users is an objective of the Agency Preferred Alternative, through the use of the CD-C consultation and coordination group.
RCL	Process and monitoring	O12/ O13	3	The soil and hydrology of the area are not as conducive to standard reclamation activities and the use of non-native vegetation in reclamation activities would also not ecologically suffice. We would like to see more specifics as to how the process of reclamation of proposed activities would occur and specifically how these activities would be monitored.	Information is provided in Appendix E, Reclamation Plan. In addition, the Rawlins RMP has reclamation guidance and criteria, and the BLM Wyoming reclamation policy is available online at: http://www.blm.gov/wy/st/en/programs/reclamation.html

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RCL	Reclamation	In05, In08	84	BLM indicates that under the PA, timely reclamation could provide grass and revegetation within one to several years depending on reclamation effectiveness. This seems to contradict the language in section 4.3.3 wherein BLM inaccurately suggests that pipeline ROW will not be reclaimed as soon as practical under the PA. BLM should revise the document to ensure the pipeline ROW will be timely reclaimed under all alternatives, including the PA.	Please see the updated Final EIS. Text has been clarified.
RCL	Research	O12/ O13	20	Producers must be encouraged to research and develop more appropriate, more successful methods of reclamation if over 57% of the disturbance is going to be located in areas that are rated "poor" for reclamation.	The CD-C Operators will submit reclamation plans for site-specific development proposals based on the BLM's guidance and requirements and also based on their own experience and their own understanding of the conditions where their sites are located.
RCL	Rollover credits	O12/ O13	16	2.2.4 This type of reclamation is often used and very rarely is successful in this precipitation zone and soil type. In theory, this is an acceptable reclamation process, but in a very slow growing, fragile vegetation system. Rollover credit tend to be awarded prematurely and the operators are no longer held accountable for reclamation success. This trend leads to insufficient reclamation, especially 10-20 years post disturbance. If this type of reclamation is to be implemented, the BLM must be willing to hold the operators more accountable to long-term reclamation success or have much more stringent reclamation success standards. These must include adequate shrub and forb components (comparable to adjacent, undisturbed sites) and establishment of NATIVE grass species. A good resource to use in determining success of reclamation is section 3.6 if the Draft EIS which identifies acceptable species that can be found within each ecotype. If this level of reclamation success is unattainable, the permitting of a project of this size is ill-advised and should be postponed until proper reclamation techniques are developed to adequately reclaim these vegetative types.	Thank you for your comment.
RCL	Standards	C03	19	Reclamation: Sweetwater County encourages development techniques that minimize disturbance and accelerate reclamation. Reclamation seed mixes should consider wildlife and noxious and invasive weed control and are should be in conformance with the best management practices recognized by the University of Wyoming and local conservation districts.	Please see the updated **Reclamation Plan (Appendix E)**.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
REC	Carbon County Comp. Use Plan	C01	11	Recreation Trends: The 1998 Carbon County Land Use Plan has been replaced by the 2010 Comprehensive Land Use Plan, Amended 2012.	**Section 3.12.3 Recreation Trends** has been revised to reflect the 2010 Carbon County Comprehensive Land Use Plan, Amended 2012, and the citation has been updated.
REC	Lands with Wilderness Characteris-tics	O04	67	The Draft EIS notes no lands with wilderness characteristics within the Project Area. Draft EIS at 3-138. However, BCA has through intensive field inventories determined that an eastward extension of the Red Lake Wilderness Study Area (located entirely within the Rock Springs Field Office) extends a distance into the Rawlins Field Office and includes part of the Project Area in question. We petition BLM pursuant to 5 USC § 555(e) to evaluate these lands with wilderness characteristics in the context of the project-level NEPA for CD-C, and apply measures for interim protection of wilderness qualities while a Plan Amendment is being prepared to address this significant new information. See letter for more information on this issue.	Evaluation of Lands with Wilderness Characteristics is not within the scope of this EIS.
REC	Protections	O01	16	Recommendation for Recreation: We agree with No Surface Occupancy (NSO) for a quarter mile surrounding the Little Robbers Gulch Reservoir. If the area is going to be available for oil and gas leasing, NSO is suitable for protecting the recreation component.	An NSO for Little Robbers Gulch Reservoir cannot be included in the Final EIS as this may be considered a significant change between Draft and Final EIS. In addition, an NSO at this reservoir would require an RMP amendment.
RG	Baseline data	S02	6	Page 3-203, second paragraph: The WDA asks that NASS and WASS data be updated to 2012.	The cited data have been updated in the Final EIS.
RG	Editorial	O04	62	There are major differences in the estimated AUMs of forage lost by alternative between Table ES-2 and the body of the Executive Summary. See Draft EIS at ES-13, ES-25. Please explain these large-scale discrepancies. Which figures are correct?	The discrepancies noted in the Draft EIS have been corrected in the Final EIS.
RG	Impact analysis	In07	18	Page 4-210 to 4-218, Range Resources. No mention is made of the possibility that many reclaimed areas, particularly those on allotments with degraded range, may within just a few years provide increased livestock forage(grass) above that of the adjacent native range.	As described in **Section 4.6.4, "**Long-term impacts would be positive, assuming successful revegetation of BLM-approved seed mixes which would provide a younger, more vigorous and nutritious food source for wildlife, livestock, and wild horses on reclaimed areas."
RG	Impact analysis	S02	7	Page 4-215, third paragraph: The WDA asks that the BLM analyze in the Final EIS how to address the allotments that may have exceeded the significance criteria already and to define and clarify the difference between the use of the words *long-term* and *permanent* in this context.	Based on the data presented in Chapter 3, none of the allotments in the CD-C project area has exceeded the significance criteria. "Short-term" and "long-term" in this context are defined in **Section 3.18.2**. "Permanent" is a term from the Livestock Grazing section of the RMP, meaning "not expected to change or revert to a prior state."

Category	Sub-Category	Comment		Comment	Response
		Code	No		
RG	Livestock	C02	35	The Draft EIS states that rangeland standards were not met within the project area due to livestock grazing, weeds, drought, and oil and gas development. CD-C Draft EIS at 3-207. However, as recognized in the Rawlins RMP, wild horse numbers and elk numbers exceed population objectives and are direct competitors to livestock and also reasons why rangeland standards are not reached..... See Rawlins RMP at 3-28 (2008).....The Draft EIS cannot limit its analysis to just the listed factors but must also include all herbivore wildlife impacts on range resources.	The cited text refers to the 2002 and 2003 BLM assessments of rangeland health in the Upper Colorado River and the Great Divide Basin watersheds. These watersheds were reassessed in 2012 and 2013 and management progress as well as range improvements resulted in "substantially meeting standards and guidelines in these watersheds within the CD-C project area."
RG	Mitigation	C02	3	"The SWCCD LRUPP [Land and Resource Plan and Policies] also supports the continued use of private, state, and federal land for the production of livestock, and supports the...protection of all private property rights, including water rights... Any NEPA documents addressing the impacts from field development must also address mitigation and compensation to affected ranchers for loss of and disruption to grazing."	**Appendix C**, **Best Management Practices and Conditions of Approva**l, describes numerous measures to mitigate and offset the impacts on livestock. **Section 4.18.5** describes additional measures that BLM might pursue to mitigate those impacts.
RG	Road impacts	C02	34	The Draft EIS incorrectly assumes that new and improved access could improve livestock operations by improving access. CD-C Draft EIS at 4-214. The ranchers already have access to their grazing allotments for all operations as a statutory right under the Taylor Grazing Act and such access routes are well established.... Further, oil and gas development quite often interferes with stock drives and decreases access to grazing allotments.	New access roads to oil and gas operations will improve access for livestock operators, as these will be new roads and will provide access to areas that were not previously accessible by livestock operators.
RG	Stocking rates	O12/ O13	19	There must be adequate and representative adjustments in stocking rates in areas that are impacted by the development of the project. If stocking rates are not decreased when available AUMs are decreased due to disturbance, livestock stocking rates will become unsupportable by available forage and irreparable damage will occur.	**Section 4.18, Range Resources**, evaluates the potential for forage losses in each allotment in the CD-C project area. The Rawlins RMP considers a 10 percent reduction in AUMs available for livestock grazing within a given allotment a significant impact. Based on the information presented in Chapter 3, none of the allotments within the CD-C project area are close to reaching the 10 percent permanent loss of AUMs.
SE	Additional data	C01	18	Page 3-165; 3.15.4.1 Law Enforcement: The EIS should include the Wyoming State Patrol and the additional traffic enforcement on 1-80 and Highway 789, and additional WY Game & Fish enforcement, if not included under wildlife.	Text has been added to **Section 3.15.4.1** to acknowledge Wyoming State Patrol and Wyoming Game and Fish resources within and near the project area and the potential for increased demands on those resources.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
SE	Baseline update	C01, O11, P08	13	Based upon experience from past developments in the region, we are recommending that an updated socioeconomic study be prepared for the EIS that includes potential impacts to the Upper North Platte Valley, including the towns of Saratoga, Riverside and Encampment.	Although some direct project workers associated with the CD-C Proposed Action and alternatives may choose to live in the Upper North Platte Valley or may be current residents of the valley, it is anticipated that their numbers would be relatively small for the following reasons: (1) Saratoga, the nearest Upper North Platte Valley community to the CD-C project area is about 70 miles distant. Riverside and Encampment are about 85 and 86 miles from the eastern boundary of the project area via I80 and WY 230. Although Riverside and Encampment are somewhat closer to the southern portion of the CD-C project area via WY 70, this highway is often closed during winter months; (2) Temporary workers choosing the UNPV would be driving an extra 80 to 120 miles daily, as compared to living in Rawlins, and Rawlins has substantially more housing resources than the Upper North Platte Valley communities; (3) There is also competition for temporary housing (motels and recreational vehicle parks) in the Upper North Platte Valley during summer months, which is the period when CD-C-related development would be at its highest levels; and (4) Most of the oil and gas service companies that provide services within the CD-C project area have their headquarters in Rock Springs or Rawlins. Local employees of these companies may work in the CD-C project area on some occasions and may work elsewhere (e.g., Pinedale or Northern Colorado) on other occasions. Therefore the bulk of the project workers are likely to live in these communities, near their employers. Nevertheless, several commenters have stated that some oil and gas workers currently live in Upper North Platte Valley communities, indirect and induced workers whose place of work may be in Rawlins may choose to live there, and some CD-C-related employees may recreate in the valley, text will be added to describe existing socioeconomic conditions in the valley and discuss potential effects associated with the Proposed Action and alternatives.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
SE	Clarification	In07	14	Page 4-116 (4-145?), Economic Effects. It is important to state that the assumption that all employment and income associated with development will cease after 15 years is for analysis purposes only, and that it is quite likely that development and its associated employment and income will continue after this period. Under the subsection "Uncertainty" In Section 4.15.2 on page 4-145, the Draft EIS The socioeconomic assessment assumes a sustained, relatively high level of new well development over time. However, the actual pace of natural gas drilling has been and will continue to be variable and unpredictable because development decisions are dependent on a variety of factors including natural gas demand, pricing, regulatory approvals, rig and manpower availability, transmission pipeline capacity, weather, and the overall investment and development strategies of individual energy companies."	**Section 4.15.2.2** (Proposed Action) of the Draft EIS states, "The actual pace and timing of development in the project area would be dependent on a variety of factors including natural gas demand, pricing, regulatory approvals, rig and manpower availability, weather, and corporate strategies." A sentence has been added that identifies the possibility that development could continue beyond the 15-year period associated with the Proposed Action, but that the 15-year assessment period was chosen by the BLM and the Operators as the development period for assessment purposes.
SE	Comprehen-sive Economic Dev. Strategy	C01	12	Carbon and Sweetwater County formed the Great Divide Economic Development Coalition and adopted a "Comprehensive Economic Development Strategy" in November 2012. The CEDS Plan should be referenced and reviewed for updated socioeconomic data.	Thank you for bringing this document to our attention. The Great Divide Economic Development Coalition's Comprehensive Economic Development Strategy has been reviewed and considered. It provides a great deal of useful information.
SE	County land use plans	C01	3	The FEIS should accurately refer to the County Land Use Plan and consider applicable Goals and Policies,	All references to the Carbon County Land Use Plan in the EIS have been changed to Carbon County *Comprehensive* Land Use Plan.
SE	Cumulative impacts	C03	5	Cumulative Socioeconomic Impacts: Sweetwater County encourages industry, the BLM, State of Wyoming and local governments to work as partners in monitoring, evaluating, and mitigating identified cumulative socioeconomic impacts.	Thank you for your comment.
SE	Editorial	C01	19	Page 3-166; 3>15.4.2 Emergency Mgmt. and Response: The Noyes Medical Clinic is no longer operating in Baggs. Contact the Little Snake River Rural Health District (307-383-7645) for more information.	**Section 3.15.4.2** has been updated with current information on emergency response facilities.
SE	Editorial	C01	20	According to their web site www.imhcc.com MHCC is a 25 bed acute care facility, not 35 beds.	The text has been revised to show that MHCC is a 25-bed acute-care facility.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
SE	Impact analysis	C04	4	Reasons for the inaccuracy of socio-economic analysis include: 1) a limited scope of work provided to the socio-economic contractors/ subcontractors; 2) failure to provide the contractors/ subcontracts with clear information pertaining to the restrictions considered in the alternatives; and 3) and failure to involve the cooperating agencies in the development of the scope of the socio-economic analysis, model inputs and quantitative description.	The socioeconomic analysis is accurate based on the assumptions pertaining to the alternatives.
SE	Impact analysis	In05, In08	71	The information in the Draft EIS demonstrates the importance of O&G development to the state and regional economies. It is a primary driver for employment in the region. BLM should ensure its decisions do not adversely impact employment or other sources of income for the economy. It is important for BLM to note that Carbon and Sweetwater Counties are highly dependent upon mineral production and development for tax revenue. As a result, BLM should not take any action which could impact the value of these minerals or harm the economies of the Counties. The analysis also confirms that O&G development in the project area contributes significant revenue to the State of Wyoming and the federal government.	Thank you for your comment.
SE	Impact analysis	O02	3	"... we find not a single reference to tourism [which is second only to energy extraction in producing income for local economies], let alone the unique subdivision of heritage tourists…."	Section 3.5 (Tourism, Travel and Outdoor Recreation) of the 2008 Baseline Socioeconomic Technical Report provides a discussion of the regional tourism economy and the effects of oil and gas development on tourism resources including heritage tourism. **Section 3.15.1** of the Draft EIS (Travel and Tourism, Including Outdoor Recreation) summarizes the discussion in the Socioeconomic Technical Report. The subsections Effects on Other Uses in the Project Area (Recreation and Ranching/Grazing) and Effects on Environmental Amenity Values in **Section 4.15.2** of the Draft EIS discuss potential effects on recreation visitors and tourism and the resources that support these activities.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
SE	Impact analysis	O02	7	"You point out that, as unrestricted viewscapes vanish, 'recreationists seeking natural-looking landscapes would have to travel elsewhere and perhaps for greater distances" (p. 5-38) but completely ignore the fact that... extra travel means not stopping in the affected communities and a resulting... very negative [cultural and economic] impact in those communities."	As noted in the Draft EIS, "Much of the project area has already been affected by development, adversely affecting some outdoor amenities including wildlife and wildlife habitat, scenic vistas, and areas that provide opportunities for solitude." (see **Section 3.15.7.3** (Recreation Users of the Area), **Section 4.15.2.1** (Impacts Common to All Action Alternatives) "Effects on Other Uses in the Project Area (Recreation and Ranching/Grazing)" and "Effects on Environmental Amenity Values." These sections also note that "The effect of doubling the average annual level of drilling and field-development activity under the action alternatives would increase the potential for conflict with recreation activities and for displacement of recreation use of the area… Shifts in the geographic distribution of hunting and other recreation activity could have corresponding economic implications as well." The Draft EIS also notes that… "All alternatives would continue to affect these amenities (wildlife and wildlife habitat, scenic vistas, and areas that provide opportunities for solitude) although the No Action Alternative would result in no incremental effect. The action alternatives would intensify development in many currently developed areas of the project area and perhaps result in development in currently undeveloped areas." Additionally, Section 3.5 (Tourism, Travel and Outdoor Recreation) of the 2008 Baseline Socioeconomic Technical Report provides a discussion of the potential effects of energy resource development on the amenity values of public lands and the resultant effects on tourism and travel-related businesses (pages 22 and 23). It should also be noted that the oil and gas development has been ongoing in and around the CD-C project area for over 50 years and much of the land within the project area has already seen intensive levels of development. The communities within and adjacent to the CD-C project area serve tourism and recreation visitors to a broad area of southwestern Wyoming. It is not known how many of these visitors recreate within the CD-C project area specifically, but given the historic and ongoing level of development in the area, tourism and recreation use of the area is thought to be low. It is likely that most visitors to the affected communities recreate in other areas of southwest Wyoming.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
SE	Impact analysis	P23	3	The proponent and others should proactively address the social impact of more jobs and people to small towns in Wyoming.	Thank you for your comment.
SE	Impact analysis	O11	1	The Upper North Platte Valley (UNPV) communities of Saratoga, Encampment and Riverside are not considered for analysis and consultation. This assumption is inconsistent with our experience. In the past, many workers from similar developments have found places to live in the UNPV. The impact area should be expanded to include the UNPV and the same socioeconomic information provided for the other communities in the impact area should be provided for communities in the UNPV.	Although some direct project workers associated with the CD-C Proposed Action and alternatives may choose to live in the Upper North Platte Valley or may be current residents of the valley, it is anticipated that their numbers would be relatively small for the following reasons: (1) Saratoga, the nearest Upper North Platte Valley community to the CD-C project area is about 70 miles distant. Riverside and Encampment are about 85 and 86 miles from the eastern boundary of the project area via I80 and WY 230. Although Riverside and Encampment are somewhat closer to the southern portion of the CD-C project area via WY 70, this highway is often closed during winter months; (2) Temporary workers choosing the UNPV would be driving an extra 80 to 120 miles daily, as compared to living in Rawlins, and Rawlins has substantially more housing resources than the Upper North Platte Valley communities; (3.) There is also competition for temporary housing (motels and recreational vehicle parks) in the Upper North Platte Valley during summer months, which is the period when CD-C-related development would be at its highest levels; and (4) Most of the oil and gas service companies that provide services within the CD-C project area have their headquarters in Rock Springs or Rawlins. Local employees of these companies may work in the CD-C project area on some occasions and may work elsewhere (e.g., Pinedale or Northern Colorado) on other occasions. Therefore the bulk of the project workers are likely to live in these communities, near their employers. Nevertheless, several commenters have stated that some oil and gas workers currently live in Upper North Platte Valley communities, indirect and induced workers whose place of work may be in Rawlins may choose to live there, and some CD-C-related employees may recreate in the valley, text will be added to describe existing socioeconomic conditions in the valley and discuss potential effects associated with the Proposed Action and alternatives.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
SE	Impact analysis	O11	1, cont.		Additionally, the communities' experience with temporary workers would be expected given the industrial construction projects in Sinclair, wind energy construction projects in the Arlington area, and more proximate oil and gas development in the Seminoe Road, Atlantic Rim, and South Baggs fields and in northern Colorado. There have also been recent pipeline construction and operations activities to the north. However, all of those locations are substantially closer to the Upper North Platte Valley than is the CD-C area.
SE	Jobs	In05, In08	99	The BLM's analysis indicates the Proposed Action can lead to approximately 430 direct jobs and as many as 4,000 direct and indirect jobs within Sweetwater and Carbon Counties, Wyoming. CD-C Draft EIS, pg. 4-155. The BLM should take any action necessary to encourage the development of new economic activity and employment within the area, especially given the economic down-turning experienced by the region over the past several years. The BLM must ensure that it does not take any action that would jeopardize or decrease the creation of future jobs within the project area, such as the unnecessary and unwarranted mitigation measures imposed under Alternative B. CD-C Draft EIS, pg. 4-157. The adoption of the Proposed Action has significant potential for job creation in the area including a ten percent increase over current activity. The BLM's analysis also demonstrates that adoption of the Proposed Action would lead to significant sources of revenue for the federal, state, and local treasuries. Total taxes from the project may be greater than $818 million in severance tax alone. CD-C Draft EIS, pg. 4-170. Projected federal royalties will be even greater and it is estimated that in the first ten years, over one billion dollars in total revenues may be provided to the federal treasury and the State of Wyoming. CD-C Draft EIS, pg. 4-171. Over the life of the project nearly four billion dollars in revenue could be generated from the Proposed Action. The significant source of revenue will be distributed to counties across the State of Wyoming through education funding and state budget reserves. CD-C Draft EIS, pgs. 4-172 -4-173.	Thank you for your comment. The BLM expects that three of the action alternatives would generate socioeconomic effects similar to the Proposed Action with minor differences. The Final EIS also recognizes that Alternative D may reduce the drilling rate and socioeconomic benefits. Please see updated text and analysis that further describes this conclusion.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
SE	Local customs and culture	C01	1	Carbon County is supportive of the proposed CD-C development project; however, it should be developed with respect for local customs and culture and be developed in accordance with locally adopted Plans and Policies.	Thank you for your comment.
SE	Local workers	In05, In08	101	As a proposed mitigation measure, the BLM proposes to require the operators to attempt to hire and train only local workers and to obtain all their materials and supplies from the local area. CD-C DEIS, pg. 4-189. Although Devon attempts to utilize a significant number of local workers and to utilize local sources of supplies and equipment, the BLM cannot mandate such a requirement. Its requirement to utilize only local contractors would likely violate federal law.	The proposed mitigation measure states "To the extent practicable, the Operators should attempt to hire and train local workers from Carbon and Sweetwater counties" (emphasis added). It does not suggest that the BLM require Operators to hire only local workers. Neither does the assessment suggest that Operators obtain all materials and supplies from the local area. However, hiring qualified local workers and obtaining supplies locally, to the extent practicable, are widely recognized as methods to reduce adverse socioeconomic effects of oil and gas development and enhance beneficial economic effects.
SE	Rates of development	In05, In08	100	The BLM erroneously concludes that the same degree of oil and gas development will occur under Alternatives B, C, and D. Substantial mitigation measures required under each of these alternatives will necessarily foreclose some oil and gas development within the CD-C Project Area. It is inappropriate for the BLM to assume the same level of oil and gas development will take place given the cost of development incorporated within Alternatives B and D, in particular. If one-hundred percent directional drilling is required, for example, the operators would make careful decisions about how many oil and gas wells would actually be developed within the area. Under no circumstance would the same number of wells be developed under Alternatives B, C and D as would be developed under the Proposed Action or Alternative A. The BLM has not attempted to and cannot justify this position. The BLM should accurately report to members of the public the socioeconomic disadvantages associated with Alternatives B, C, and D.	Based on several comments on the Draft EIS, the RFO reviewed the likely effect of the requirements of the CD-C alternatives on drilling rates and total number of wells drilled in the project area. The review concluded: (1) Existing seasonal activity constraints already affect decisions about directional drilling under the Proposed Action as much as they would under the alternatives; (2) The alternatives encourage greater use of directional drilling, a technology that operators are already adopting on their own; (3) While some of the alternative requirements are likely to increase costs, the cost increases would likely be such that they are within the normal realm of operational cost increases (such as those that arise from the switch to directional drilling) or of natural gas price changes; (4) Requirements that emphasize improved reclamation are based on the premise that the project's 15-year development period provides sufficient time to achieve reclamation goals; and (5) Alternative D, Directional Drilling, is likely to result in a decline in drilling rates and well numbers. This has been reflected in the Final EIS. The impact analysis in the Final EIS recognizes this determination.
SE	Recreation	O10	6	Trout Unlimited feels that the Draft EIS does not sufficiently analyze the impacts to recreation and sportsmen, in particular the socioeconomic effects.	**Section 4.15.4, Effects on Other Uses in the Project Area (Recreation and Ranching/Grazing)** summarizes potential effects on recreation users for all action alternatives.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
SE	Seasonal drilling limitations	C01	15	Carbon County is also concerned about the possible negative impact of seasonal drilling limitations and environmental restrictions on project drilling objectives. While recognizing the need to protect wildlife habitat and particularly Sage Grouse in the project area, Carbon County believes that a common sense approach to project alternatives, such as allowing possible year round drilling outside of the Sage Grouse Core Area, would maximize drilling and economic opportunity while still adequately protecting wildlife concerns. This discussion should be considered in any update of socioeconomic analysis.	Seasonal timing stipulations are required by the Rawlins RMP, and would be implemented regardless of alternative. In order to allow for year-round drilling in the project area. The project proponents would need to receive blanket exemptions to seasonal wildlife stipulations. This was considered in the Focused Development Alternative that was dropped from detailed study for two reasons, one of which concerned the legality of exempting Operators from the seasonal wildlife stipulations for lengthy periods of time.
SE	Temporary living facilities	C01	16	Page 3-161: Temporary living facilities along Hwy 789 have been permitted by Carbon County and some permits have recently been modified. Please contact Carbon County Planning & Development for more specific information.	The Final EIS has been modified to reflect modifications to permitted temporary living facilities along WY 789.
SE	Updated information	C01	17	Page 3-161: Updated information is available in the City of Rawlins Economic Development Plan-October 2012 and the Draft Comprehensive Master Plan-20 13.	Thank you for bringing these documents to our attention. They have been reviewed and considered. While they provide much data and information, incorporating this information into the Final EIS would not change the conclusions of the socioeconomic assessment.
SL	Baseline data	In01	22	Page 3-18 cites NRCS soils data which ranks soils mainly for suitability as farmland/commercial crop production and livestock production. This soil “ranking” may not be appropriate for the analysis of oil and gas development. APC recommends that the BLM disclose typical uses of NRCS soils data and identify how this data relates to oil and gas development.	The livestock production ranking is suitable for the CD-C project area, as the majority of the project area is also used for livestock production. The reference to the NRCS soils data is sufficient for the concerned public.
SL	Impact analysis	C02	40	The Draft EIS discusses the surface runoff potential of the soils in the project area and...gives a percentage of those areas that have high and moderate runoff potential, as well as the percentage of wells currently drilled within the moderate runoff potential area. Id. at 3-24. However, it fails to state the percentage of wells currently drilled in the high and low runoff potential areas. It is misleading to only provide this information for the moderate runoff potential area when the project area is almost equally comprised of high, moderate, and low runoff areas.	The information sought can be found in **Table 3.3-1**.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
SL	Reclamation	In01	23	When discussing direct and indirect impacts to soils on page 4-15, no consistent guideline or document for reclamation is identified. The BLM should identify one consistent approach to reclamation to eliminate potential confusion.	Please see the updated document. **Appendix E** is the reclamation plan for the Proposed Action and Alternatives B, D, and F; **Appendix M** is the reclamation plan for Alternative C.
SL	Reclamation	In05, In08	60	Since the majority of soils in the project area have poor reclamation potential, BLM should reward operators that engage in enhanced reclamation programs in any alternative selected as the Preferred Alternative.	Thank you for your comment.
SL	Rights-of-way	In05, In08	77	Throughout the soil section, the BLM suggests that reclamation of pipeline right-of-way disturbances would be initiated immediately upon the completion of the construction under Alternatives B, C, and D, but not the Proposed Action. CD-C Draft EIS, pgs. 4-18 -4-19. The BLM has not explained or justified why the benefits of immediately reclaiming pipeline disturbances would be initiated only under Alternatives B, C and D. It is Devon's experience and its common practice to begin reclamation of pipeline corridors immediately after construction operations are complete. The BLM should revise the Final EIS to clarify that reclamation would be immediately initiated after all pipeline construction is complete under the Proposed Action as well as Alternatives B, C, and D. As currently drafted, the language in the CD-C DE IS reflects a bias against the Proposed Action that is neither justified nor warranted.	The description of reclamation practices in the Proposed Action was provided by the Operators and did not include any detail as to pipeline reclamation. However, based on BLM regulations and requirements, the Operators would be expected to initiate reclamation within six months of completion, or immediately as in the case of pipelines.
SS	Aquatic COAs	S04	18	Aquatic standard site-specific requirements that should be added to the Preferred Alternative: maintenance of existing roads to ensure that are not contributing sediment to Muddy Creek or adjacent wetlands and boring of all pipeline crossings of riparian areas.	Maintenance of roads is a requirement of the Rawlins RMP, site-specific design features, and other BLM regulations. Boring of all pipeline crossings of riparian areas is generally required but is considered on a case-by-case basis at the discretion of the BLM hydrologist.
SS	Fish	S04	17	Sensitive fish habitat should be identified in the Final EIS and Muddy Creek (including the Red Wash/Muddy Creek Sensitive Fish Habitat and the Muddy Creek and Bitter Creek watershed for water quality, aquatic physical habitats and sensitive fish habitat (Map 3.9-5).	"Sensitive fish habitat" is not a formal designation. All of Lower Muddy Creek and Red Wash within the project area (**Map 3.9-5**) are considered sensitive fish habitat.
SS	Sage-Grouse	S02	4	Page 3-105,106, last paragraph each page: The WDA asks that the word *undetermined* not be used a modifier of lek here and elsewhere in the Draft EIS.	The word "undetermined" is a category used by the Wyoming Game and Fish Department and its use is appropriate here.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Alternative B	In05, In08	93	The description of potential environmental consequences in Alternative B appears to be extraordinarily biased. The language and commentary contained in chapter 4 appears to be designed to force BLM to select Alternative B. Given the numerous failings of Alternative B, Devon encourages the BLM not to select Alternative B and to revise Chapter 4 to contain an accurate and unbiased description of Alternative B.	Thank you for your comment. All alternatives have been analyzed.
T&E	Appendix I, Bald Eagles	In01	17	Due to the confirmed lack of nesting habitat for bald eagles within the Project area, surveying general flight patterns mentioned on page I-8 offers little value to the environmental assessment and is not needed to assess impacts of the Project. The BLM should revise this survey stipulation to at a maximum, include limited point count surveys to document general usage.	Please see the updated text in **Appendix I**. Not all species need to be monitored every year; rather, the Monitoring Without Borders group will determine on a yearly basis which species should be monitored and surveyed for. If bald eagles become a species of concern in the project area, then this monitoring plan allows for the flexibility to address the needs of species that may not initially be species of concern, but that may become species of concern.
T&E	BFF and Prairie Dogs	O04	44	A firm scientific understanding of the distribution of white-tailed prairie dogs throughout the Project Area and the potential impact of project-related activities is essential to adequate NEPA analysis of the likely direct, indirect, and cumulative impacts of oil and gas development on the white-tailed prairie dog, and associated species, including black-footed ferret. The information in these documents constitutes the best available science on white-tailed prairie dogs, and the impacts of oil and gas development on white-tailed prairie dogs. The BLM has yet to consider the information contained within these documents as part of a National Environmental Policy Act (NEPA) analysis of the impacts of oil and gas development on white-tailed prairie dogs or associated species, including black-footed ferrets. See letter at p.18 for the document citations including information from BLM's programmatic BE.	The USFWS determined in 2013 that the Endangered black-footed ferret does not inhabit the CD-C project area; therefore, the project will have no effect on the species and it is not discussed in the Final EIS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	BFF and Prairie Dogs	O04	45	The Draft EIS indicates that prairie dog colonies in the Dad Complex, within the Project Area, have not yet been surveyed to determine the presence or absence of black-footed ferrets. Draft EIS at ES-20. Given that the Project Area is less than 100 miles from known occupied black-footed ferret habitat in the Shirley Basin and Wick-Beumee WHMA, and predators are known to disperse long distances, BLM must require such surveys to be completed as part of the NEPA analysis for the project in order to meet NEPA's 'baseline information' requirements.	Please see **Section 3.9.1**, where the changed status of the black-footed ferret within the CD-C project area is discussed.
T&E	Black-footed ferret	F03	18	Page 4-100, Black-footed ferret: The Final EIS should identify the effects of the project to the black-footed ferret and identify all measures the BLM will use to avoid and minimize the adverse effects of the Proposed Action. We encourage The BLM and project proponents to protect all prairie dog towns or complexes for their value to the prairie ecosystem and we encourage the BLM to analyze potentially disturbed prairie dog towns for their value to future black-footed ferret reintroduction.	Please see **Section 3.9.1**, where the changed status of the black-footed ferret within the CD-C project area is discussed. In addition, on a project basis, surveys for prairie dog towns are undertaken and every effort is made to avoid impacting these areas. Most often, the proposed project is moved to avoid the prairie dog town.
T&E	CBM development	F03	7	The Draft EIS does not include an analysis of the potential direct, indirect and cumulative effects of CBM development to endangered, threatened, proposed, candidate species, species of concern and migratory birds and the habitats upon which these species depend.	The disposal of produced water from CBM development is not analyzed in this EIS, only the surface disturbance and the disruptive activity associated with such development. If the BLM receives proposals for disposal of CBM-produced water within the CD-C project area, those proposals will be analyzed in a subsequent NEPA document.
T&E	Clarification	In07	11	Page 4-112, Sage-grouse, various locations. While habitat enhancements/vegetation treatments are identified, the responsible entities for implementation are not; please specify responsible entities.	The Greater Sage-Grouse element of Alternative B has been removed. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy. Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	CO cutthroat trout	O01	14	To successfully conserve CRCT habitat, we recommend consideration and adoption of the following additional lease stipulations, COA, and other management prescriptions within the Muddy Creek and Little Snake Watersheds: Full mapping of streams, riparian areas, and wetlands prior to any drilling authorization. • Require one-mile setbacks for drilling and construction from waterways and riparian areas. • Mapping of all steep and/or high erodible soils and prohibition on their disturbance. • No use of open pits (production, disposal, or otherwise) within CRCT watersheds. • Requirements for secure off-site disposal of all wastes. • Avoidance of new stream crossings wherever possible, and adherence to the highest possible standards for habitat protection where such crossings cannot be avoided.	Onsite inspections will be conducted prior to any drilling authorizations, which would identify any wetlands and riparian areas in the project area. One-mile setbacks from waterways and riparian areas would preclude any development, and the BLM is required by law to allow development of existing leases. Soil mapping is currently being done for the area by the NRCS and will be completed soon. This information would be used on a site-specific basis prior to approval of any permit applications. No use of open pits within the CRCT watersheds is being proposed as part of a mitigation measure of Alternative B. Site-specific onsite inspections generally result in re-routing of roads and pipelines that cross drainages.
T&E	COAs	F03	25	Page C-7, COA Number 9: The Service recommends this COA be revised by adding *eagle (bald or golden)* to the species list.	COAs cannot be modified using the EIS. COAs are developed based on the BLM interdisciplinary process and implemented at the APD level.
T&E	COAs	F03	26	Page C-7. COA Number 10: The Service recommends this COA be revised by adding *U.S. Fish and Wildlife Service's Wyoming Field Office* and *its law enforcement office* to the contact list.	Please see the response to F03-25 above.
T&E	COAs	F03	27	Page C-7, COA Number 11. The Service recommends this COA be modified by clarifying the process when a take permit is required.	Please see the response to F03-25 above.
T&E	Conserva-tion measures	F03	3	The Final EIS and BA should incorporate BLM's programmatic BA's and the Service's BOs, which have conservation measures and terms and conditions that are in the Rawlins RMP.	The CD-C BA explicitly references the relevant programmatic BAs and BOs and the conservation measures that would serve to protect the species if they were present in the project area.
T&E	Conserva-tion measures	F03	24	Page C-1. Because BMPs are not regulatory, they cannot be considered by the Service as conservation measures used to avoid or minimize adverse effects during the Section 7 consultation process. We recommend Appendix C clearly identify which measures are voluntary BMPs and which conservation/mitigation measures will be required by the BLM as programmatic COAs within the project area.	The BMPs considered in Appendix C arise out of the Rawlins RMP and are coupled with COAs because they may at times on a site-specific basis be applied to an APD as COAs or to a Right-of-Way as a Terms and Conditions. In that context they become regulatory. In the case of T&E species included in the CD-C BA, none of them - the Lynx, the fish of the Upper Colorado River, or the Ute Ladies'-tresses - is reliant on BMPs for their effects determination.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Depletions	F03	12	The Service recommends the BLM consult on the maximum amount of water anticipated to be withdrawn from the system to avoid the need for additional consultations.	The discussion in the BA and the Final EIS has been modified to address the maximum depletion, not the average depletion.
T&E	Editorial	In07	13	Page 4-116, paragraph 3, line 7. Change the word "non-core" to "core".	The language in that section has been revised.
T&E	Fish	In01	10	Urbanization is listed as a category of impacts to new roads and other facilities on fish habitats on page 4-106; however, urbanization is not an appropriate impact category for the CD-C project area as urbanization, commonly defined as taking on the characteristics of a city, is not occurring in the Project area.	The reference to urbanization has been removed.
T&E	Fish	In01	11	Urbanization is again discussed on page 4-108 and is inappropriate in the context of the analysis. Urbanization should be replaced with “infrastructure development” to more appropriately address this aspect.	The reference to urbanization has been removed.
T&E	Fish	In01	14	Page 5-32 of the Draft EIS states “Suitable habitat for [Colorado pikeminnow, bonytail, humpback chub, and razorback sucker species does exist downstream of the CD-C and Atlantic Rim project areas in the Little Snake, Yampa, and Green Rivers,” but then contrarily states “Because the Colorado pikeminnow is found in the Little Snake River, it could migrate into Muddy Creek, which makes Muddy Creek potential habitat for this species. Muddy Creek, however, is not suitable habitat for this species.” Please consider revising these statements to eliminate the contradiction.	The statement has been revised.
T&E	Fish	In01	15	The BLM should provide documentation to support the claim that “[t]he Atlantic Rim project, however, has produced-water discharges to Muddy Creek that may be altering the hydrology of the creek.” (Page 5-32). If supportive documentation cannot be produced, this statement should be revised to remove speculation.	This statement has been removed from the Final EIS.
T&E	Fish	F03	11	Page 3-110, Section 3.9.1.2. The Service recommends the Final EIS include an analysis of the potential to adversely affect the four downstream endangered fish species by: pollutants - accidental releases of fluids, CBNG produced water, and other hazardous materials – discharged to surface-water systems; improper drilling and completion operations; and subsurface disposal of produced water.	The text of the BA and the Final EIS have been modified to include a more thorough analysis of the risks to these species from these materials.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Fish	F03	13	The effects for Colorado River fish have not adequately been analyzed. Further, conclusions are supported by BMPs and conservation measures which may or may not be implemented at the discretion of the applicant. We recommend the Final EIS clearly identify all applicant committed measures, BMPs and programmatic conservation measures which will be used to avoid and minimize adverse effects to listed species.	The BMPs considered in Appendix C arise out of the Rawlins RMP and are coupled with COAs because they may at times on a site-specific basis be applied to an APD as COAs or to a right-of-way as Terms and Conditions. In that context they become regulatory. In the case of T&E species included in the CD-C BA, none of them—the Lynx, the fish of the Upper Colorado River, or the Ute Ladies'-tresses—is reliant on BMPs for their effects determination.
T&E	Impact analysis	F03	2	The Service recommends a more thorough analysis of direct, indirect and cumulative effects on species and habitats and clearly identify measures BLM will implement to avoid or minimize adverse effects.	The direct, indirect, and cumulative impact analyses of Threatened, Endangered, Candidate and Proposed species potentially affected by the CD-C project have been reviewed and in some cases modified or expanded. The BLM specialists are satisfied that the analysis of these impacts in the Final EIS is sufficient.
T&E	Impact analysis, plants	F03	6	With respect to Special Status Plants, the Service recommends the Final EIS include an analysis of the potential effects of accidental releases of fluids, the discharge of produced water and other hazardous pollutants, changes to hydrology and hydrograph of streams and springs from the removal of groundwater, improper drilling and completion operations, subsurface disposal of produced water, and the deposition of dust on listed plants and plant species of concern. In addition, the Final EIS should clearly identify what measures the BLM will implement to avoid and minimize potential adverse effects to listed plants.	The analyses of the direct, indirect, and cumulative impacts on the Threatened Ute Ladies'-tresses produced by the CD-C project have been reviewed and in some cases modified or expanded. The BLM specialists are satisfied that the analysis of these impacts in the Final EIS is sufficient.
T&E	Mountain plover	O04	54	The mountain plover is a BLM Sensitive Species that has been documented within the Project Area. Draft EIS at Map 3,9-4. In the Draft EIS, BLM fails to provide baseline information about the size of the present population, and also fails to predict the population trend as a result of the project. It is interesting to note that mountain plover nesting was initially believed to be compatible with oil and gas development based on observations of plovers nesting near drilling pads in the Myton Bench area of northeastern Utah. However, this observation has subsequently been undercut by the fact that the Myton Bench plover population ultimately went extinct in the face of intensifying oil and gas development. The last mountain plover to be recorded in Utah was sighted in 2003. *More information regarding mt. plover follows in the letter.*	There are no population data for mountain plover in the project area. However, specific protection measures are considered on a site-specific basis when projects are proposed in mountain plover habitat.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Mountain plover	O04	55	Oil and gas development in nesting concentration areas is a direct threat to mountain plover population viability… *Backup information follows in the letter.*	The Rawlins RMP specifies protections in identified mountain plover-occupied habitat.
T&E	Mountain plover	O04	56	BLM documents a considerable amount of mountain plover occupied habitat within the project area, heavily concentrated around Mexican Flats and southwest of Sweetwater County Road 23S. *See* Map 3.9-4. Mountain plover nesting habitat should be subject to a suspension of disruptive activities (including vehicle traffic) during the nesting period	Please see the response to O04-55 above.
T&E	Muddy Creek	In05, In08	91	When describing the potential impact to sensitive species under Alternative B, the BLM inappropriately suggests that operators, private land owners, and the State of Wyoming should make commitments to apply enhanced resource protections along the Muddy Creek drainage. CD-C DE1S, pg. 4-111. This is not a description of potential impacts as required by NEP A, but is rather a personal commentary from the BLM. This language is inappropriate and should be removed from the final E1S.	The text has been changed to indicate that the potential success of the buffer is diminished because BLM does not manage all of the mineral estate in the area. There is no reference to commitment.
T&E	Pygmy rabbits	O04	57	Occupied pygmy rabbit habitat needs to be mapped throughout the CD-C project area, and areas of mapped habitat should become avoidance areas for surface-disturbing activities. We can find no indication that BLM has mapped occupied habitat for this species, as it did in the Lost Creek EIS. This is important baseline information, determining the distribution and connectivity of known and suitable habitat and identifying the locations of occupied burrow complexes. For the Proposed Action, impacts to occupied burrow complexes are expected.	BLM has a survey and avoidance policy for protection of the species.
T&E	Pygmy rabbits	O04	58	The RFO has a “survey and avoidance” policy for pygmy rabbit burrow complexes (*id.*), but it is difficult to see how this will be implemented if the survey does not occur in the context of the CD-C EIS, the level at which sensitive habitats should be mapped so that future project-related developments can be designed to avoid them. BLM should fully field-survey the Project Area to identify occupied habitats, and require no surface disturbance on such sites.	A complete survey of 800,000 acres is not feasible; site-specific surveys are and will be more effective. In addition, timing stipulations to protect mountain plover are implemented on a site-specific basis.
T&E	Reclamation	F03	28	Page C-14, Reclamation Plan: The Service recommends the reclamation plan include a provision that prior to final reclamation, surveys for threatened, endangered, proposed and candidate species will be conducted.	COAs are provided in individual APDs and right-of-way grants and are not subject to revision in this document.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Sage-Grouse	In01	5	The Greater Sage-Grouse discussion on page 3-105 fails to include hunting as a factor related to sage-grouse population declines. The most precipitous declines in the species may be observed from direct correlations with significant hunting mortality. Failure to include this factor in the sage-grouse discussion renders the analysis incomplete and skewed.	Hunting is discussed on pg. 3-108 of the Draft EIS. According to the generally accepted literature, a direct correlation between hunting and population declines cannot be made; however, there is some discussion that it may be additive rather than compensatory.
T&E	Sage-Grouse	In01	6	The Draft EIS utilizes greater sage--grouse data from 1990 on page 3-109. This is an inappropriate starting point for evaluation of population data for Greater Sage-Grouse. With the implementation of new hunting rules in 1995 which substantially reduced hunter participation and sage-grouse harvest rates in Wyoming, Greater Sage-Grouse saw a dramatic uplift which is captured on Figure 3.9-1 but discussed inappropriately as a natural cyclical population cycle. We urge BLM to shift the analysis timeframe to 1996 to be more representative of a “natural cycle.”	1990 is an appropriate starting point; Coonley et. al 2004 demonstrates similar populations trends rangewide including areas with no hunting.
T&E	Sage-Grouse	In01	13	“Severe winter use habitat” is discussed on page 5-30 in regards to sage-grouse habitat use; however, this term is not defined or consistent with standard terminology in use such as “winter concentration areas” or “winter use habitat.” APC recommends using terms that are consistent with current sage-grouse habitat use descriptors.	The term “severe winter use habitat” was a misstatement of the term used in the cited text, Dzialak et al., 2013b. The correct term is “severe winter habitat” and the text in the EIS has been corrected.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Sage-Grouse	O04	24	Oil and gas development poses perhaps the greatest single threat to sage-grouse persistence across the eastern half of its range. Walker et al. (2007) found that sage-grouse habitat within 4 miles of a lek site was important to the persistence of the lek. Conversely, Walker et al. (2007) concluded that leks heavily impacted by oil and gas development "typically became inactive within 3-4 years." Harju et al. (2008) found a time lag of 2-10 years post-development, at which point negative effects became evident. The same is true for winter habitats. Indeed, Naugle et al. (2006) found that a model using habitat variables and coalbed methane development provided a near perfect fit for grouse distribution data. In the Powder River Basin, CBM well density within a 4 km2 area provided the best fit for modeling sage-grouse habitat use (Doherty et al. 2008). Holloran (2005) found that well densities greater than one well per 699 acres were correlated with lek declines. Doherty et al. (2010) did a statewide analysis in Wyoming and found that well densities greater than 1 well per square mile were correlated with sage-grouse declines.	The research from Montana and Eastern Wyoming (SG Management Zone 1) is not applicable to the CD-C project area (Management Zone 2) or project components since CBNG is not a part of the analysis. State of Wyoming policy limits surface disturbance to one well per 640 acres in core area. Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
T&E	Sage-Grouse	O04	25	No alternative, including Alternative D, in implementing the Governor's Core Area strategy, includes biologically sufficient conservation standards to promote the conservation and recovery of sage grouse. The Bureau of Land Management has released new planning guidance along with a scientific review and recommendations for sage grouse conservation issued by its National Technical Team. The National Technical Team's Report is online at http://www.blm.gov/pgdata/etc./medialib/blm/wo/Information_Resources_Management/policy/im_attachments/2012.Par.52415.File.dat/IM%202012-044%20Att%201.pdf, and would like to call attention to the fact that the NTT recommendations do constitute adequate conservation measures, at least for oil and gas development. The BLM should assiduously incorporate each of the recommendations in this report in full into the CD-C ROD.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Sage-Grouse	O04	29	Holloran (2005) found that well densities greater than one well per 699 acres were correlated with lek declines. Doherty et al. (2010) did a statewide analysis in Wyoming and found that well densities greater than 1 well per square mile were correlated with sage-grouse declines.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
T&E	Sage-Grouse	O04	30	Road construction related to energy development is a primary impact on sage-grouse habitat from habitat fragmentation and direct disturbance perspectives. *See letter for supporting information.*	Thank you for your comment.
T&E	Sage-Grouse	O04	31	In Core Areas and non-Core areas, disruptive activities are prohibited in all nesting and early brood-rearing habitat from April 1 through July 15. Draft EIS at 3-108. Please confirm that these activities include vehicle traffic, which has been shown to be disruptive to sage grouse. The EIS is ambiguous in this regard, as in some spots it states that limits to disruptive activities only apply within 0.25 or 0.6 mile of active leks. Draft EIS at 4-101. What measures will be put in place to enforce these measures? Will BLM gate well field access roads, as the Forest Service does in sensitive elk habitat?	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
T&E	Sage-Grouse	O04	35	A more detailed statement of baseline information for sage grouse populations in the Project Area is warranted. The BLM has provided a map showing the locations of sage grouse leks and their occupied/unoccupied status. See Map 3.9-2. However, WGFD has the most recent lek counts for most if not all of these leks, and these data should also be presented so that the reader can appreciate the relative importance of the leks in question. For examples and suggestions, see the letter.	The most recent WGFD data for Greater Sage-Grouse are included in the Final EIS, **Section 3.9**.
T&E	Sage-Grouse	C02	49	The mitigation measure calling for man-made/artificial nests for ferruginous hawk nesting habitat when surface disturbance adversely impact their population must consider the potential conflicts with sage-grouse seasonal habitats. See id. at 4-114. The Draft EIS already provides for sage grouse consideration in the Chapter 2 discussion of this same mitigation measure. Id. at 2-15. Therefore, the two chapters must be consistent.	The habitats of all potentially affected wildlife are taken into consideration when options for improving habitat are analyzed.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Sage-Grouse	In05, In08	66	BLM includes the GSG under the heading Threatened or Endangered Wildlife Species. Since the GSG is a candidate species, it would have been more appropriate to include discussion of GSG in 3.9.2 or BLM should change the section heading to indicate the section describes threatened, endangered and candidate species.	The status of the Greater Sage-Grouse has been clarified in the Final EIS.
T&E	Sage-Grouse	In05, In08	67	The BLM has not included maps identifying sage-grouse winter concentrations areas in the CD-C Draft EIS. This is particularly concerning for winter concentration areas given the fact the operators funded wildlife studies to locate and identify winter concentration areas during the pendency of the CD-C EIS. It is irresponsible and inappropriate for the BLM not to make this data available in the Draft EIS. (see comment 38)	Neither the BLM nor the WGFD has delineated any winter concentration areas for the CD-C project area. When such areas are delineated within the project area, the BLM will implement prohibitions of surface disturbing and disruptive activities as described in the Rawlins RMP.
T&E	Sage-Grouse	In05, In08	68	The information in the Draft EIS demonstrates that sage-grouse populations have not been significantly impacted by O&G operations in the project area. Figure 3.9-1 demonstrates that GSG populations within the project area generally track with statewide averages. In fact, the data indicates that GSG lek count within the project area fared better than the rest of the state between 1997 and 2006, a period that coincided with historic levels of O&G development in the area. It also demonstrates that GSG populations within the CD-C area fared better than GSG leks located immediately outside of the project area. BLM should highlight this fact.	Thank you for your comment.
T&E	Sage-Grouse	In05, In08	92	The BLM should revise the language in section 4.9.5 in which it indicates that there would be significant impacts to sage-grouse under all Alternatives except Alternative B. CD-C Draft EIS, pg. 4-121. In section 4.9.4, the BLM indicates there would not be significant impact to sage-grouse under Alternative D. CD-C Draft EIS, pg. 4-120.	The discussion was revised based on changes made to the alternatives.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Sage-Grouse	O09	4	Walker et al. (2007) indicates that the current 0.25-mile buffer lease stipulation is insufficient to adequately conserve breeding sage-grouse populations in areas having CBNG development. A 0.25-mi. buffer leaves 98% of the landscape within 2 miles open to full-scale energy development. In sage grouse habitats such as the Powder River Basin, 98% CBNG development within 2 miles of leks is projected to reduce the average probability of lek persistence from 87% to 5% (Walker et al. 2007). Only 38% of 26 leks inside of CBNG development remained active compared to 84% of 250 leks outside of development (Walker et al. 2007). Of leks that persisted, the numbers of attending males were reduced by approximately 50% when compared to those outside of CBNG development (Walker et al. 2007). The Alternatives within the CD-C Draft EIS must take these concerns into consideration. The Alternatives in the Draft EIS must provide sufficient buffers to sustain sage grouse populations on the proposed area.	The research from Montana and Eastern Wyoming (SG Management Zone 1) is not applicable to the CD/C project area (Management Zone 2) or project components as CBNG is not a part of the analysis. Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
T&E	Sage-Grouse	O09	6	*See letter for additional sage grouse information and concerns re: lek persistence and effective buffers, nesting buffers, and crucial winter range*	Thank you for your comment.
T&E	Sage-Grouse	O09	7	In April 2010, the U.S. Fish and Wildlife Service (FWS) announced that the Greater Sage-Grouse biologically warrants protection under the Endangered Species Act (ESA). However, because of the need to address higher-priority species first, the FWS placed the sage-grouse on the candidate list for future action. It should also be recommended that the Western Association of Fish & Wildlife Agencies (WAFWA) Recommended Guidelines for Greater Sage-Grouse Management, which consists of guidelines for habitat management and restoration. The Rawlins Field Office of the BLM must implement the right conservation practices in the right locations to preclude the need to list the species as threatened or endangered. This is in the best interest of all multiple-uses (energy development, grazing, and hunting & fishing, etc.).	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Sage-Grouse	F03	19	Page 4-100. Past and present actions have already exceeded Significance Criteria I and 2 for Greater Sage-Grouse, a candidate for listing. The service recommends that BLM pursue additional consultation with the WGFD on the core area strategy as it relates to this project. No project activities that may exacerbate habitat loss or degradation should be permitted in important habitats. We recommend the Final EIS identify all important Greater Sage-Grouse habitats within the project area, seasonal restrictions within the project area, and all appropriate measures to minimize potential impacts from the proposed project. In addition, the Final EIS should include analysis using the RFD for the CD-C and the Density Disturbance Calculation Tool for all lands within the core area.	The impact analysis discussion has been revised using a DDCT existing disturbance analysis on the three Priority Habitat Management (core) areas affected by the CD-C project. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy. Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area.
T&E	Sage-Grouse	O01	15	We suggest utilizing the management protocols laid out in EO 2011-5. Until the RMP can be updated, the EO is the best tool for protecting the status of this bird.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
T&E	Sage-Grouse	O04	36	BLM asserts that significant impacts would not occur to sage grouse populations inside Core Areas due to the application of measures included in the state Core Area Executive Order 2011-5. This is a false premise and violates NEPA's requirement [to] take a 'hard look' at impacts to resources including BLM Sensitive Species, and also violates NEPA's requirements for scientific integrity. Actual scientific analysis is required to support this premise, which has yet to be provided in the context of the CD-C Draft EIS. We expect the BLM to fully analyze at least one alternative that applied the National Technical Team recommendations on oil and gas drilling to protect sage grouse within Core Areas. These measures are the level at which "no significant impact" would occur, as these are the standards designed to comport with the scientifically known disturbance thresholds for oil and gas development in sage grouse habitats.	Thank you for your comment. The statement regarding the impacts on Greater Sage-Grouse inside Priority Habitat Management (Core) Areas is not a premise but a conclusion reached after a hard look at the alternatives.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Sage-Grouse	O09	3	Research in Montana and Wyoming in coal-bed methane natural gas (CBNG) and deep well fields suggests that adverse impacts to leks from energy development should be predicted out to a minimum of 4 miles, and that some leks within this radius have been extirpated as a direct result of energy development (Holloran 2005, Walker et al. 2007). The proposed development area in the Continental Divide-Creston (CD-C) Natural Gas EIS does not provide adequate buffers that will allow for persistence of the sage-grouse populations. We recommend that all of the Alternatives in this EIS be developed to take this into consideration.	The research from Montana and Eastern Wyoming (SG Management Zone 1) is not applicable to the CD/C project area (Management Zone 2). Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
T&E	Sage-Grouse	O09	5	Walker et al. (2007) studied lek persistence in relation to coal bed natural gas (CBNG) development in the Powder River Basin. This study demonstrated that development within 4 miles of leks are known to decrease breeding populations, in particular a reduction of males (Holloran et al. 2005, Walker et al. 2007), and 52% and 74-80% of hens are known to nest within 2 and 4 miles of leks, respectively (Holloran and Anderson 2005, Colorado Greater Sage-Grouse Conservation Plan Steering Committee 2008). Sizes of NSO buffers required to protect breeding populations may be underestimated because leks in CBNG fields have fewer males per lek and a time lag occurs (avg. 3-4 years) between development and when leks go inactive. As a result, it is expected that not only will lek persistence decline; the number of males per lek will also decline. In contrast, sizes may be overestimated where high lek densities cause buffers from adjacent leks to overlap. These concerns demonstrate a need for better analysis to be utilized when developing Alternatives for the CD-C Draft EIS.	Please see the response to O09-3 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Sage-Grouse Core Area strategy	In07	12	Pages 4-112 to 4-113, Sage-grouse. This entire section, and the restrictions to benefit sage grouse in Alternative B, violate Wyoming's Core Area Strategy as set forth in Wyoming Executive Order 20 11-5 and generally followed in BLM IM WY-2012-019 for sage grouse core areas. The basis of the Core Area strategy is encouraging development outside the identified core areas in exchange for the extreme development restrictions inside core areas. Any additional restrictions in non-core areas, as proposed in Alternative B, violates the spirit and the direct language of the policy. In addition, this section gives responsibilities to the WGFD which would require WGFD to violate the EO by triggering heightened mitigation in non-core.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
T&E	Sage-Grouse EO	C03	6	Sage Grouse Conservation Strategy: The Draft EIS does not provide sufficient information about how wildlife mitigation for sage grouse will align with the State of Wyoming's Sage Grouse Conservation Strategy and Executive Order... Sweetwater County strongly believes the final record of decision should reflect the Governor's Executive Order and, to ensure this, the Draft EIS should provide a more thorough discussion of the development limitations that would be imposed in core and non-core areas.	Please see the response to In07-12 above.
T&E	Sage-Grouse EO	S04	5	The EIS does not apply the non-core area stipulations from the guidance in EO 2011-5, citing that the Rawlins RMP does not provide the flexibility to relax stipulations. We think the RMP (Appendix 9) does provide this flexibility and recommend that BLM's Preferred Alternative follow the BLM IM 2012-19 and the SGEO for both core and non-core stipulations.	Please see the response to In07-12 above.
T&E	Sage-Grouse EO	In10	19	We take exception to the statement that the WY conservation strategy continues to evolve and is subject to change. We understand that the State of WY will maintain EO 2011-5 and the provisions within it.	Please see the response to In07-12 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Sage-Grouse EO	In10	20	BLM should apply EO 2011-5 in the project area and manage sage grouse consistently with this policy. Consistent management across the state is a practical approach that will illustrate WY's dedication to protecting sage grouse and will decrease confusion and increase predictability for agencies and operators. Also, USFWS has identified the EO as an effective strategy and commended the state for the development and adoption of this policy,	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
T&E	Sage-Grouse habitat	O04	32	The one well pad per 640 acres limit is biologically well-founded in the scientific literature. The surface disturbance caps set at 5% per 640 acres in under the Governor's Executive Order 2011-5 are too high; a 2.5% acreage cap is more appropriate. Surface disturbance caps should be defined as initial surface disturbance, because it takes sagebrush up to a century to grow back following surface-disturbing activities, rendering interim reclamation efforts irrelevant in terms of sage grouse habitat.	Please see the response to In10-20 above.
T&E	Sage-Grouse habitat	O04	33	Under current state and BLM Core Area standards in Wyoming, disturbance thresholds are set at five percent of the land area, beyond which additional surface disturbance is not permitted. However, the five percent disturbance threshold corresponds with oil and gas well densities that are far beyond the point where sage-grouse declines occur. For example, in the Atlantic Rim coalbed methane field, 2,000 wells were permitted at a density of eight wells per square mile, far above the threshold known to cause sage grouse declines. The projected surface disturbance for this project is 15,800 acres (BLM 2005), or 5.85% of the project area. Clearly, a threshold of five percent is too high to sustain sage-grouse. Assuming a 10-acre multi-well well pad and 0.75 miles of road per square mile – a generous figure (at 9.85 acres per mile of road), the estimated surface disturbance for a well field at one well per square mile would be 2.7 percent. Thus, a one- to three-percent disturbance threshold is more reasonable; the National Technical Team has recommended a 3% disturbance cap.	Please see the response to In10-20 above.

Category	Sub-Category	Comment		Comment	Response
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T&E	Sage-Grouse habitat	O04	34	It is also critically important that the acreage cap on surface disturbance be applied on a per-each-square-mile basis, without playing games with the percentages by allowing a higher percentage in developed areas to be compensated for by a lower percentage in undeveloped parts of the Core Area. Higher percentages result in degradation and/or elimination of habitat effectiveness in sage grouse habitats, and rendering portions of sage grouse Core Areas uninhabitable will result in population declines and potentially result in BLM's conservation measures being viewed as inadequate regulatory mechanisms by the USFWS and/or the courts in the context of Endangered Species Act decisions. This is an outcome that would best be avoided by adopting unequivocally adequate regulatory mechanisms instead.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
T&E	Sage-Grouse leks	O04	26	Breeding and nesting activity are concentrated in the habitats surrounding the lek site. *See letter for studied and citations.* Thus, 0.6-mile NSO lek buffers within Core Areas (or outside them) are inadequate to protect nesting grouse.	Please see the response to O04-34 above.
T&E	Sage-Grouse leks	O04	27	Outside Core Areas, quarter-mile lek buffers are proposed. See letter for additional studies and citations. A multi-state group of fish and game biologists evaluated the standard BLM mitigation measures for grouse and found them wholly inadequate. They recommended that sage-grouse habitat should be protected within 3.2 km of lek sites under ideal habitat conditions, within 5 km when habitat conditions are not ideal, and within 18 km where sage grouse populations are migratory. Furthermore, these researchers stated that in areas where 40% or more of the original breeding habitat has been lost, all remaining habitat should be protected.	Please see the response to O04-34 above.
T&E	Sage-Grouse RMP	C02	48	The Draft EIS discusses BLM's current effort to revise all RMPs addressing sage grouse conservation efforts. However, the Draft EIS fails to recognize that the proposed activities will have to be consistent with the RMP revisions. The status of the sage grouse may change after the CD-C EIS is completed, so any activity taking place within the RMP revision areas will need to conform to these amendments.	Please see the response to O04-34 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Sage-Grouse RMP	In10	18	Because SG policy and stipulations are subject to change with the RMP amendments, it is impossible to comment at this time. We reserve the right to supplement these comments with those submitted on the RMP amendment.	Thank you for your comment.
T&E	Sensitive fish	O04	38	Muddy Creek is a waterway of particular concern for conserving Sensitive native fishes. The presence of the rare bluehead sucker and roundtail chub led Knight et al. (1976) to propose Muddy Creek as a potential National Natural Landmark. Muddy Creek historically had a perennial flow at its confluence with the Little Snake River, but in recent years, the lower reaches of this stream are intermittent, possibly impeding the dispersal and spawning runs of the flannelmouth sucker, bluehead sucker, and bluehead sucker in the stream. See letter for more information on problems with water in Muddy Creek.	Thank you for your comment. Please note that the Agency Preferred Alternative (Alternative F) calls for intensive management within the Muddy Creek and Bitter Creek watersheds.
T&E	Sensitive fish	O04	39	There are real problems with the condition of the Muddy Creek channel and its water, and the Proposed Action and Alternative B will only make them worse. BLM reports that as of 2004, “unstable stream channels and loss of riparian functions threaten aquatic life uses in Muddy Creek and McKinney Creek.” See letter for backup info. The appropriate response to these problems is for BLM to require all of the mitigation measures contained in Alternative B to reduce sedimentation, salinification, and other impacts to aquatic systems, plus decreasing the overall number of well pads and roads required for this project (as these are the sources of the impacts) under Alternative D.	Please see the response to O04-38 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Sensitive fish	O04	40	Some 29 percent of the project area is in the Muddy Creek watershed. Draft EIS at ES-16. The impact to BLM Sensitive fishes in the Muddy Creek system is certain to exceed impact significant thresholds for the Proposed Action and Alternative A. Draft EIS at Table ES-2. This outcome clearly represents unnecessary degradation to these fish habitats, given that other alternatives at least offer uncertainty over whether impact thresholds will be exceeded for these species. The loss of this stream would likely contribute significantly to the trend toward ESA listing for these three species under the Proposed Action and Alternative A, as each species is down to less than 50% of its historic range (see Rees et al 2005a, 2005b; Ptacek et al. 2005). These two alternatives therefore violate the BLM's Sensitive Species policy, and should not be implemented	Please see the response to O04-38 above.
T&E	Sensitive fish	O04	41	We support the provision in Alternative B requiring No Surface Occupancy within 0.25 of Muddy Creek and its tributaries (Draft EIS at 1-12); we do not agree that this would require a Plan Amendment because keeping developments at least 0.25 mile away from a waterway is in conformance with the RMP requirement of a 500-feet buffer for water features; the Continental-Creston ROD could require greater setbacks but not lesser ones absent an RMP amendment. A quarter-mile setback would not violate the RMP provision of a 500-foot buffer because no development would be permitted within 500 feet perennial waters, springs, and wetlands. This is particularly compelling given the high runoff potential (*see* Map 3.3-3) and more spatially limited but still significant areas of severe water erosion potential (Map 3.3-2) in the Muddy Creek watershed.	Thank you for your comment. Please note that the Agency Preferred Alternative (Alternative F) calls for intensive management within the Muddy Creek and Bitter Creek watersheds.
T&E	Ute ladies-tresses	F03	14	The effects for Ute ladies-tresses have not adequately been analyzed. Further, conclusions are supported by BMPs and conservation measures which may or may not be implemented at the discretion of the applicant. We recommend the Final EIS clearly identify all applicant committed measures, BMPs and programmatic conservation measures which will be used to avoid and minimize adverse effects to listed species.	The analyses of the direct, indirect, and cumulative impacts on the threatened Ute Ladies'-tresses produced by the CD-C project have been reviewed and in some cases modified or expanded. The BLM specialists are satisfied that the analysis of these impacts in the Final EIS is sufficient.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Ute ladies-tresses	F03	20	Page 4-103. Threatened and Endangered Plant Species: The Draft EIS does not provide any references for the surveys that failed to document the presence of Ute ladies'-tresses within the project area. The Service recommends inclusion of such survey reports.	The study is cited in the references section of the Final EIS. The report results are included in the BA and the EIS. Our records indicate the final report was mailed to Brian Kelly (FWS, Cheyenne) on 1 May 2008.
T&E	Ute ladies-tresses	F03	21	Page 4-103. Threatened and Endangered Plant Species: The analysis for Ute ladies'-tresses appears to rely on a COA which applies a 500-foot buffer on riparian areas to avoid direct effects to the plant. The Final EIS should identify the potential effects of the project to Ute ladies'-tresses and identify all measures the BLM will use to avoid and minimize adverse effects.	The plant is not found in the project area nor is the habitat. In the unlikely event that plants or habitat are identified in the future, the required 500 foot buffer would assure that no impact would occur.
T&E	WY pocket gopher	O04	46	The WY pocket gopher is very rare and found both north and south of I-80 in the project area. Very little is known about this species so stipulations and mitigation measures proposed to date cannot guarantee adequate protection. The Draft EIS provides no analysis whatsoever on impacts to pocket gophers. See Draft EIS at 4-104. More needs to be done.	BLM requires pre-disturbance site-specific survey and avoidance to protect the species and has concluded those measures are sufficient.
T&E	WY pocket gopher	O04	47	Oil and gas development poses perhaps the greatest threat to Wyoming pocket gopher viability. Both breeding and foraging activities of Wyoming pocket gopher populations are impacted by above and below ground disturbances associated with oil and gas exploration, drilling and associated activities. Impacts of oil and gas development to Wyoming pocket gopher include (1) direct habitat loss from new construction, (2) increased human activity and pumping noise causing generally known and unknown behavioral changes, (3) direct mortality associated with reserve pits, crushing due to vehicular movements and construction activities, and (4) lowered water tables resulting in herbaceous vegetation loss. These impacts have not been thoroughly evaluated with full NEPA analysis.	BLM requires pre-disturbance site-specific survey and avoidance to protect the species and has concluded those measures are sufficient.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	WY pocket gopher	O04	48	More information is needed about Wyoming pocket gophers to confidently assess the spatial dynamics of populations. Factors such as low dispersal ability, high inbreeding, and high variation over small geographic areas suggest that Wyoming pocket gopher meta-population structures could easily be disrupted when local populations are isolated over relatively short distances (Patton and Dingman 1968). The continuity of suitable habitat thus becomes an important component in the conservation of Wyoming pocket gopher populations. See the next several pages of the letter for more information on pocket gophers.	BLM requires pre-disturbance site-specific survey and avoidance to protect the species and has concluded those measures are sufficient.
T&E	WY pocket gopher	O04	49	Development is not just destroying and fragmenting habitat, it is also degrading it. Soil disturbances typical of oil and gas development projects, motorized vehicle impacts, and other activities are known to exacerbate the introduction and subsequent spread of noxious weeds. Noxious weeds limit population density in fossorial mammals (Slobodchikoff et al. 1988). In addition, herbicide use that invariably precedes and follows most forms of development also degrades pocket gopher habitat (Reid 1973). Finally, individual pocket gophers are killed in the pursuit of commercial and industrial development. Additional information in letter.	Please see the response to O04-48 above.
T&E	WY pocket gopher	O04	50	Negative impacts of oil and gas operations on Wyoming pocket gopher and their implications for the species are named in virtually every scientific Wyoming pocket gopher (*Thomomys clusius*) conservation assessment and survey. Wyoming pocket gopher mitigation measures are essentially non-existent due to their extremely limited range and a paucity of scientific knowledge concerning its ability or inability to adapt to changing habitat conditions. BLM has failed to provide any analysis, whether field experiments or literature reviews, that describes if and how disturbance to *T. clusius* habitat would be “avoided.”	Please see the response to O04-48 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	WY pocket gopher	O04	51	There is substantial new information in recent studies to warrant supplemental NEPA analysis of the impacts of oil and gas development to Wyoming pocket gopher. It is incumbent upon BLM to consider the most recent scientific evidence regarding the status of this species and to develop mitigation measures, if possible, which will ensure the species is not moved toward listing under the Endangered Species Act. It is clear from the scientific evidence and a total absence of meaningful BLM (state and federal levels), Wyoming Game and Fish, and U.S. Fish and Wildlife Service conservation measures for the Wyoming pocket gopher that current protections are non-existent, thereby allowing if not encouraging habitat degradation and destruction. New and continuing Wyoming pocket gopher survey information (such as Keinath and Beauvais 2006) constitutes significant new information that requires amendment of the Resource Management Plans before additional oil and gas leasing can move forward.	BLM requires pre-disturbance site-specific survey and avoidance to protect the species and has concluded those measures are sufficient.
T&E	WY pocket gopher	O04	52	BLM itself has been forced to admit that “New information from monitoring and studies indicate that current RMP decisions/actions may move the species [greater sage grouse] toward listing…conflicts with current BLM decision to implement BLM’s sensitive species policy” and “New information and science indicate 1985 RMP Decisions, as amended, may not be adequate for greater sage grouse.” Continued application of stipulations known to be ineffective in the face of strong evidence that they do not work, and continuing to drive the greater sage grouse toward ESA listing in violation of BLM Sensitive Species policy, is arbitrary and capricious and an abuse of discretion under the Administrative Procedures Act. We hold that, in the case of the Wyoming pocket gopher, relevant stipulations do not exist. Further, we hold that a total absence of stipulations serves to drive the Wyoming pocket gopher toward ESA listing in violation of BLM Sensitive Species policy, is arbitrary and capricious, and is an abuse of discretion under the Administrative Procedure Act.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy. Protection measures for the Wyoming pocket gopher implemented by the BLM have been deemed sufficient.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	WY pocket gopher	O04	53	No lease parcels which contain known and potential Wyoming pocket gopher habitat should be offered until a full NEPA analysis on impacts to this BLM Sensitive Species is performed and appropriate stipulations are formulated and attached to ensure the viability of pocket gopher populations in the area. We request that these parcels be withdrawn from the lease sale. Failing withdrawal of the parcels, it is critical that NEPA analysis occur on each parcel before leasing, and NSO stipulations be placed on all lease parcels containing known and potential Wyoming pocket gopher habitat. These stipulations should be attached at the leasing stage, when BLM has the maximum authority to restrict activities on these crucial habitats for the protection of the species, and that no exceptions to the stipulations be granted. BLM's failure to do so will permit oil and gas development activities which will directly and indirectly negatively impact Wyoming pocket gopher populations and habitat and increase the potential for listing by USFWS as a Threatened or Endangered species, in violation of BLM's duty to take all actions necessary to prevent listing. *Additional information follows in the letter.*	The CD-C Natural Gas Development Project EIS does not deal with decisions regarding federal mineral estate leasing. Wyoming pocket gopher surveys are conducted on a case-by-case, project-specific basis and appropriate protection measures (such as avoidance) are implemented if gophers are present in the area.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E	Sage-Grouse	In05, In08	90	When discussing potential mitigation measures for sage-grouse, the BLM indicates that it may require the operators to bury all new power lines near sage-grouse leks. CD-C Draft EIS, pg. 4¬lll. The BLM should be aware that in some situations burying power lines could significantly increase surface disturbing operations. In order to safely and successfully install power lines below ground, operators may need to construct concrete vaults to encase and protect the power lines. These vaults usually need to be installed between five and 12 feet below the surface in order to be below the frost line and may require the installation of a trench between five and six feet wide and 15 to 20 feet deep in order to fully encase the power lines. In places where there is shallow bedrock, extensive surface disturbing operations and even blasting may be required. Although burying power lines may reduce potential impacts to sage-grouse, Devon believes the same benefits can be achieved with appropriate anti-perching devices. The strict requirement to bury all power lines may not be reasonable and may actually lead to a significant increase in surface disturbance. The BLM should carefully consider this factor when developing the Final EIS for the CD-C Project.	The necessity of buried power lines would be assessed on a site-specific basis and would take into account all the potential impacts to all resources. If greater damage to other resources would occur to surrounding resources than would benefit sage grouse, then it is unlikely that the BLM would require the power lines to be buried.
T&E	Sage-Grouse EO	In10	21	There are numerous documents that apply and establish sage grouse stipulations in core and non-core areas. In general they are consistent. We urge BLM to ensure that the Rawlins Sage Grouse RFO Amendment is consistent with EO 2011-5. This includes distinguishing between core and non-core areas and adopting appropriate sage grouse management policies that are consistent with such designations.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
T&E/WL	Depletions	F03	4	Depletions discussed in the Draft EIS - 510 acre-feet on average - aren't minor.	The question of depletion amounts and their implication is clarified in the project BA and in the Final EIS.
T&E/WL	Depletions	F03	5	If the Proposed Action and alternatives will include depletions of the Colorado River system in excess of 0.1 acre-foot per year, then the determinations for endangered fish should be changed to may affect, likely to adversely affect and may contribute to the destruction or modification of designated critical habitat for Colorado River endangered fish.	The question of depletion amounts and their implication is clarified in the project BA and in the Final EIS

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E/WL	MBTA analysis	F03	9	The Service believes the Final EIS would be strengthened with a better description of the applicable provisions of the MBTA, Eagle Act, Executive Order 13186, and BLM's MOU with the Service to Promote the Conservation of Migratory Birds.	The descriptions of the protections provided to upland game bird species, neotropical and other migratory bird species, and their habitats have been expanded in the Final EIS. IN particular, WY BLM IM WY-2013-005 is cited for the guidance it provides for minimizing impacts to migratory bird species.
T&E/WL	MBTA analysis	F03	10	The Service's Region 6, Migratory Bird Program has developed conservation measures to avoid impacts to birds. In addition, the WGFD Bird Conservation Plan identifies BMPs to benefit migratory birds. We recommend these conservation measures and BMPs be incorporated into the Final EIS.	The discussion has been revised to discuss the BLM IM and the provisions of the RMP that provide for protection of neo-tropical song birds.
T&E/WL	Raptors	F03	15	Page 4-88. Raptors. The year-round buffers and timing periods for active nests may not be adequate to protect all raptors. The Service recommends the project be constructed outside of the migratory bird nesting season (January 15 -August 30). If this is not possible, then surveys for raptors should be conducted within 0.5-mile of the outside edge of the project actions prior to construction.	The extensive year-round buffers and seasonal restrictions provided by the Rawlins RMP have been described more fully in the Final EIS.
T&E/WL	Raptors	F03	16	The FEIS should describe the size of the NSO and seasonal buffers and the dates they would be in effect. It should also include an analysis of the effectiveness of the NSO and seasonal buffers to protect raptors from nest-abandonment and failure and possible violations of the MBTA and Eagle Act.	The extensive year-round buffers and seasonal restrictions provided by the Rawlins RMP have been described more fully in the Final EIS.
T&E/WL	Raptors	F03	23	Page 5-26, Raptors: *potentially positive cumulative impacts from the creation of nesting sites (including hydrocarbon stock tanks) are known from other oil and gas projects in the vicinity of the CD-C project area.* Although it is well documented that raptors will use artificial structures such as hydrocarbon stock tanks for nesting, these nesting attempts on oil or gas infrastructure usually end in a failed nest. The Service does not consider this loss of annual productivity to be a positive cumulative impact. We recommend, in areas where there are problems with raptors and corvids nesting on hydrocarbon stock tanks, that the tanks be reconfigured to lie on the horizontal axis.	The reference to positive impacts has been removed.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
T&E/ WR-S	Muddy Creek	O04	42	The Upper Muddy Creek and Lower Muddy Creek watersheds were found not to meet Standard 1 (Watershed Health) in the most recent analyses. Draft EIS at 3-28. Key watershed issues included runoff from improved and unimproved roads and well as oil and gas field development Id. In addition, the lower reaches of Muddy Creek are a Section 303(d) listed segment under the Clean Water Act. See Map 3.4-2. Muddy Creek is noted for high salinity and turbidity. Draft EIS at 3-38. In lower Muddy Creek, listed as “threatened” by WDEQ, watershed problems are related to overgrazing and past oil and gas development. Final EIS at 3-39. Selenium and chloride criteria violations have been key to these violations. Draft EIS at 4-23. The Proposed Action would result in significant further impacts to impaired waters (Draft EIS at 4-32) and Alternative A (Draft EIS at 4-33), but not under the other alternatives (although significant impacts on stream channel geometry and salt-loading would still be significant under these alternatives. These factors provide a strong reason to eliminate the Proposed Action and Alternative A from consideration.	Alternative A has been removed from consideration in the Final EIS. The BLM's Preferred Alternative in the Final EIS, Alternative F, specifies measures to address water quality concerns in the Muddy Creek and Bitter Creek watersheds, described in **Section 2.2.6**.
TR	Analysis	P23	2	Increased truck traffic may limit citizen use of county roads, creating dust, and negatively impacting wildlife.	It is unlikely that increased oil and gas-related truck traffic would limit citizen use of county roads in the project area, although some roads may temporarily be more congested. **Section 4.8.3.1** of the Draft EIS acknowledges that … "Disturbance during construction and production, such as human presence, dust, and noise may displace or preclude wildlife use..." (page 4-82).

Category	Sub-Category	Comment		Comment	Response
		Code	No		
TR	Baseline data	C02	51	The Draft EIS... fails to address R.S. 2477 rights-of-way, private roads, and other rights-of-way. (Maps 3.16-1, 3.16-2). The roads and rights-of-way appear to be on Map 3.16-1, but are not specifically identified on the map. While BLM has no authority to adjudicate R.S. 2477 rights-of-way, it does have a disclosure obligation under NEPA to identify the county roads and rights-of-way. See Southern Utah Wilderness Alliance (SUWA) v. BLM, 425 F.3d 735, 479-58 (10th Cir. 2005). Just placing them on the map, without identifying road ownership, is not sufficient.	The local roads shown in **Maps 3.16-1 and 3.16-2** were digitized from aerial photography for the surface disturbance analysis. The attribute fields populated from the photo-interpretation were physical attributes, such as surface type (paved, improved exotic/gravel, improved natural, unimproved), and did not include administrative attributes, like management agency or road name. Designations for numbered county roads were obtained from the respective counties. The Transportation and Access element of the Draft EIS is intended to estimate traffic volumes and associated effects on the highway and numbered road network providing access to and within the CD-C project area. Effects on individuals road which provide access to specific well and ancillary facility sites would be addressed in the site-specific NEPA and APD processes, at which time the appropriate road owners would be consulted.
TR	Impact analysis	In07	15	Page 4-199 to 4-203, Alternatives B, C, & D. While increased directional drilling will reduce traffic needs for construction and rig moves, the increased duration of the drilling and completion period for each well (from 15 to 50 days, see Table 4.15-1) may lead to increased, not decreased traffic requirements for alternatives with increased directional drilling requirements.	The comment misinterprets the information presented in Table 4.15-1. The estimated 15-day average duration (10 days for drilling and 5 days for completion) is for a single vertical well. The 50-day average duration (42 days for drilling and 8 days for completion) is for four wells on a single pad, which yields a 12.5-day per well drilling and completion cycle for a multi-well pad compared to a 15-day drilling and completion cycle for a single well pad. While traffic for a multi-well pad would obviously result in more traffic to a single location, overall traffic in the area would be substantially reduced by the reduction in access road/pad construction, rig moves and by batch completion of multiple wells.
TR	Impact analysis	P05	4	"The dust created by the traffic would also be a hazard."	Thank you for your comment. **Section 4.5.9** (Mitigation Measures for Adverse Air Quality Impacts) under the Air Quality section of the Draft EIS lists "Application of chemical suppressant (magnesium chloride) on unpaved roads and additional watering during construction activities to minimize fugitive dust, reducing particulate (PM_{10} and $PM_{2.5}$) impacts" as an additional mitigation measure that could be implemented.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
TR	Jurisdiction	C02	53	Jurisdiction of the roads is also important for purposes of determining which roads will be closed or open to use.	The local roads shown in **Maps 3.16-1 and 3.16-2** were digitized from aerial photography for the surface disturbance analysis. The attribute fields populated from the photo-interpretation were physical attributes, such as surface type (paved, improved exotic/gravel, improved natural, unimproved), and did not include administrative attributes, like management agency or road name. Designations for numbered county roads were obtained from the respective counties. The Transportation and Access element of the Draft EIS is intended to estimate traffic volumes and associated effects on the highway and numbered road network providing access to and within the CD-C project area. Effects on individuals road which provide access to specific well and ancillary facility sites would be addressed in the site-specific NEPA and APD processes, at which time the appropriate road owners would be consulted.
TR	Mitigation	C02	52	The party with jurisdiction over the roads must be determined before any type of action or mitigation measures can be applied to the roads. Jurisdiction of the roads is also important for purposes of determining which roads will be closed or open to use.	Please see response to CO2-53 above.
TR	Road Standards	O04	65	Operators have committed to construction to road standards “no higher than necessary” to accommodate their intended use. Draft EIS at B-24. How does BLM interpret what is “necessary?” In the Powder River Basin, spur roads to well pads in coalbed methane fields are often two-track jeep trails. There would seem to be no reason that well pad spurs, and sometimes wellfield collector roads, could be engineered to this standard for the CD-C project as well. Would BLM be willing to require two-track access routes in the CD-C project, especially in sensitive wildlife habitats and/or viewsheds (such as historic trail corridors)?	Coalbed methane development in the Powder River Basin has been accomplished by the use of much smaller drilling rigs and equipment than the rigs and equipment required for the deeper formations in the CD-C project area. The larger drilling rigs and the large number of completion vehicles and equipment necessary for the wells in the equipment required for the deeper formations in the CD-C project area require improved roads, both for access and to prevent environmental damage. The roads will be constructed to the standards required by the BLM.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
TR	Speed limits	C03	15	Sweetwater County strongly encourages BP, other operators and their contractors to instruct their vehicle drivers to use safe driving practices and to adhere to speed limits that match driving and road conditions. As established by Wyoming Statutes, speed limits on county roads are set at 55 miles per hour unless otherwise established through engineering studies and are properly posted. Sweetwater County recognizes that this 55 mile per hour speed limit may be too fast for some portions of county roads, but the County lacks the funding to complete the traffic studies required by Statute to set proper speed limits for these stretches of road. To accommodate the lack of traffic studies needed to post the proper speed limits, the County encourages all county road users to use good judgment and safe driving practices.	Thank you for your comment.
TR	Traffic	P10	7	Encourage reduction of traffic however possible.	Thank you for your comment.
TR	Transporta-tion planning	In05, In08	72	There is a MOU between BLM and operators within the CD/Wamsutter area regarding transportation planning and road use. Although the MOU does not technically include the Creston portion of the project area, operators such as Devon that operate in the Creston Area already attend the meetings and participate in transportation planning for the overall project area. The BLM should amend the MOU to specifically include all of the operators within the larger project area as this will codify current practices.	The MOU has been amended to include the Creston portion of the project area.
VEG	Dust	In01	8	The Draft EIS, on page 4-83, suggests that dust related impacts impact 24.3 percent of the project area, which may result in some habitat avoidance. A dust impact to over 24 percent of the project area seems arbitrarily high, unsupportable, and lacking documentation. Further elucidation on the methods used to quantify this amount is recommended	**Section 3.6.4** describes the methods and assumptions used in arriving at this figure. That section emphasizes that this total, at any given time, would be dependent upon season of use, the primary factors listed in this section, and weather-related factors, especially the timing and amount of precipitation events (or lack thereof).

Category	Sub-Category	Comment		Comment	Response
		Code	No		
VEG	Dust	In04	45	Page 4-76, 4.6.5, Unavoidable Adverse Impacts and Additional Mitigation Measures: Road dust is brought up as a result of increased traffic. Our comment can be summarized as follows: *The recommendations of managing dust as a safety issue and protecting lichen rich habitats seems to make good sense. In areas of extremely high dust deposition, dust may affect photosynthesis, plant respiration, and transpiration (Farmer 1993), but these levels of dust would be such a safety hazard that energy development operators would typically fix the issue before somebody got hurt.*	The primary factors that generate fugitive dust are fully described and discussed in **Section 3.6.4**. It is also stated in this section that, "A proactive and aggressive road-watering/dust-suppression program could noticeably lower this estimate during the hotter and drier summer months that are generally associated with greater dust-generation potential. Alternative F(Agency Preferred Alternative) calls for implementation of **Best Management Practices for Fugitive Dust Control (Appendix P)** which would work to reduce the amount of fugitive dust generated.
VEG	Dust control plan	C01	24	Section 3.6.4, Fugitive Dust Effects on Vegetation Dust Abatement: The Final EIS should include a detailed fugitive dust control plan and Carbon County is recommending the implementation of an aggressive dust suppression program.	Please see updated text. A Fugitive Dust Control Plan (**Appendix P**) has been included as part of the Preferred Alternative.
VEG	Impact analysis	In01	18	"Long-term loss of shrubs" is wording used in Table ES-2 on page ES-9, on page ES-18, and in Table 2.4-2 on page 2-26. This wording is speculative, and the BLM should consider stating "possible long-term loss of shrubs."	Surface disturbance will result in the long-term loss of shrubs. Please see **Section 4.0** for a discussion of short-term and long-term in the context of surface disturbance.
VEG	Impact analysis	C02	37	The Draft EIS discusses the historical disturbance in the project area but never makes clear what portions of the disturbance has been revegetated, partially revegetated, or unreclaimed. CD-C Draft EIS at ES-10, 4-72....the Draft EIS must describe those areas of the project area that are currently unreclaimed compared to reclaimed from past disturbances.	The analysis of impacts associated with the Proposed Action and the alternatives was completed in the context of existing disturbance (see **Sections 4.0.2 and 4.0.3**). The estimates of historical disturbance are based on aerial photography made during 2006-2007. It was not possible using aerial photography to discern the degree to which reclamation has been successful on any of the parcels. Determining success of reclamation is a matter dealt with by the Operators and the BLM or the WOGCC on a case-by-case basis.
VEG	Impact analysis	C02	38	The Draft EIS must also identify who owns these lands and where the unreclaimed acreage is located, such as if it is on BLM land or is in sage-grouse core habitat.	Please see the response to C02-37 above.
VEG	Playa	In04	41	Page 3-77, 3.6.2.14 Non-vegetated cover type – Playa, final sentence: *several major orders of insects* depend on playas. In fact, no order of insects depends on playas. It could be stated a unique suite of invertebrates (including species like *Triops longicaudatus*) depends on playas.	Sentence reworded to include citation: " In Wyoming, playas, when flooded, are important sources of habitat for wildlife including waterfowl such as ducks and geese, along with sandhill cranes and shorebirds and amphibians such as frogs, toads, and salamanders. Haukos and Smith (1992) have identified seven Orders of invertebrates (33 Families) that are closely associated with playa lakes."

Category	Sub-Category	Comment		Comment	Response
		Code	No		
VEG/WL	Dust	O04	66	The effects of fugitive dust on vegetation, and therefore forage, are significant. Draft EIS at 3-81. This is focused on a corridor 500 to 646 feet on either side of the road. Draft EIS at 3-81, 82. We also understand that dust pollution causes sickness in livestock (Nils Hansen, pers. Comm.), and based on this principle it is likely causing health problems for wildlife ranging from elk to sage grouse as well. BLM notes that watering of gravel roads can reduce dust pollution (id.), but by far the most preferable means to keep dust and its effects on vegetation, wildlife, and livestock to a minimum is to minimize the additional mileage of additional improved gravel roads as well and to implement measures to reduce truck traffic, particularly by 18-wheelers which cause disproportionately more dust. Draft EIS at 3-81.	The Agency Preferred Alternative (Alternative F) contains measures that would reduce the amount of traffic and the number of new roads, which would reduce the amount of dust generated. The alternative also provides for implementation of **Best Management Practices for Fugitive Dust Control (Appendix P)**, which would further reduce the amount of fugitive dust generated.
VRM	BMPs/ COAs	In05, In08	95	When describing the type of BMPs and COAs that can be applied within VRM Class III Areas, the BLM must acknowledge that it cannot impose unreasonable restrictions on existing leases. Courts have recognized that once the BLM has issued an oil and gas lease conveying the right to access and develop the leasehold, the BLM cannot later impose unreasonable mitigation measures that take away those rights. See Conner v. Burford, 84 F.2d 1441, 1449-50 (9th Cir. 1988); 43 C.F.R. § 3101.1-2 (2012) (BLM can impose only "reasonable mitigation measures... to minimize adverse impacts... to the extent consistent with lease rights granted"). We are concerned that the language currently proposed by the EIS would encourage or allow BLM to adopt management directives that will preclude or limit our rights under existing leases or will later adopt COAs that are inconsistent with our rights. See previous comments.	No valid existing rights would be infringed upon by the selection of any of the alternatives. This has been clarified in the Final EIS.
VRM	Class IV manage-ment	C03	10	Visual Resource Management (VRM): Sweetwater County strongly encourages the BLM to manage the visual resources with this region as a VRM Class IV giving oil and gas the maximum flexibility to develop from visual management perspective. Sweetwater County recognizes that there may be a case by case need for the BLM to apply more restrictive management decisions to address special resources or sensitive resources such as historic trails or cultural sites.	Thank you for your comment. The management of this area as a particular VRM class is dependent upon decisions made at the Resource Management Plan level and is outside the scope of this document.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
VRM	Cumulative Impact	C01	26	Chapter 5, Cumulative Impacts: The Final EIS should fully disclose the anticipated cumulative and visual change due to past, present and reasonably foreseeable future actions. Four major power lines (TWE, Zephyr, EGS and EGW) are platted to go through the project area. In addition, the overhead electrical system is estimated to include approximately 36 miles of overhead lines.	Information pertaining to all reasonably foreseeable future actions has been updated in **Table 5.0-1** and analyzed in **Section 5.11**.
VRM	RMP	In05, In08	69	BLM should correct the information related to the Director's decision to remand portions of the Rawlins RMP to the FO for reconsideration. The text in section 3.11.3 suggests that the "Approved RMP" was protested. As the BLM is aware, only proposed RMPs can be protested to the BLM Director. The approved RMP was only issued after the BLM Director resolved all protests related to the proposed RMP. The BLM is currently in the process of amending the visual resource management classifications for the Rawlins RMP in light of the remand described above. Given the uncertainty created by the plan amendment, Devon reserves the right to submit additional comments regarding the CD-C Draft EIS when the draft plan amendment for the Rawlins Field Office is released later this year.	**Section 3.11.3** has been revised to explain that a protest was lodged against the Proposed ROD and Final EIS for the proposed RMP, and that "As a result, the BLM-preferred VRM decisions in the Proposed RMP/Final EIS were remanded, in accordance with guidance in the BLM Land Use Planning Handbook, H-1601-1."
WH	Gather and removal	In10	23	Yates has leases within the Lost Creek HMA. However they are not listed under Alt B and are currently well over AML targets. The focus of wild horse management in the HMA will be gather and removal. It is unlikely that our operations in the HMA will be impacted by wild horses or related activities in the HMA	Thank you for your comment.
WH	Impact analysis	C02	29	The Draft EIS discussion on wild horses and predation is not accurate and does not reflect the experience in southwestern Wyoming where wild horse numbers have continued to increase. The Draft EIS lists mountain lions and the gray wolf as a type of animal that preys on wild horses. Id. at 3-125. This is an incorrect statement. Wild horses do not have any natural predators. As support for this assertion, the Draft EIS cites to reported mountain lion predation on wild horses in the southern Great Basin of Nevada. Id. The Draft EIS involves public lands in Wyoming, not Nevada. The proposed project area does not provide much if any mountain lion habitat except for Iron Mountain, Laramie Peak, Snowy Range, Seminoe, Sierra Madre, and Haystacks.	The text has been modified to more appropriately describe wild horse mortality agents.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WH	Impact analysis	C02	30	Also, the wild horse populations have exceeded appropriate management levels (AMLs) for around 40 years and at a time when the coyote, fox, and wolf populations were at unprecedented levels. For example, in 2010, the wild horse populations in Adobe Town and Salt Wells Creek herd management areas (HMAs) were 1,436 and 975 wild horses respectively. See Environmental Assessment Adobe Town - Salt Wells Creek HMA Complex Wild Horse Gather, at 3, 11 (Aug. 26, 2010). This is far above the AMLs for each area, which are 610-800 wild horses for Adobe Town and 251-365 wild horses for Salt Wells Creek. Id. at 3. Therefore, it is inaccurate to conclude that predation has had any measurable impact on wild horse numbers.	The text has been modified to more appropriately describe wild horse mortality agents.
WH	Impact analysis	C02	31	The Draft EIS should also include the adverse impacts that wild horses have on the environment and other wildlife due to their trailing and their grazing patterns as they use some areas season long, and the implications for reclamation success.	The impact of wild horses on the environment is outside the scope of this analysis.
WH	Impact analysis	P14, P30	1	**Note: This comment letter represents a total of 8,376 identical letters received via email as a result of a website post on American Wild Horse Preservation <http://wildhorsepreservation.org>.** "Further industrialization of over 125,000 acres of lands falling within the Lost Creek and Adobe Creek Herd Management Areas will increase wild horse stress, habitat loss, potentially impact water availability and quality, potential for wild horse/vehicle collisions, increase dust given traffic, and otherwise further deter wild horses from impacted areas and denude the habitat and living conditions of wild horse herds."	The peer-reviewed scientific literature is lacking on the effects of energy development/ industrialization on wild horse ecology. Any perceived or real effects would best be determined by a long-term research project. It is beyond the scope of this analysis to speculate what these effects may or may not be.
WH	Mitigation	O06, P17	2	If you choose to go forward with this during the environmentally risky CD-C Project then we ask that you: take immediate action to ensure native wild horses will live in their native habitat and not be rounded up for permanent removal; prohibit drilling in native wild horse habitat; work with the energy companies involved including BP American Production to create a 50 million dollar Protect Wyoming Mustangs Fund; never grant NEPA waivers for any aspect of this project.	A very small portion of the project area would impact wild horse HMAs and no portion of this project would result in rounding up the horses for permanent removal. Drilling in HMAs cannot be prohibited due to valid existing rights in the HMAs.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Advisory groups	In04	4	There are a number of references to technical teams, advisory groups and consultation groups that will assist in management issues, but there is little discussion about who will be asked to participate in those teams and what level of stakeholder input there may be. What are their powers? How will membership be determined? Will membership change over time? Will operators be allowed to participate? If so, will the BLM charter the committee under FACA? Who will fund the group? Does the BLM intend for this working group to be similar to the JIO or Pinedale Anticline Project Offices? This is an important issue for local governments and the public to understand, since it seems that many future management decisions may be delegated to these teams.	Please see the updated text. The CD-C consultation and coordination group's duties have been further defined in the Agency Preferred Alternative. The group would not be chartered under FACA as it would not require the group's consensus to change management direction. Operators would not be included in the group. Management decisions would not be delegated to the group and the BLM would make the ultimate decision on any proposed management actions.
WL	Advisory groups	C02	16	"The Draft EIS fails to identify the legal structure of the proposed Interagency Working Group...It would appear to be designed to remove the most important and significant decisions from the public eye. It should be deleted."	Please see updated text for clarification on the role of the CD-C consultation and coordination group.
WL	Advisory groups	C04	9	The document makes several references to technical teams and advisory groups that will be formed; however, the details as to the various group's memberships, roles and responsibilities are not clearly defined.	Thank you for your comment. Please see updated text; the duties and functions of the CD-C coordination and consultation group have been expanded upon and clarified in the Agency Preferred Alternative.
WL	Advisory groups	C04	10	The Draft EIS states that if the WGFD expresses concern that a species population is declining at an accelerated rate, a technical team would be assembled to prepare a mitigation plan. Questions that need to be answered before this can seriously be commented upon include: What constitutes *an accelerated decline?*; Who will be on the technical team?; What is their authority?; What types of mitigation will be considered?; How do you determine what is causing the decline?; Is there a cap on the mitigation?; Who will pay for the mitigation and how?; and What if the mitigation is unsuccessful?	Please see updated text. Alternative B has been clarified in the Final EIS.
WL	Advisory groups	S01	5	The governor requests that the BLM clarify the make-up and the function of the various technical and advisory groups described in the Draft EIS.	Thank you for your comment. Please see updated text; the duties and functions of the CD-C consultation and coordination group have been expanded upon and clarified.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Advisory groups	C03	8	Technical Teams and Advisory Groups: The Draft EIS makes a number of references to technical teams and advisory groups. In forming these groups, care should be taken to ensure that each group has a clear mission, its membership is stated, and the level of stakeholder input is defined. From past experience, Sweetwater County has found the Wamsutter-Continental Divide Transportation Working Group valuable for resolving road maintenance and transportation issues.	Thank you for your comment. Please see updated text; the duties and functions of the CD-C consultation and coordination group have been expanded upon and clarified.
WL	Amphibian/ reptile monitoring	S04	12	The WGFD recommends that incidental monitoring of amphibians and reptiles be conducted in conjunction with other wildlife surveys, providing general trend data to reveal possible shifts in species assemblages resulting from development.	All potential impacts from a proposed project are assessed on a site-specific basis. If there is potential for amphibian and reptile habitat in the proposed project location, surveys and monitoring would be conducted accordingly.
WL	Appendix G, Energy by Design	In01	16	Page G-1 references moose, which do not occur within the project area. Accordingly, the reference to moose should be omitted.	Thank you for your comment. The reference to moose has been removed.
WL	Appendix G, Energy by Design	In05, In08	108	We appreciate the BLM's inclusion of the Energy by Design project as appendices to the CD-C Draft EIS. We understand that the document may be utilized to the extent off-site mitigation is considered as part of the selected Alternative and voluntarily agreed to by the operators. We are concerned, however, that the proposed areas identified for off-site mitigation, Map G-3 -G-7, fail to recognize that the Desolation Flats Natural Gas Field is located to the southwest of the CD-C Project Area and that the Atlantic Rim Natural Gas Field is located to the southeast of the CD-C Project Area. The Nature Conservancy appears to have • proposed several mitigation areas within the boundaries of both of these existing oil and gas fields. Funding offsite mitigation projects within an existing oil and gas field does not appear rational.	The BLM is aware that the Desolation Flats and Atlantic Rim Natural Gas Fields have been identified as areas with potential for off-site mitigation in **Appendix G, Energy By Design**. This appendix was designed as a way of identifying areas that have similar habitat and features to those areas in the CD-C project areas that may be impacted by development and may require the use of off-site mitigation. The appendix does not identify to the site-specific level where off-site mitigation activities may occur. Even though some identified areas are within other active natural gas fields, this does not necessarily preclude the opportunity of developing off-site mitigation in areas within those natural gas fields.
WL	Appendix G, mitigation	In04	76	Appendix G, Preface, page G-II. The voluntary nature of the Mitigation Planning should be clearly stated in the preface.	Thank you for your comment. The voluntary nature of the mitigation planning is clearly stated.
WL	Appendix G, off-site mitigation	O16	1	Conservation easements used with off-site mitigation (as described in Appendix G, page G-5) must not only support off-site mitigation but also ensure the landowner's management flexibility.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Appendix G, WY pocket gopher	In05, In08	109	Update the scientific name of the Wyoming pocket gopher on p. G-2 which is *Thomomys clusius*, not S. *elegans* which is the Wyoming ground squirrel. The document should also be updated with more recent information regarding the Wyoming pocket gopher. Devon and several other oil and gas operators teamed up with the State of Wyoming to conduct studies for the species for the last several years and gained significant information about the species.	Thank you for your comment. The text has been updated.
WL	Appendix H	In07	28	Appendix H. BLM requested inclusion of a number of species that are unlikely to be found in the area. It is suggested that the following species be removed from the list: Wyoming toad; Preble's jumping mouse, black-tailed prairie dog, and lynx.	The species were added because the BLM had reasons for considering them in the context of the CD-C EIS.
WL	Appendix I	C01	25	A goal of the CCCLUP is to sustain scenic areas, wildlife habitat, and other important open spaces. An implementation strategy is to limit development in wildlife migration corridors, winter ranges, birthing areas, and sage grouse core areas. Conformance with this County goal can be achieved and maintained with the implementation of Appendix I, Wildlife Inventory, Monitoring and Protection Plan.	Thank you for your comment.
WL	Appendix I	F03	29	Appendix I. Page I-1: The Service recommends the Wildlife Mitigation, Monitoring and Protection Plan include a provision for the collection of baseline data prior to implementation of the project.	The CD-C **Wildlife Inventory, Monitoring, and Protection Plan** will be an extension of the Monitoring Without Borders program that has been actively collecting information pertaining to various wildlife species within the CD-C project area since the signing of the 1994 Creston Blue Gap Record of Decision.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Appendix I, Annual Inventory and Monitoring	In05, In08	115	Throughout this section the BLM identifies numerous annual monitoring reports that allegedly must be conducted each year. As noted above, we estimate these reports could cost in excess of $100,000 per year. The BLM has not and cannot justify such a substantial monitoring and mitigation program, especially given the relatively low level of impacts expected to occur to most species within the Project Area. Overall, the BLM appears to require an EIS-level wildlife analysis to be conducted annually at the operator's expense. Such an expense cannot be justified, particularly when on-site wildlife studies will be conducted by the operators as needed when specific development operations are opposed. We understand and appreciate the need to conduct surveys for threatened, endangered, and candidate species as well as BLM sensitive species before any site-specific operations take place. We cannot, however, justify field-wide studies on an annual basis simply to satisfy the curiosity of BLM personnel. Several of the proposed annual studies appear to be particularly unnecessary such as the use of marine surveillance radar to determine whether eagles fly across the CD-C Project Area. The BLM's own analysis in the CD-C Draft EIS indicates that there is no eagle habitat within the Project Area and that no significant impacts to bald eagles are anticipated. CD-C Draft EIS, pg. 4-104. As presented, many of the studies appear to be completely unnecessary and unjustifiable.	Please see updated text.
WL	Appendix I, annual meetings	O01	8	Annual meetings are said to be set to identify methods for accomplishing the four step plan. We suggest bi-annual meetings to evaluate the need for changes and to identify the four step plan is being adhered to. For instance, what if an operator doesn't provide their inventory/monitoring reports and description of all existing and proposed project developments within the timeframe allotted?	This monitoring plan has been in place since 2000, and this document only extends the existing monitoring into areas where the previous monitoring plan did not extend to. This group has been successful in the past for implementing the required monitoring and working together for success, and would continue to be successful.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Appendix I, annual report	In04	77	Appendix I, Section 2.1 Annual Reports and Meetings, Content requirements a-h. The components of the annual report are extensive research items. The BLM, in conjunction with the WGFD, should take primary responsibility for wildlife inventory and monitoring. It is not explained how the BLM intends to use all of this information. We request that this be clarified in the Final EIS.	The **Wildlife Inventory, Monitoring, and Protection Plan (Appendix I)** is a cooperative effort between the BLM, the WGFD, and the Operators and has been an ongoing effort since 2000. The information is collected to determine what impacts, if any, oil and gas development is having on identified wildlife species. Please see the publication available online at http://www.blm.gov/wy/st/en/info/NEPA/documents/rfo/cd_wamsutter.html for information pertaining to how the data are used. Also, please see Appendix I, Wildlife Monitoring and Mitigation Plan for more information on how the information would be used.
WL	Appendix I, annual reports	In10	34	The components of the annual report are extensive research items requiring the use of third party contract biologists. Placing this burden on some of the smaller operators with relatively limited leasehold and activity in the project area is unreasonable and unnecessary to successfully evaluate wildlife in the project area. Additionally, BLM, in conjunction with WGFD, is in a better position to gather and evaluate items a-h in order to prepare the annual report. It is not explained how BLM intends to use all of this information and how all these requirements will be used by the BLM in their annual report prepared each February. As such, we recommend that BLM assume responsibility for gathering and assessing this information in preparing the annual report, and/or limits the application of wildlife monitoring requirements to larger operators in the project area.	The **Wildlife Inventory, Monitoring, and Protection Plan (Appendix I)** is the continuation of the Monitoring Without Borders implemented in the CD/WII ROD. Appendix I has been updated and clarified.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Appendix I, annual reports and meetings	In05, In08	114	BLM needs to identify how the annual reports would be organized and implemented given the number of operators within the CD-C area. BLM must also explain how it intends to require operator participation and upon what basis operators will be required to participate. Will costs be proportional to the number of wells drilled in a particular year? Will costs be proportional to the number of acres operated within the CD-C Project Area? Will the BLM require a specific operator to serve as the administrator? Further, the annual report purportedly required by this section would require a massive undertaking each and every year. We estimate the costs of this report could exceed $100,000 on an annual basis. The report is a substantial undertaking that is completely unreasonable for the BLM to require. The BLM also suggests in this section that the annual reports would be prepared by the operator's third-party contractor with BLM oversight. The BLM has not explained how the operator would be selected and funded. We are not aware of any legal authority that would allow the BLM to require this type of open-ended funding for third party monitoring requirements.	The implementation of the **Wildlife Inventory, Monitoring, and Protection Plan (Appendix I)** would be consistent with what has been done for the Monitoring Without Borders group for the past ten years.
WL	Appendix I, baseline data	O01	10	“Inventory/monitoring also includes the process of compiling general (overview) information on the historical and current abundance and distribution of a species, its habitat requirements, rate of population change, and limiting factors (species statistics).” (Draft EIS, Appendix I, I-3) The Appendix document does not say the operators and/or the BLM will collect baseline data for wildlife populations, distribution, and migration paths. WWF and NWF request these data be collected prior to any development for accuracy and wildlife management effectiveness.	Data have been collected in and adjacent to the project area since 2000 for certain species. However, development has been occurring in the project area for decades and any data that are collected in the project area cannot be considered true baseline. The ability of the BLM to halt development is limited for a number of reasons, most importantly being the inability of the BLM to infringe on valid existing rights and the stipulations of the contract that is created between a leaseholder and the federal government when a lease is issued.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Appendix I, clarification	In07	29	Appendix I. This appendix is to be applied under all alternatives for the life of the project. As written, many surveys may be required outside of the site-specific APD process and potentially for the entire CD-C area. An annual Operator report is to be provided to the BLM by Nov. 11. The report will contain GIS of existing and next-year's proposed disturbance; a summary of wildlife data; monitoring results; existing, new, and proposed protections and effectiveness determinations; trends analyses; and recommendations based upon failures and successes and additional species to be monitored. An annual meeting will be held in December where additional monitoring may be determined to be required. Operator requirements and financial assistance are identified, but not well defined. The level of Operator required support (financial or otherwise) needs to be identified and negotiated with Operators. Additionally, annual reporting beyond existing and proposed development actions appears to belong with BLM not Operators, particularly as all data (e.g., site-specific APD surveys) will have been provided to BLM. Operator requirements to assess trends, determine protection measure/mitigation efficacy, and provide recommendations also appear out of place.	Please see updated text.
WL	Appendix I, clarification	In04	78	Appendix I, page I-4, 2.2.1, second paragraph. Inventory and monitoring surveys for Special Status Species will be conducted by the BLM or a BLM-approved Operator-financed biologist in areas of potential habitat within the CD-C project area and all surveys will be conducted in coordination with the BLM. It should be noted that if operator financed biologists are to be used, those should be limited to where proposed projects may occur in potential habitat. While BLM has the basis to conduct surveys within the CD-C project area, the project area includes over 1 million acres. Operator funded surveys should only occur in association where project activities are planned. Therefore, a portion of the sentence referring to operator financed surveys should be revised to read … or a BLM-approved Operator-financed biologist in areas of potential habitat where projects are proposed within the CD-C project area.	All mitigation would occur at the site-specific level. However, regional off-site mitigation may need to be considered as a result of the cumulative impacts from multiple projects (or as a result of the direct impacts from one project). Limiting the ability of the BLM to develop regional mitigation by stating that inventory and monitoring of species would only occur where projects are proposed would hinder the successful implementation of regional mitigation. Via IM-2013-142, the BLM must consider regional and off site mitigation in all proposed projects.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Appendix I, clarity	In04	79	Appendix I, page I-5, 2.1, 2, Greater Sage Grouse (Candidate), third paragraph. Helicopter surveys for wintering areas will occur when weather conditions provide the best opportunity for these types of surveys and will be scheduled between December 15 and February 30. A sentence which can be found in later portions of this plan reads Operators may provide financial assistance for aircraft rental, as necessary. This should be revised to read, Operators may choose, at their sole discretion, to provide financial assistance for aircraft rental, as necessary.	As is currently written, it is clear that Operators may choose to provide financial assistance, and that this would be voluntary. Text has not been revised.
WL	Appendix I, cost	In05, In08	110	We are strenuously opposed to the proposed wildlife mitigation, monitoring and protection plan described in Appendix I. The proposed plan would impose significant financial burdens and responsibilities on the operators for an unknown period of time. As presented, the wildlife mitigation, monitoring and protection plan would virtually require the operators to fund any and all wildlife studies deemed necessary by the BLM without regard to the level of development ongoing or even potential impacts to wildlife species. The BLM has not justified this significant regulatory and cost burden and Devon urges the BLM to significantly revise if not eliminate entirely this proposal for the CD-C Project.	Thank you for your comment. Please see updated text.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Appendix I, cost	In05, In08	83	BLM states that the wildlife mitigation and monitoring plan would be required under all alternatives. We are strenuously opposed to the adoption of Appendix I in its current form as it creates unnecessary, vague, and virtually limitless requirements for the operators to engage in wildlife monitoring studies. As currently drafted, Appendix I would allow the BLM to require the operators to engage potentially expensive and unnecessary wildlife studies whenever it was deemed necessary by the BLM. It would be impossible for the operators to adequately budget or prepare for this seemingly endless set of monitoring requirements. Further, given the numerous oil and gas operators in the area, the BLM needs to determine how it would apportion the costs and responsibilities for engaging in the monitoring requirements proposed in Appendix I. Unlike areas where there are few operators, such as Jonah, Pinedale Anticline, and even the Atlantic Rim Area, the CD-C Project Area contains dozens of oil and gas operators. Without a clear mechanism of allocating costs and responsibilities for wildlife mitigation and monitoring, it would be virtually impossible for the BLM to administer these responsibilities and requirements equitably. Finally, Devon disagrees with the BLM's decision to require the wildlife mitigation and monitoring plan under all alternatives. It would have been more consistent with the mandates of NEP A to require the wildlife plan only under one or two alternatives so that the public may understand the differences between various alternatives and the impacts therefrom.	Please see updated text/**Appendix I**.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Appendix I, cost allocation	In05, In08	111	We are particularly concerned that given the number of operators within the CD-C Project Area, it will be virtually impossible for the BLM to implement or utilize this type of mitigation or monitoring plan. Unlike oil and gas fields such as the Jonah Field, Pinedale Anticline Project Area, and the Atlantic Rim Area, where there are very few operators, the CD-C area is operated by dozens upon dozens of separate operators. Because the average lease size in the CD-C Project Area is a single section given the checkerboard ownership within the area, very few portions of the CD-C Project Area are "blocked up" or consolidated such that studies could be targeted at specific regions. Because oil and gas operations in the area are significantly diversified, it would be incredibly difficult for the BLM to determine how the costs of wildlife studies proposed under Appendix I would be allocated and enforced. As presented, Appendix I is inappropriate. We also do not believe the BLM has justified the significant monitoring and mitigation requirements proposed by Appendix I. The type of mitigation and monitoring required by Appendix I is more arduous than the type required in either the Jonah Field or the Pinedale Anticline Field where the impacts are arguably more severe given the density of surface disturbing activities and year-round operations. Absent justification by the BLM for this monitoring and mitigation proposals, it appears to be an inappropriate attempt to coerce the operators to fund unnecessary studies.	Thank you for your comment. Please see updated text.
WL	Appendix I, funding	In04	50	Page 4-82, second paragraph: The BLM indicates the Wildlife Monitoring and Protection Plan will be required under all Alternatives. The plan seems to require an open-ended commitment of the operators to fund any and all wildlife studies deemed necessary by the BLM. How will the BLM decide what studies are necessary? How does the BLM intend to solicit funding from such a diverse group of operators? Will the operators have the opportunity to review and provide input to the BLM's decision process regarding studies?	Please see updated **Appendix I**.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Appendix I, helicopter surveys	In10	36	Operators should not be expected to fund helicopter surveys. This expense is unjustified and unnecessary to execute effective and thorough monitoring of wintering areas. The WGFD conducts aerial surveys of wintering areas and should be able to provide BLM with this data. This provision should be removed or revised to read that "Operators may choose, at their sole discretion, to provide financial assistance for aircraft rental, as necessary."	The **Wildlife Inventory, Monitoring, and Protection Plan (Appendix I)** is the continuation of the Monitoring Without Borders implemented in the CD/WII Record of Decision. Appendix I has been updated and clarified.
WL	Appendix I, implement-tation	O01	5	The Draft EIS addresses concerns with terrestrial wildlife chiefly through a proposed requirement for mitigation once surface disturbance exceeds 10%. We have several concerns with this approach. First, it is vital that operators be obligated to follow this plan to its full intent. Often, as in the Atlantic Rim area to the east, adaptive management and mitigation plans are incorporated into management plans, but are not followed through upon, don't start in a timely fashion, or don't become implemented until problems have gotten out of control. BLM states that "Implementation of the plan will provide opportunities for land managers and project personnel to achieve and maintain desired levels of wildlife productivity and populations within and adjacent to the CD-C project area (e.g., at pre-project levels) by minimizing and/or avoiding potential adverse impacts to wildlife species." (Draft EIS, Appendix I, page I-1) For that claim statement to have merit, the land managers and operators need to start early and effectively succeed and meet this goal.	Thank you for your comment. The Monitoring Without Borders group has been working on compiling data since the signing of the CD/WII ROD and will continue to do so with the signing of the CD-C ROD.
WL	Appendix I, implement-tation	O01	7	"Considerable efforts will be required by agency and operator personnel for Plan implementation each year." (Draft EIS, Appendix I, page I-1) What type of checks are in place to guarantee these efforts are carried out and/or what type of assurances does the public have for this plan moving ahead as planned? What are the penalties, if any, if the agency or operator fails to follow through?	The Monitoring Without Borders group has been meeting on a regular basis since 2000, with the signing of the CD/WII ROD to implement the same monitoring that is being proposed for the CD-C project. This group has been successful in the past for implementing the monitoring required in the CD/WII ROD, and would continue to do so for the CD-C ROD.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Appendix I, implemen-tation	In05, In08	113	The BLM suggests the Monitoring Without Borders may play a significant role in the future mitigation and monitoring processes. The BLM should explain how this group will be funded and whether or not the BLM can ensure it has sufficient funding to utilize this group. The BLM also indicates that considerable effort will be required by agency and operator personnel for the monitoring plan explained in Appendix I. To the best of our knowledge, the BLM has neither inquired whether the operators would be willing to participate in such monitoring plan nor explained the consequences for operators not participating in this plan. As already discussed, given the number of operators within the CD-C Project Area, implementation of this plan would be virtually impossible. How does the BLM propose to require literally dozens upon dozens of operators to participate in these mitigation and monitoring studies and meetings? Finally, the BLM should acknowledge the operator's willingness to fund studies that will be impacted by the alternative selected by BLM.	Thank you for your comment. Please see updated text.
WL	Appendix I, inventory and monitoring	O01	11	“The frequency of inventory and monitoring requirements will be dependent upon the level of development in the project area.” (Draft EIS, Appendix I, I-3) Quantify this – will inventory and monitoring not be required if no development will be conducted in that area that year or will inventory and monitoring not be required if up to 100 wells will be developed in that area that year. This needs to be spelled out so the public, land managers, and operators have a clear understanding of what is expected.	This has been clarified in **Appendix I**.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Appendix I, mitigation	In05, In08	116	To the extent the BLM is simply applying the mitigation measures provided for in the Rawlins RMP, Devon has no objections. To the extent the BLM is attempting to impose new or different mitigation measures, the BLM must ensure that the mitigation measures are consistent with existing lease rights. The BLM often cites a relatively recent decision from the Interior Board of Land Appeals ("IBLA") for the proposition that the agency can impose COAs on existing leases. Yates Petroleum Corp., 176 IBLA 144 (2008). The Yates decision does not stand for the proposition that BLM can impose COAs whenever it deems necessary or in broad programmatic documents such as the CD-C Draft EIS. Rather, in Yates, the IBLA merely affirmed the imposition of an additional COA based on site-specific information including recent and directly applicable scientific research. Yates, 176 IBLA at 157; William P. Maycock, 177 IBLA 1, 16-17 (2009). The Yates decision does not authorize the BLM to ignore relevant lease terms, the BLM regulations at 43 C.F.R. § 3101.1-2, or the Rawlins Resource Management Plan. Further, BLM must recall that it cannot impose new, unreasonable mitigation requirements on existing leases. Courts have recognized that once the BLM has issued an oil and gas lease conveying the right to access and develop the leasehold, the BLM cannot later impose unreasonable mitigation measures that take away those rights. See Conner v. Burford, 84 F.2d 1441,1449-50 (9th Cif. 1988); 43 C.F.R. § 3101.1-2 (2012) (BLM can impose only "reasonable mitigation measures... to minimize adverse impacts... to the extent consistent with lease rights granted").	No valid existing rights would be infringed upon by the selection of any of the alternatives. This has been clarified in the Final EIS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Appendix I, mitigation	O01	6	In order for mitigation to effectively offset adverse impacts, it must be based on reliable, scientifically-documented techniques, not ill-defined "habitat improvement projects." Examples such as vegetation treatments, etc. are given, but no supporting studies or data are provided or cited to establish the effectiveness of these methods in addressing the specific habitat functions that will be disrupted by the proposed project. As The Wildlife Society's technical committee notes: "The examples that are outlined in the EIS will have little or no value to impacted wildlife. Once winter range has been removed or excessively impacted, no amount of water developments (which in themselves will increase summer livestock and wildlife use, further degrading winter range) and vegetation treatments (if over 10% of the land is under development, either human presence or noise pollution will cause animals to leave the area, negating any vegetation treatment within the area) will mitigate the impacts on wildlife. Off site mitigation has yet to prove highly effective with mule deer and often it is much more beneficial and cost effective to protect delineated winter ranges and migration corridors than to try to artificially reconstruct these areas outside of a proposed 'project area'".	Site-specific mitigation measures cannot be presented and analyzed in such a programmatic-level document. "Habitat improvement projects" is a general term that can be used as part of the programmatic nature of this document, and once projects are analyzed on a site-specific level, appropriate mitigation measures would be selected and analyzed. Appropriate mitigations for all impacted resources would be analyzed on the site-specific level.
WL	Appendix I, Monitoring Plan	In05, In08	112	On page I-I, the BLM indicates that the monitoring plan will begin upon the signing of the ROD and will continue for the life of the EIS. The BLM must clarify this statement. The ROD constitutes the end of the EIS process. BLM NEPA Handbook H-1790-1, section 9.1, pg. 91 (Rel. 1-1700112012008). To the extent BLM believes the monitoring plan should last for the life of development analyzed in the EIS, Devon is opposed to such a requirement as production operations in the CD-C Project Area may last for the next 30 to 50 years. The BLM has not justified such a significant period of time to conduct mitigation and monitoring requirements.	The text has been revised to indicate that the monitoring plan will continue for the life of the **project.** The plan will receive a review for effectiveness by the BLM annually.
WL	Appendix I, reports	O01	9	"The BLM will submit a final annual report to all potentially affected individuals and groups by early February of each year." (Draft EIS, Appendix I, I-2) WWF and NWF want to be on the list to receive these reports. Our preference is electronic copy to save time and money.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Appendix I, Studies	In06	12	Page 4-82, 4.8.3.1, second paragraph, says the Wildlife Monitoring and Protection Plan will be required. The implication is that Operators will fund any studies BLM deems necessary. What will these studies be? How will they be managed? What portions of these studies will individual operators have to fund and how will this be determined? Will operators have a say in what studies are done and how they are structured?	Please see updated **Appendix** I.
WL	Appendix I, surveys	In10	35	If operator financed biologists are to be used, those should be limited to where proposed projects may occur in potential habitat. The project area includes over 1 million acres. Operator funded surveys should only occur in association where project activities are planned. Therefore, the sentence referring to operator financed surveys should be revised to read "...or a BLM-approved Operator-financed biologist in areas of potential habitat where projects are proposed within the CD-C project area..."	The **Wildlife Inventory, Monitoring, and Protection Plan (Appendix I)** is the continuation of the Monitoring Without Borders implemented in the CD/WII Record of Decision. Appendix I has been updated and clarified.
WL	Baseline data	O04	17	Oil and gas drilling and production have been occurring in the project area since the 1950s, and the agency has prepared an analysis of disturbance density to date by square-mile section. Draft EIS at 4-2, Map 4.0-1. This provides a dataset with which trends in sage grouse lek counts, mountain plover habitat use, prairie dog colony occupation data, and any other wildlife data can (and should be) compared to determine the effects of past development within the project area on various wildlife. Information gleaned from this analysis would be quite valuable in determining thresholds at which impacts would be felt as well as making projections of future wildlife populations and/or habitat use based on the various alternatives outlined in the Draft EIS. This need not be a very difficult analysis.	Thank you for your comment. The research effort you describe is beyond the scope of the EIS. While the effort would yield interesting results, those results would be unlikely to conclusively yield useful management prescriptions.
WL	Baseline data	C02	78	Draft EIS p.p. 3-85 Table 3.8-1. Big game Herd Unit population parameters within the CD-C project area. CLG Comment: The WGFD population objectives appear to be unrelated to forage or habitat for Bitter Creek. The statement also generalizes the drought. Elk numbers far exceed objective and this will materially affect vegetation and habitat for other wildlife. The Draft EIS needs to acknowledge this fact not just for elk numbers, but for all wildlife populations.	The WGFD population objectives are outside the scope of this document. The drought discussion is taken from the WGFD Job Completion reports, and a citation has been added. The Steamboat HU is well over objective but covers only the extreme eastern edge of the project area, as such does not materially affect vegetation or habitat for other species.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Baseline data	C02	79	Draft EIS p.p. 3-86 Average hunter success in the pronghorn Hunt Areas in the CD-C project area is 92 percent, resulting in a prorated annual harvest of approximately 640 animals (WGFD 2009 data).....Although over a dozen pronghorn migratory movements have been documented within the project area, the corridors are broad and poorly defined (Map 3.8-2). Comment: The above discussion and big game numbers reflect issues not clearly related to energy development. The discussion should be revised to link it to energy development.	Average hunter success is relevant to the discussion of pronghorn population.
WL	Baseline data	S04	3	Big game population information should be updated to reflect the current status of all species discussed. Use Big Game Job Completion Report for 2012 that gives population estimates under objective for the Baggs deer herd. For pronghorn, add discussion on current population vs. herd objectives. We have seen a steady decline in pronghorn over the last 20 years and no rebound in population from the hard winter of 2007-2008.	Herd numbers have been updated in the Final EIS to reflect the 2012 report.
WL	Baseline data	O01	4	The wildlife baseline data collected from 2006 to 2007 by HWA is important to have on file prior to development. We believe baseline data is necessary to have for monitoring and mitigation purposes. We appreciate the collection of baseline data prior to a new well or new road construction and appreciate BLM and the operators working with other entities to gather relevant wildlife data for this area.	Thank you for your comment.
WL	Bats	F03	22	Page 4-103. The Draft EIS lists four bat species that would likely not be impacted by the project and then says they may be affected. This should be corrected in the Final EIS.	The apparent contradiction has been corrected.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Big game	O04	19	Alt D appears to have the least impact on big game compared to the other action alternatives. While this analysis does seem overoptimistic for outcomes under Alternative D, we concur that Alternative D would result in significantly lower impacts than the other action alternatives. We recommend the inclusion of mitigation measures outlined at Draft EIS 4-98 in any alternative that is ultimately adopted; the lockout/gate-out of crucial winter ranges and migration corridors during the duration of their season of use is a particularly important method. Monitoring of habitat use should also be provided for in such areas to determine to what extent game animals return to areas where lockout closures are in effect.	Thank you for your comment.
WL	Big game	O04	20	BLM notes that the zone of disturbance for big game typically averages 0.7 mile from roads and well pads. Draft EIS at 4-83. BLM should model typical development scenarios under each alternative and then measure and present the acreage extent of this 0.7-mile buffer for each using GIS. This GIS analysis should also reveal the acreage of big game crucial winter range and the proportion of migration corridors falling within the 0.7-mile zone for each species. Using the absolute acreage impact under each alternative (see Table 4.8-1) is misleading in that it underestimates the actual acreage lost as effective habitat for each species. Habitat unavailable to wildlife because it is avoided through disturbance is just as void of value as habitat directly converted to roads and well pads. BLM essentially concedes this, stating that avoidance through disturbance also eliminates habitat, in addition to direct disturbance through blading. Draft EIS at 4-85	Thank you for your comment. As indicated, the EIS points out that the zone of disturbance extends beyond the actual disturbance. However, the actual disturbance varies by species, by type of disturbance, and by distance from the disturbance. Modeling these parameters would be extremely complicated and beyond the scope of the EIS.
WL	Big game	In05, In08	64	BLM should update the information in Table 3.1-8 (3.8-1?) regarding big game herds and populations. It is over 3 years old and more recent information from WGFD demonstrates that pronghorn populations in the area are actually improving in the Baggs and Red Desert herd units. PH in Bitter Creek Unit remain a concern and have been below herd objectives since 2006.	The data have been revised to reflect the 2012 WGFD numbers and citations.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Big game	O01	12	p. 3-86 says "Herd numbers can be affected by several factors…" Habitat fragmentation caused by development or simply habitat fragmentation in general is missing from this sentence. An additional sentence is needed to incorporate this factor which is a known contributor to population number impacts.	Your suggestion has been incorporated into the discussion.
WL	Big game habituation	In05, In08	85	In its description of potential impacts to wildlife species, and pronghorn in particular, the BLM does not adequately recognize that many big game species including pronghorn often habituate to spending extensive time within existing oil and gas fields. (*There is an extensive discussion in the letter with many citations.*) BLM should consider these more recent studies when preparing the Final EIS.	Thank you for your comment.
WL	Columbian sharp-tailed grouse	O03	6	No maps or analyses of impacts were presented for Columbian Sharp-tailed grouse, despite being a BLM sensitive species and occurring within the project area.	Columbian Sharp-tailed grouse was included in early versions of the Draft EIS but was removed. The cited reference was mistakenly left in the document.
WL	Crucial winter range	S04	2	WGFD recommends that final mapping for crucial winter ranges, sage grouse winter concentration areas, migration routes and parturition areas be completed within the first year after the ROD is signed. A 1/2 mile buffer around current migration 'lines' is recommended until mapping is complete.	The BLM is not responsible for mapping of migration corridors.
WL	Dust	In01	12	On Page 5-21, insects, birds, and amphibians are all noted to avoid dust and noise from roads which is speculative in nature and not supported by any scientific documentation to form the basis of the statement. The BLM should either support this claim with objective scientific documentation to remove any speculation or revise accordingly.	This potentially misleading statement has been modified in the Final EIS.
WL	Fences	S04	11	Fences that create migration issues for pronghorn should be identified through monitoring GPS-collared pronghorn and modified by industry, working with the grazing permittees.	Because industry is not generally responsible for constructing fences, they cannot be made responsible for replacing existing fencing. However, fence modification and/or replacement may be part of a habitat improvement or mitigation project, at the discretion of the Operator.
WL	Fencing	In04	51	Page 4-85, first paragraph: The problems fencing poses for wintering wildlife are discussed. This problem is an ongoing, long-term one. Energy development does not utilize large fences.	Fences complicate the ability of wildlife to accommodate the changes brought about by energy development.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Ferruginous hawks	O03	7	Impacted seasonal acreage and predicted mortalities for ferruginous hawks should have been included in the Draft EIS.	Given the number and distribution of ferruginous hawk nests in the project area, the entirety of the CD-C project area could be considered the seasonal habitat of the species. There are no data regarding the anticipated level of mortality that can be attributed to oil and gas development. Given the protections in place it is expected to be low.
WL	Fish	In01	7	Page 3-120 states that connectivity among habitats is required to carry out the life-cycles of native fishes. However, connectivity among habitats is not required to carry out the life-cycles of all native fish. Rather, fragmentation by man-made structures has been documented to affect species abundance and distribution patterns.	**Section 3.9.2.2** describes the many factors that affect these sensitive species in Muddy Creek. Connectivity among habitats in Muddy Creek is required for the life cycle of these native species, especially their long-term persistence in Muddy Creek.
WL	General	O09	2	TRCP values our fish & wildlife resources and encourages you and your staff to establish options that ensure responsible energy development in a way that sustains fish & wildlife. The TRCP's recommendations and priorities regarding management of fish and wildlife during energy development are organized under the five fundamental areas of Funding, Accountability, Coordination, Transparency and Science (FACTS). *There are several pages explaining the five areas and how to manage natural resources.*	Thank you for your comment.
WL	Golden eagle	O03	8	The Golden Eagle was inadequately addressed. The Final EIS must include discussion on anticipated impacts with each alternative, as well as mitigation measures (such as carcass removal from roads) to reduce impacts to this imperiled and federally protected species. To comply with USFWS regulations, BLM must ensure additional analysis and data collection are conducted. Finally, decisions that will impact Golden Eagles must be placed within a regional population context much larger than the project area.	The golden eagle is the second-most common raptor species known in the project area. The BLM has protective measures and COAs at its disposal that can be applied to permits for additional protection of the species.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Habitat disturbance	In01	9	Page 4-90 states that "[a]n increase in disturbance of wildlife habitat would impact all species…" (emphasis added). This statement is a narrow conclusion lacking support of objective and factual information (emphasis added). No documentation has been presented indicating that "all" species would be impacted or that the functionality of their habitats would require "long-term." APC recommends that the BLM revise this statement, and all similarly broad and unsupported conclusions, to accurately represent the facts and best available science at the time.	This sentence has been removed.
WL	Habitat manage-ment areas	O04	60	Portions of the Muddy Creek WHMA fall within the CD-C project area. Draft EIS at ES-16. The Chain Lakes WHMA falls substantially within the CD-C project area. Draft EIS at ES-16. The Chain Lakes encompass "unique alkaline wetland systems," recognized by BLM as "unique, fragile, and rare." Draft EIS at 3-34. Oil and gas development is supposed to be intensively managed in this area under the Rawlins RMP. *Id*. BLM should apply special protective measures to developments approved within these WHMAs. At minimum, the setbacks for floodplains and streams contained in Alternative B need to be applied within the Muddy Creek WHMA and elsewhere in the Muddy Creek watershed. In addition, seasonal restrictions on disruptive activities (including routine operator vehicle traffic) should apply, preventing these from happening within crucial wildlife habitats such as winter ranges and nesting areas, during their season of use.	Please see Alternative F, the Agency Preferred Alternative, which calls for intensive management of the Muddy Creek and Bitter Creek watersheds.
WL	Impact analysis	In04	52	Page 4-88, first sentence: How is the determination *High Impact* obtained, based on the information presented? Please show the analysis that supports this assertion.	The definition of High Impact (2-3 well pad locations or 20-60 acres of disturbance per square mile) and the source (WGFD) has been provided and the analysis that supports the conclusion has been outlined.
WL	Impact analysis	O12/ O13	1	The proposed project is likely to have large-scale negative impacts on wildlife and wildlife habitats. The area has critical winter range for ungulates (PH & MD) as well as core areas for sage-grouse. There should be more quantification of potential impacts and monitoring activities to ensure thresholds for impacts to winter range and migration habitats are not exceeded.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Impact analysis	O12/ O13	5	The proposed project will increase road densities within the project area 4 fold, resulting in increased habitat fragmentation. Along with the fragmentation there will be an increased demand for year round drilling, including production sites within delineated winter ranges. The EIS calls for mitigations for these impacts, but to date very little data exists to support the actual benefit of mitigations on a project of this size. This project will have drastic impacts on wildlife across the project area and this must be investigated to a much greater extent prior to accepting this EIS.	Project-specific mitigation will be implemented on case-by-case basis, and include timing and use stipulations that are designed to reduce impacts to sensitive species and specific resources.
WL	Impact analysis	O12/ O13	18	"Big game species in the area are expected to be significantly impacted" taken directly from the EIS. A statement of this poignancy in an EIS would lead the reader to believe that the BLM is unwilling to work cooperatively with the WGFD and proponents of the project to come to a compromise that would allow for extraction of minerals while not having dramatic impact on public resources, both wildlife and public lands. Especially disturbing is the acknowledgement that the Preferred Alternative will have "high impacts" on both PH and MD populations within the project area.	The impacts by alternative have been clarified. The document provides numerous discussions regarding the application of WGFD and BLM BMPs and COAs to assist in the reduction of impacts as well as additional planning requirements, especially relative to Alternative F.
WL	Impact analysis	O12/ O13	21	The RMP states that "habitat quality will be functionally maintained within the areas of overlapping big game CWR." Creating a network of roads and well pad disturbances within CWR will not allow for habitat functionality to persist. Countless studies have proven that increased development on winter ranges have detrimental effects of large ungulate populations (ex. Moxa Arch, Pinedale Anticline, Piceance Basin, etc.). This [is] especially evident when the best available data pertaining to mule deer movements and impacts to migration corridors/winter range are not being utilized in the analysis of this project. By removing all proposed well locations from scientifically validated and delineated winter ranges and migration corridors, the impacts to both the pronghorn and mule deer herds in this area would be decreased. *(see citations in letter)*.	The alternatives to the CD-C Proposed Action, including the Agency Preferred Alternative (Alternative F), were developed with the intention, among other things, of reducing habitat disturbance and habitat fragmentation.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Impact analysis	O12/ O13	28	Would like to see more of a quantification of impact especially as it relates to CWR for ungulates. WGFD would have this type of data that could be provided to BLM so this is more enforceable.	The 2102 Job Completion Reports were reviewed for data quantifying impacts. The information included generalized statements such as, "Habitat issues in this herd unit include continued gas field development, coalbed natural gas development, opening of an in-situ uranium mine with other mines proposed and possible development of shale oil. Many miles of sheep-tight fences exist in the herd unit, impeding pronghorn movements and migrations, and increasing losses during severe winters." This statement, with the citation, has been incorporated into the document.
WL	Impact analysis	In09	9	"**Wildlife.** Section 4.8 discusses multiple possible effects that development could impose on wildlife [but] does not mention the possible positive benefits to wildlife that can be provided by pipeline construction associated with oil and gas development. Williams has consulted with wildlife biologists who have stated that pipeline construction provides edge cover for some species and, thereby, has a positive effect on wildlife. Williams recommends noting this benefit within this section."	Thank you for your comment.
WL	Impact analysis	O01	1	We have serious concerns regarding the reasonably foreseeable adverse wildlife impacts from the proposed project. The Draft EIS acknowledges, but does not give sufficient analysis to, large-scale disruptions to crucial seasonal habitats for MD, PH and GSG. The Draft EIS does not answer basic questions of how much habitat will be disturbed, what consequences will ensure for wildlife and if and how disturbed ecosystems can be reclaimed.	Thank you for your comment. BLM specialists are satisfied that the impacts to wildlife and the options for minimizing and mitigating those impacts have been sufficiently considered.
WL	Impact analysis, density	O01	13	Within seasonal ranges of big game species, and particularly within CWR and yearlong ranges, BLM has failed to consider more effective means of minimizing adverse impacts. Specifically the value of or consequences to those areas of undisturbed contiguous habitat remaining within the project area, save for vague recognition of adverse consequences from indirect habitat loss (p. 4-85). BLM appears to have neglected to consider limiting well pad density to less than an extremely-dense four pads per section even within crucial winter range - a level of disturbance density far above WGFD guidelines.	Throughout the EIS, one of the driving factors in the development of alternatives and the analysis of impacts has been the need to limit the amount of surface disturbance, particularly in more valuable habitats, and to reduce the number of disturbance sites (well pads) to minimize habitat fragmentation.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Impact analysis, migratory birds	F03	17	Page 4-88, Neotropical Songbirds: The Service recommends the Final EIS include a more thorough analysis of the effects of the project to all migratory birds and identify the measures the BLM will implement to avoid or minimize negative effects to migratory birds and their habitats. If project activities requiring repeated human presence near migratory bird nests during the nesting season cannot be avoided, we recommend the BLM require the applicant submit a Service-approved migratory bird conservation plan for inclusion in the Final EIS.	The descriptions of the protections provided to upland game bird species, neotropical and other migratory bird species, and their habitats have been expanded in the Final EIS. IN particular, WY BLM IM WY-2013-005 is cited for the guidance it provides for minimizing impacts to migratory bird species.
WL	Migration corridors	O12/ O13	27	Migration corridors are mentioned in a cursory sense but there needs to be more specifics as to how Proposed Actions such as road development and also fencing may impact migration by ungulate species in the affected areas. More recent data collected by WEST Inc. stresses the importance of maintaining migration routes and possible population level impacts from large scale/long term disruption of these routes. Would like to see more specifics on how this would be addressed.	References from WEST Inc. have been reviewed and information from that source incorporated into the discussion in the Final EIS.
WL	Mitigation	O03	3	Page 2-18, 2.2.4, fourth paragraph. Undeveloped areas amount to 400 sections. These 400 undeveloped sections will become increasingly important on the landscape, serving as refugia. Implementing an avoidance first strategy will minimize or preclude declines in the species and their habitats.	Thank you for your comment. We agree the 953 sections in the low-density area will become more important to wildlife. Less than 5 percent disturbance will be allowed in these sections.
WL	Mitigation	P10	2	• Designate wildlife corridor areas for migrating animals. • Establish and post lower speed limits throughout to help wildlife • Encourage companies to pay to convert existing fences to wildlife friendly fencing. • Establish monitoring requirements for all wildlife (ungulates, birds, reptiles, insects etc.).	Thank you for your comment.
WL	Mitigation	O12/ O13	7	Water needed for the drilling process (24 to 32K barrels) should be piped to well locations from central tank locations to help reduce heavy truck traffic throughout the drilling area, reducing noise and air pollution. This is more important near sage grouse lek locations and on big game winter ranges, where increased traffic and noise pollution have been proven to be detrimental to those species during these time periods.	Thank you for your comment. On a site-specific level, piping of water will be considered. However, in some areas, the additional surface disturbance associated with burial of pipelines may lead to increased impacts to other resources.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Mitigation	O12/ O13	8	Electrical lines to production facilities should be buried to reduce perch and nesting structures for avian predators and decrease the likelihood of bird strikes, especially in areas of known SG concentrations. Lines should be buried in the existing road right-of-ways to reduce habitat degradation.	Thank you for your comment.
WL	Mitigation	O12/ O13	9	Produced water disposal should be through buried flow lines from individual well pads to a centralized collection area to reduce heavy truck traffic to wells once the drilling process is completed. By requiring this, the probability of increased mosquito densities and subsequent increased opportunity of West-Nile Disease outbreaks, a major impact to sage grouse and other native bird populations, will be decreased.	Thank you for your comment. On a site-specific level, piping of water will be considered. However, in some areas, the additional surface disturbance associated with burial of pipelines may lead to increased impacts to sage grouse and other species.
WL	Mitigation	O12/ O13	11	Along with environmental awareness training for employees, work with operators and subcontractors to enact "firearms in vehicles" rules that specify that no employees working in the project area shall possess firearms in their vehicles while working and while commuting to and from the job site. This is especially critical during the winter when animals (specifically elk and mule deer) are increasingly visible and vulnerable in winter ranges.	The BLM has no jurisdiction over the rules that are enforced by Operators on their employees.
WL	Mitigation	O12/ O13	13	Mitigations for exceeding 10% surface disturbance thresholds must be developed prior to accepting drilling plans. They should be beneficial and meaningful. The examples will have little to no value to impacted wildlife. Once winter range has been removed or excessively impacted, no amount of water developments and vegetation treatments will mitigate the impacts. Off site mitigation has yet to prove highly effective with MD and often it is much more beneficial and cost effective to protect delineated winter ranges and migration corridors than to try to artificially reconstruct these areas outside of a project area.	Thank you for your comment.
WL	Mitigation	S04	7	The WGFD recommends that the ROD maintain seasonal stipulations.	Seasonal wildlife stipulations are a requirement of the Rawlins RMP and will be maintained regardless of alternative selected.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Mule deer	O04	22	The ability of mule deer to forage effectively on winter ranges in a stress-free environment is the key to maintaining viable populations in this region. Winter mortality has claimed up to 80% of the adult mule deer population of southeastern Wyoming, and also depresses fawn production during the following spring (Strickland 1975). On winter ranges, mule deer are easily disturbed by snowmobile traffic and even nonmotorized visitors (Freddy et al. 1996). This can be a critical factor, because metabolic costs of locomotion in snow can be five times as great as normal locomotion costs for mule deer (Parker et al. 1984). Thus, due to the sensitivity of mule deer to disturbance on winter ranges and the crucial nature of winter range performance to maintaining healthy deer populations, mule deer winter ranges must be withdrawn from all road construction and development, particularly oil and gas development, which would increase the level of human disturbance on these winter ranges.	All mule deer winter ranges cannot be withdrawn from development, because most of those areas are already leased and the BLM has an obligation to allow for exploration and development of those leases by the leaseholder. Appropriate timing and use stipulations for the protection of all relevant species would be attached as conditions of approval to all APDs and right-of-way grants.
WL	Mule deer	O04	23	Timing stipulations preventing construction and drilling activities (but not production-related vehicle traffic and human activity) have long been applied to mule deer crucial winter ranges by BLM. For mule deer on the Pinedale Anticline winter ranges, subject to the same stipulation, displacement from crucial winter ranges has been total during most years. Researchers funded by BLM and industry recorded a 46% drop in mule deer populations wintering on the Pinedale Anticline winter ranges ***while seasonal stipulations were in full force and effect***, with no corresponding decline for nearby populations unaffected by gas development; populations have not rebounded to date (Sawyer et al. 2006). It appears that during especially severe winters, snow conditions force mule deer to use traditional winter ranges even if they have been subjected to heavy oil and gas development, and population losses are the result. As much as an additional 4.5% of mule deer crucial winter range (CWR) would be disturbed by this project to make way for gas fields, with a cumulative total of 6.8% of CWR disturbed, and 298 new wells drilled in these habitats. Draft EIS at 4-85. This should not be allowed without preventing all types of disruptive activities.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Mule deer	In05, In08	65	BLM indicates that mule deer habitat near Dad was generally poor and not meeting wildlife health standards. Relevance of the information is questioned since it took place over a decade ago. Is there more current and relevant information? Also the site evaluated is outside of the CD-D project area and thus not relevant.	No newer data are available. This section has been modified in the Final EIS to indicate that the data are limited and somewhat dated.
WL	Mule deer	O09	8	Local (and abroad) mule deer habitats are facing unprecedented threats from a wide variety of human-related developments. The Alternatives in the Draft EIS regarding mule deer, and other wildlife such as pronghorn antelope, must be developed so that habitats will be conserved allowing for the sustainability of said species. *Additional information including a number of impacts and citations follows in the letter.*	Thank you for your comment.
WL	Population threshold	In05, In08	87	Missing language, not consistent between pgs 2-9 and 4-92 relative to causes of big game population decline.	The exact intent of the comment is not clear but we believe that revisions to both the description of Alternative B and the impacts of Alternative B will have cleared up any discrepancy.
WL	Pronghorn	O04	21	The BLM has monitored pronghorn forage status at seven locations in the Project Area, but each appears to be very close to major highways. See Map 3.8-2. It is possible that pronghorn avoid major highways, which would mean that forage utilization by pronghorns would be underestimated and pronghorn range condition would be overestimated as a result. The pronghorn crucial winter range crowded against the north side of Interstate 80 is indicative of the Interstate blocking southward migration to more favorable winter ranges. BLM should consider the inclusion (or at least recommendation) of at least one pronghorn overpass over the Interstate, as has been done at Trapper's Point, to mitigate in part project impacts on pronghorn. It is notable that pronghorn and mule deer crucial winter ranges are clustered along the southeast boundary of the Project Area. *See* Map 3.8-7. We recommend that these lands receive special management, wherein all disruptive activities (including vehicle traffic and human presence) are suspended between November 30 and April 30, including for oil and gas operators.	Thank you for your comment. The BLM, UW, and the WGFD are currently working on a pronghorn monitoring project that will provide some insight into the effects of fluid mineral development on pronghorn. Appropriate timing and use stipulations will be attached to the approvals for all APDs and right-of-way grants for all species that require special management.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Road/well densities	S04	9	Literature (Sawyer et al. 2013) shows that there were impacts to mule deer migration in areas where road densities increased from 0.56 per square km to 1.92 per square km and well densities increased from 0.77 per square km to 2.82 per square km. Also changes occurred in migration when road and well pad densities increased. Based on this , we recommend that road densities in big game migration routes be maintained at less than or equal to 1.5 per square km and well pad densities be maintained at less than or equal to 1.86 per square km.	This study occurred in a different habitat and was limited to only 2-3 years worth of data. More studies are necessary. In addition, there is already heavy development in the CD-C project area which in most ways precludes the ability to limit road densities. Most of the major road networks have already been constructed in the project area and additional roads would consist of short access roads to individual well pads.
WL	Sage-Grouse	O03	5	Additional analyses are needed for Greater Sage-Grouse, as examination of disruptions to leks, seasonal habitats, and predicted mortalities were not performed for the alternatives. Impacts of intensified development in non-core must also be examined for core area populations.	The site-specific locations of proposed wells are not known. Sage-Grouse protective measures found in BLM IM WY-2012-19 and EO 2015-4 will be followed to minimize impacts to the species.
WL	Sage-grouse	In04	3	The Draft EIS does not provide sufficient information about how mitigation for sage grouse will align with Wyoming's Sage Grouse Conservation Strategy and Executive Order. The ROD should reflect that strategy and, therefore, the Final EIS should provide a thorough discussion of the development limitations that would be imposed in core and non-core areas.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
WL	Sage-Grouse	In04	26	Page 2-12, first full paragraph. The BLM proposes mitigation measures in Sage-grouse winter concentration areas (WCA's). We are aware that WCA data were collected as part of the EIS project. Please explain why these data are not provided or provide these data and maps and identify these WCA's within the CD-C Project Area.	Neither the BLM nor the WGFD has delineated any winter concentration areas for the CD-C project area. When such areas are delineated within the project area, the BLM will implement prohibitions of surface-disturbing and disruptive activities as described in the Rawlins RMP.
WL	Sage-Grouse	In04	53	Page 4-101, first bullet: This refers to habitat loss from dust settling on vegetation, reducing palatability and production of forbs and shrubs. No studies back up the assertions.	Please refer to the WGFD document referenced, *Recommendations for Development of Oil and Gas Resources within Important Wildlife Habitats.*
WL	Sage-Grouse	In04	54	Page 4-101, third bullet: This describes potential loss of sagebrush and understory due to over-browsing or grazing by wild ungulates, live stock, and wild horses. All three are managed. Please rewrite.	Please see the response to In04-53 above.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Sage-Grouse	In04	55	Page 4-101, fourth bullet: This needs a rewrite such that the concept becomes clear. Contiguous means: touching or connected. All wells are likely connected by a road system (and associated impact zones) and usually a pipeline (and associated impact zone). When intensity increases such that impact zones overlap, the total impact zone area decreases, it does not increase. This concept is illustrated by a well pad with 6 wells vs. six individual well pads.	Please refer to the WGFD document referenced, *Recommendations for Development of Oil and Gas Resources within Important Wildlife Habitats.*
WL	Sage-Grouse	In04	56	Page 4-101, sixth bullet: Please list these disruptive human activities.	Disruptive human activities refers to activities with a duration, pattern of occurrence, noise level, etc. that cause disruption to wildlife.
WL	Sage-Grouse	In04	57	Page 4-101, all nine bullets: Many of the bulleted items are not consistent with activities that should be allowed in non-core sage grouse areas under the Governor's EO and the Wyoming BLM's IM on sage grouse.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
WL	Sage-Grouse	S01	4	The Draft EIS appears to apply Greater Sage-Grouse habitat protections within non-core areas that are as stringent as those applied by the Governor's sage-grouse policy within core areas. The Rawlins RMP in its exception, modification, and waiver criteria has the authority to alter the constraints on oil and gas development outside the core area.	Please see **Section 2.2.7.9** of the Final EIS for a description of Greater Sage-Grouse management in the CD-C project area. Management of Greater Sage-Grouse under all alternatives will be consistent with the BLM Approved Resource Management Plan Amendments for Greater Sage-Grouse, and the Wyoming Greater Sage-Grouse Conservation Strategy.
WL	Seasonal stipulations	O12/ O13	12	Exemptions to winter range protection stipulations shall not be accepted for any reason. This level of development will have drastic impacts to both mule deer and pronghorn when combined with all other drilling plans in this area (Desolation Flats and Atlantic Rim).	In some situations, exceptions are necessary--for example, fixing erosion and installing new stormwater BMPs. However, all exceptions are looked at by both a BLM biologist and a WGFD biologist, and many factors are taken into account prior to the granting of an exception.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Stocking rates	O12/ O13	15	Prior to undertaking any water development or range improvements for livestock, especially in CWR, consultation with WGFD must be conducted. By concentrating permitted AUMs due to disturbance caused by development and insufficient reclamation, increased levels of shrub utilization will occur. This will be detrimental to wildlife, particularly PH and MD wintering within the project area. Also by increasing available water on big game winter ranges, there will be increased year round use by both wildlife and livestock, resulting in lower residual vegetation left for wintering animals. Extreme caution must be taken during development to ensure that rangelands that are disturbed and removed from allotments are met with an equal reduction in permitted AUMs to ensure that Rangeland Health Standards can still be met with increased stocking rates.	Range improvements are evaluated on a case-by-case basis by the BLM in consultation with all concerned parties, including the permittees and the WGFD.
WL	Surface disturbance	S04	8	Because of the already heavy development and indirect impacts, we recommend no more than 3% surface disturbance per 640 acres in big game crucial winter range, matching the Atlantic Rim Big Game working group drafted requirement for the east side of Hwy 789. There could be options that allow more disturbance per section if development is consolidated which would be reviewed on a case by case basis.	The Preferred Alternative (Alternative F) incorporates design features that are intended to minimize impacts to identified sensitive resources, in particular impacts to the Muddy Creek and Bitter Creek watersheds. By limiting the number of well pads to eight per section, surface disturbance should be reduced and directional drilling encouraged. A dust control plan (**Appendix P**) has been incorporated as part of Alternative F. Because this is an infill project, most road development will be limited to the construction of resource and/or local roads. The larger arterial roads have already been constructed. To aid in transportation planning, the CD/WII Transportation Plan has been updated and included (**Appendix N**) as part of Alternative F. Specific measures for the Muddy Creek watershed have been incorporated into Alternative F as design features.
WL	Sustain-ability	C03	21	Wildlife Management: Oil and gas developers are encouraged to work with the appropriate agencies to ensure that field development occurs in a manner that sustains Sweetwater County's wildlife resources.	Thank you for your comment.
WL	Wildlife passage-ways	P23	4	Interstate 80 runs through the middle of this project area. Industry could work with the Wyoming Department of Transportation to build wildlife passageways over or under the interstate, which could also benefit livestock.	Thank you for your comment. This concept is beyond the scope of the CD-C EIS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WL	Winter concentra-tion areas	In06	5	Page 2-13, first bullet, winter concentration areas. BLM should also provide the winter concentration area data collected during the EIS project or explain why the data was not provided.	Greater Sage-Grouse habitat has been removed from Alternative B. Neither the BLM nor the WGFD has delineated any winter concentration areas for the CD-C project area. When such areas are delineated within the project area, the BLM will implement prohibitions of surface-disturbing and disruptive activities as described in the Rawlins RMP.
WR-G	Baseline data	F01	6	The EPA recommends that the Final EIS identify the location of source water protection zones, sensitive aquifers, and recharge areas.	**Section 3.4.3.8** was added to discuss aquifer sensitivity and **Map 3.4-3** has been added to indicate aquifer sensitivity within the CD-C project area. Aquifer recharge is discussed in **Section 3.4.3.3**, including areas of recharge. These zones, aquifers, and areas could be affected by drilling operations or spills, which are thoroughly discussed in **Sections 4.4.2.2 and 4.4.4.1**.
WR-G	Baseline data	F01	7	Federal regulations define a USDW as an aquifer at 40 CFR Section 144.3. EPA recommends that the Final EIS identify USDWs based on this definition.	The definition of a USDW at 40 CFR Section 144.3 is used in the Draft EIS in the first paragraph of **Section 3.4.3.7** and that is the definition relied on throughout the Draft EIS. Portions of **Section 3.4.3.7** were revised to more clearly indicate that some aquifers in the project area qualify as USDWs, but may not be used as such due to their depth and the low population density within the area.
WR-G	Baseline data	F01	8	To evaluate the potential impacts of extracting gas from the Almond Formation on drinking water resources withdrawn from the Wasatch Formation, the EPA recommends that the BLM identify: the lower extent of the Wasatch formation; the distance between the Wasatch formation and the Almond formation; and any confining layers between them.	**Section 4.4.4.1, Drilling Operations**, has been revised to include a discussion which identifies the extents of the Wasatch and Almond formations as well as confining layers present between the formations.
WR-G	Injection wells	In05, In08	62	BLM indicates that there are 5 classes of injection wells permitted by EPA under its underground injection control program. BLM should update its information as EPA has recently authorized Class VI injection wells for carbon dioxide sequestration.	**Sections 3.4.4 and 4.4.4.1** have been revised to indicate six classifications for injection wells.
WR-G	Mitigation	P20	2	"Make sure that groundwater samples are collected before development begins so there is at least a baseline for comparison down the road. In my opinion we should stop drilling in the Red Desert but if the project does proceed, at least do it right."	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WR-G	Mitigation	F01	9	Six wells supply the Wamsutter public water system. There are also 1,081 groundwater wells in the area. To minimize the potential for impacts to drinking water, we recommend the following mitigation measures: 1) site gas wells at least 0.5 mile from any public water supply wells; and 2)site gas wells at least 500 feet from domestic water wells.	Within the Wamsutter drinking water source area, the BLM is aware of the locations of Wamsutter's drinking wells and considers this when reviewing APDs in the area. All public drinking water and domestic wells are considered when conducting the onsite inspection.
WR-G	Mitigation	F01	10	The EPA recommends that the BLM consider including the following measures in the Final EIS to further ensure that BLM's Onshore Oil and Gas Order No.2 protects groundwater resources: 1) a well design requirement to set surface casing and cement to a specific formation and/or depth if there are underlying USDWs; 2) a requirement for an intermediate string of casing and cement if very deep aquifers are encountered; and 3) a requirement for completion of a cement bond log on the surface and any intermediate casing for each well to verify the cement job.	Onshore Order #2 already requires that surface casing be set to a depth necessary to protect useable ground water (<10000TDS), and the RFO enforces this. Cementing is required to be run on the surface casing top to bottom. In the event that cement does not circulate to surface during the pumping job, then Cement Evaluation Logs (CELs) may be required to be run and cement remediation occur prior to beginning to drill the next section of the well. Intermediate casing (IC) is required to protect the well mechanically from deeper high pressure intervals, lost circulation intervals, and/or to protect deeper usable water aquifers. Cement circulated to surface (on surface casing cementing jobs) has been proven to be adequate indication of a good cement job. In the event that fall back occurs or cement is not observed at surface, then on an individual well basis, a remediation plan is developed with the well operator that may include CELs. This current practice is also in line with proposed rules regarding well design as related to the proposed Federal hydraulic fracturing rule. On intermediate casing cement, an operator has and will continue to be required to run CELs on the intermediate string unless cement of the intermediate casing is performed top to bottom and full cement returns are seen at the surface (no different that surface casing cementing) during the pumping of the cement job.
WR-G	Mitigation	F01	11	The EPA recommends that: 1) the BLM strongly encourage closed loop or pitless drilling of the production hole to avoid the need for injection wells and additional evaporation ponds; 2) the BLM encourage recycling and reuse of mud products and production water; and the BLM could consider requiring completion and stimulation fluids returned to the surface to be contained in tanks to avoid the need for pits.	The Preferred Alternative has identified sensitive areas that include the Muddy Creek and Bitter Creek watersheds. The use of closed-loop or pitless drilling would be required in the sensitive areas unless justification is provided by the Operator detailing why closed-loop or pitless drilling is not a feasible option. Exceptions would be granted on a case-by-case basis. Examples of exceptions include that the Operator is technologically incapable of completing a closed-loop or pitless drilling program or the target resource is not amenable to a closed loop or pitless drilling program (i.e. CBM).

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WR-G	Plan of Develop-ment	P05	1	"How will the thousands of gallons of water needed for the fracking process be disposed of?"	The majority of fracking fluids are recovered and disposed of in injection wells per the requirements of Onshore Order #7. This has been added to the Final EIS.
WR-G	Usable water	S03	3	Page 2-2, Section 2.2.1.2: With respect to the reference to *usable water* in Federal Onshore Oil and Gas Order #2, the WQD would like to clarify that all water zones or aquifers in Wyoming are considered Groundwaters of the state and should be protected and isolated using proper casing and cementing procedures.	WDEQ's comment has been noted. The term "usable water" is a direct quote from the Onshore Oil and Gas Order #2 and it cannot be changed. **Section 4.4.4.1**, Drilling Operations defines usable water and states that "To comply with the order, wells must be completed using state-of-the-art techniques, such as cementing and other proven technologies, such that usable water and unusable water do not mix.
WR-G, WR-S	Manage-ment Plan	O10	2	Trout Unlimited recommends that BLM should develop a Water Management Plan for the CD-C project that includes requirements for pre-drilling ground water surveys and surface water monitoring.	Thank you for your comment. The **Muddy Creek Watershed Monitoring Plan (Appendix O**) has been included for surface water quality monitoring. The Wyoming Oil and Gas Conservation Commission requires pre-drilling testing and the EPA and the BLM are currently formulating rules that would govern pre-drilling testing as well.
WR-S	Appendix F	S03	8	**Table F-1.** The title should be changed from *BLM range gage* to *BLM rain gage*.	The title of **Table F-1** has been changed from BLM **range** gage to BLM **rain** gage.
WR-S	Bitter Creek monitoring	In07	9	Page 4-93, Fish, third bullet. A monitoring plan for the extremely large Bitter Creek watershed appears excessive when only a very small portion of this watershed at its extreme eastern edge has the potential to be affected.	The monitoring plan for the Bitter Creek watershed applies only to the portion of the Bitter Creek watershed within the CD-C project area.
WR-S	Bitter Creek protections	C03	18	In addition, the proposed development will occur partially within the upper Bitter Creek Watershed. Since the Bitter Creek runs through the City of Rock Springs and empties into the Green River, it is important that development properly manages drainage and run off to protect water quality for the Bitter Creek's downstream users and neighbors. Also, it is important to note that the City of Rock Springs and the Sweetwater County Conservation District have been granted funds to study, restore and enhance Bitter Creek through the City of Rock Springs. These improvements emphasize the need to ensure that development within the Bitter Creek drainage addresses proper run off control and maintenance of water quality.	**Section 3.4.2.1** references the work done by the SWCCD.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WR-S	Buffer	O10	3	Trout Unlimited requests that BLM increase the avoidance buffer for riparian areas to no less than one-quarter of a mile and for ephemeral streams to a minimum of 500 feet to minimize selenium and sediment loading and to protect riparian values, particularly those related to wildlife.	Thank you for your comment. This is analyzed as part of Alternative B. In the Preferred Alternative, the Muddy Creek watershed and Bitter Creek watershed are designated as sensitive areas that would require additional mitigation measures.
WR-S	CBNG Produced Water	S03	4	Page 2-5, CBNG produced water disposal, first paragraph: Please note that any NEPA review for future surface disposal of CBNG produced water will need to consider the 303(d) listed segments of Muddy Creek.	Any future NEPA analysis of surface disposal of CBM-produced water would include the 303(d) listed segments of Muddy Creek that are part of or downstream from the CD-C project area.
WR-S	Editorial	S03	6	Page 4-24, Discharges/Spills: Change the word *authorized* to *unauthorized.*	The referenced word as written was the intent of the BLM. The discussion indicates that both the authorized discharge of hydrostatic test water, as well as the unauthorized (accidental) discharge of fluids could result in impacts to surface waters. In order to clarify this discussion, minor grammatical revisions were made to this paragraph.
WR-S	Editorial	S03	7	Page 4-25, first paragraph: Please note that Road Application Permits and Land Application Permits may also be used to permit discharge of hydrostatic test water. Please clarify what is referred to in the reference to the CWA required plan of development.	**Section 4.4.4.1** has been revised to include the additional permits which may be used to discharge hydrostatic test water. In addition, language has also been clarified with respect to CWA reference.
WR-S	Hydrostatic testing	In07	8	Page 4-24, Surface Water Impacts, paragraph 2. Authorized release of hydrostatic test water is indicated as a *main* impact; this is incorrect given the BLM authorization requirements for releases. The BLM would not allow releases that could adversely affect surface water.	The purpose of an EIS is to disclose all of the potential impacts of an action. The surface discharge of water would likely result in impacts and should be evaluated. **Section 4.4.4.1** states that the magnitude of those impacts depends on several factors, including water quality and quantity and the distance from a regulated water. **Section 4.4.4.2** states that no test water would be discharged unless such water meets State water-quality standards. As such, the authorized discharge would not likely result in significant impacts to surface water. No text was changed in response to this comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WR-S	Impact analysis	In04	43	Page 4-25, 4.4.3.1. Surface Disturbance/Sediment Loading, second paragraph: Matherne (2006) noted increased sediment production from well pad locations and confirmed that roads and well pads can provide conditions for focusing runoff and locally increasing erosion. Based on field observations, Matherne found that roads on side slopes facilitate the erosional process in three ways: (1) they cut across and collect runoff from previously established drainages; (2) where they are cut into hillsides or into the land surface, roads provide focal points for the initiation of erosion; and (3) they provide conduits for sediment transport. This study was conducted in Largo Canyon of northwest New Mexico. Drawing conclusions from the Matherne study and applying these to CD-C area is not justified.	While the Matherne study was conducted in New Mexico, the three ways that roads facilitate erosion are general in nature and are valid for the CD-C area. However, the text in **Section 4.4.4.1** has been revised to more accurately reflect the Matherne study by replacing "roads on side slopes" with "roads aligned parallel to contour".
WR-S	Impact analysis	F01	1	The Draft EIS does not appear to analyze existing data from surface water samples collected in and near the project area. The EPA recommends that the BLM discuss in the Final EIS the current water quality conditions for each water body, comparing existing conditions to existing water quality standards or other reference conditions, and presenting associated water quality trends.	Water quality and trend analysis of surface water samples taken in and near the project area are discussed in **Section 3.4.2.3** of the EIS. A discussion on the existing conditions compared to current WDEQ surface water standards has been added to **Section 3.4.2.3**, and **Tables F-7 and F-8** in Appendix F have been updated to show WDEQ surface water standards where applicable. In addition, a piper diagram showing the variations in major ion chemistry of the samples has been added to Appendix F.
WR-S	Impact analysis	F01	2	The EPA recommends that the Final EIS identify each water body within and adjacent to the project area and indicate whether WDEQ has assessed its water quality condition, and if so, summarize the results of that assessment.	**Table F-6** in Appendix F has been updated to indicate which water bodies have been assessed by WDEQ in their biennial water quality assessment reports required by the CWA. A discussion of assessment results has been included in **Section 3.4.2.4**.
WR-S	Impact analysis	F01	5	Erodible soils represent a significant source of pollutants in the project area. The EPA recommends that the Final EIS include an estimate of erosion rates for each alternative. For example, using the Water Erosion Prediction Project model (WEPP).	An erosion estimate analysis using the WEPP model was conducted for the Proposed Action as well as for each alternative. **Section 4.4.4.1** has been updated with a description of the analysis, and Appendix F presents results from the analysis as well as more detailed information on the model and site-specific inputs.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WR-S	Mitigation	P10	3	• Require water well monitoring before, during and after drilling activity. Dedicated monitoring wells should be put into place. • Require surface water monitoring before, during and after activity. • Establish buffers around natural stationary and running water. • Monitor all water wells within a mile radius of a gas well. • Establish strict produced water storage and transport guidelines. • Do not allow any evaporation ponds.	Thank you for your comment.
WR-S	Mitigation	F01	3	The Draft EIS states, Under the Proposed Action and Alternative A, total surface disturbance would be great enough that existing protection and mitigation measures would not necessarily prevent exceedance of significance levels for [degradation of water quality and potential soil loss]. In light of the existing impaired water quality and the potential for long-term sediment loading, the EPA recommends that the Final EIS and ROD discuss what will be required to assure water quality is not further impaired.	The Preferred Alternative attempts to address the unresolved resource conflicts associated with the other Alternatives. The design features of the Preferred Alternative identify the Muddy Creek and Bitter Creek watersheds as sensitive areas that would be afforded additional protections. Prior to the approval of any surface-disturbing activity, site visits will be conducted and appropriate stipulations will be required.
WR-S	Mitigation	F01	4	The EPA recommends that BLM require the following mitigation measures in the Preferred Alternative: set-back distances of 0.25 mile for springs, wells and wetlands and 0.5 mile for perennial streams within the Muddy Creek watershed; and the additional enhanced resource protection measures for the Muddy Creek watershed included as part of Alternative B.	The BLM would be unable to enforce a 0.25-mile setback on private lands adjacent to Muddy Creek. Therefore, the effectiveness of implementing such a setback on federal surface would be doubtful, as the majority of the project area is located within checkerboard, and the majority of Muddy Creek is bordered by private land. If the BLM were to require the 0.25-mile setback on BLM-administered lands, the potential for increased disturbance on private lands bordering Muddy Creek could increase. The Operators were asked for a voluntary commitment to remain at least 0.25 miles away from the edge of Muddy Creek, even on private lands. However, the Operators did not agree to this request; therefore, the ability of the BLM to locate development 0.25 miles from the edge of Muddy Creek is limited.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WR-S	Monitoring	S04	19	The Preferred Alternative should include expansion of the current monitoring on upper Muddy Creek to lower Muddy Creek. This requirement would bring lower Muddy Creek into conformance with the monitoring being done for lower upper Muddy Creek and other drainages within the Atlantic Rim project area. If the monitoring showed impacts to sensitive fish habitat, the BLM and an interagency CD-C consultation group would determine whether habitat-improvement projects should be implemented. The ROD should define who participates in the interagency CD-C consulting group. A similar monitoring plan for Bitter Creek watershed should be designed by the RFO and the interagency CD-C consulting group.	The Preferred Alternative incorporates design features that are intended to minimize impacts to identified sensitive resources, in particular impacts to the Muddy Creek and Bitter Creek watersheds. By limiting the number of well pads to eight per section, surface disturbance should be reduced and directional drilling encouraged. A dust control plan has been incorporated as part of the preferred. Because this is an infill project, most road development will be limited to the construction of resource and/or local roads. The larger arterial roads have already been constructed. To aid in transportation planning, the CD/WII Transportation Plan has been updated and included (**Appendix N**) as part of the Preferred Alternative. Specific measures for the Muddy Creek watershed have been incorporated into the preferred as design features.
WR-S	Monitoring, Muddy Creek	S03	5	Page 2-7, Enhanced Resource Protection: The WQD supports expansion of the monitoring program in upper Muddy Creek to lower Muddy Creek, notes that monitoring of erosion BMPs can clarify responsibility for any channel changes, and suggests that BLM take responsibility for the monitoring.	Thank you for your comment. A monitoring plan for the Muddy Creek watershed has been designed and is incorporated as part of the Agency Preferred Alternative as **Appendix O**.
WR-S	Muddy Creek	O04	43	BLM argues that Alternative B would not result in significant impacts to salt loading, while Alternatives C and D would exceed significance criteria for this analysis (Draft EIS at 4-37); this assertion is worthy of greater scrutiny, as Alternative B would disturb a significantly greater acreage in soils that are saline than Alternative D. We recommend adoption of a modified version of Alternative D that incorporates the stream and floodplain setbacks in Alternative B, potentially rendering such a modified Alternative D of lower impact to surface waters than the current Alternative B.	Alternative B would result in less salt loading of Muddy Creek and Red Wash, the principal contributors to the Colorado River system, because the avoidance area on federal minerals under this alternative would be increased from 500 feet to 0.25 miles, or in some cases to 0.5 miles. Surface-disturbing activity would thus be 2.5 to 5 times the distance from the water courses.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WR-S	Muddy Creek	In05, In08	61	WDEQ had identified a portion of Muddy Creek, west of Highway 789 as a threatened waterway pursuant to section 305 (b) of the CWA. A potentially contributing factor has been identified by WDEQ as O&G, particularly coalbed natural gas development. WDEQ apparently believes that CBNG [CBM] development is likely to increase in the area. Given current gas prices and the discontinuous nature of coal formations within the project area, we believe it is very unlikely there will be increased [CBM] development in the vicinity of Muddy Creek within the project area. Most operators are focusing on oil and liquids-rich gas development. BLM should update its assumptions in conjunction with WDEQ.	This EIS must adhere to existing WDEQ watershed designations and cannot make changes to those designations. It is outside the scope of this document to predict whether CBM development will occur or not; as part of the Proposed Action, the impacts associated with CBM development are discussed, regardless of its likelihood of occurring.
WR-S	Muddy Creek	In05, In08	80	The BLM indicates that WDEQ's impairment determination for the middle portion of Muddy Creek is due to livestock grazing exacerbated by accelerated oil and gas erosion associated with oil and gas activities. CD-C Draft EIS, pg. 4-23. The BLM should clarify whether the adverse impacts associated with Muddy Creek are the result of operations in the CD-C Project Area or operations in the Atlantic Rim Project Area. In recent years Devon understands there has been more oil and gas development in the Atlantic Rim Project Area near Muddy Creek than the portion of the CD-C Project Area near Muddy Creek.	The text in **Section 4.4.4.1** has been revised to add a discussion of the oil and gas development associated with the Atlantic Rim natural gas project.
WR-S	Muddy Creek	In05, In08	88	The BLM indicates that the current monitoring on the Upper Muddy Creek would be extended to the Lower Muddy Creek in the CD-C Project Area. CD-C Draft EIS, pgs. 4-92 -4-93. The BLM does not explain how or what type of monitoring is required in the Muddy Creek Area. As such, we cannot provide meaningful input or comments. The BLM has not explained who would pay for the additional monitoring requirements, how it would be administered by the BLM, or how the BLM could ensure the monitoring requirements are equitably distributed to all oil and gas operators within the Project Area. The BLM's description of Alternative B and the potential impacts are unreasonably vague.	A Muddy Creek/Bitter Creek monitoring plan has been included as **Appendix O**, which outlines the monitoring that will be undertaken by the BLM.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WR-S	Muddy/Bitter Creek	S04	15	Plans for development within the Muddy Creek and Bitter Creek watersheds should include, at a minimum, the following additional road/pipeline requirements: detailed development plans; transportation support systems; reclamation plans, including road design, culvert placement, steep slopes, etc.; design of improvements to existing roads or construction of new roads to minimize hydrologic alteration; if appropriate, decommission/reclamation of BLM roads; no new road crossings of Muddy Creek; development of specific road design criteria based upon site-specific review and including a combination of mitigation options.	Reclamation plans, road design, planned culvert placement, steep slopes, and construction of roads to minimize hydrologic alteration are already required by the Rawlins RMP and other regulations. All roads and location placements are based on site-specific review by BLM specialists, including a soil scientist, hydrologist, and civil engineer. No new road crossings of Muddy Creek is an element of Alternative B. Potential for road closure and/or reclamation is examined on a case-by-case basis, and is detailed in the Transportation Planning Technical Support Document of **Appendix N**.
WR-S	Opinion	P15	2	"Fracking has also been shown to damage water ways in contiguous and downstream areas and could easily cause harm to WY's residents."	The majority of fracking fluids are recovered and disposed of in injection wells per the requirements of Onshore Order #7. This has been added to the Final EIS.
WR-S	Plan of Development	P07	2	"...it takes thousands and thousands of gallons of water to drill each well and there are no surface streams or ponds in the Red Dessert large enough to support such a huge demand for water.	Please see **Section 2.2.7.2, Well Construction, Drilling and Completion Activities, and Section 4.4.4.1, Surface Water Use**, which state that no water would be withdrawn from surface waters of the project area for drilling wells in the CD-C project area.
WR-S	Reclamation	O10	5	With the potential for 600 wells a year, long-term reduction in productivity, and the loss of habitat, Trout Unlimited suggest that the Final EIS include a stronger reclamation analysis and that BLM find creative and substantial reclamation practices, such as a higher shrub ratio near drainages, to minimize erosion and sedimentation and assure that the area's function as habitat will not be lost forever.	Thank you for your comment. Reclamation requirements will be specified on a case-by-case basis and in sensitive areas may include more intensive requirements.
WR-S	Reserve pits	S04	20	The Preferred Alternative should require that reserve pits in the Muddy Creek and Bitter Creek watersheds be lined with BLM-approved materials.	All APDs that require BLM approval are required to incorporate pit liners into the plan of development. All pits on BLM surface ownership and BLM mineral estate that have the potential for hazardous fluids (including reserve pits) are required to be lined. Please see WY IM-2012-007 for more information on pits and pit liners.
WR-S	Selenium and salinity	S04	21	The Preferred Alternative should require no surface discharge of produced waters within the Muddy Creek and Bitter Creek watersheds to diminish loading of selenium and salinity.	No surface discharge of produced waters is anticipated in the project area. If the BLM receives a proposal for surface discharge, then it will be considered in a separate NEPA analysis. Please see updated text for clarification on treatment of produced waters.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WR-S	Significance criteria	In07	7	Pages 4-22 to 4-23, Surface Water Significance Criteria. Given the extremely low thresholds for significance criteria 2 & 6, they should be removed. Significant impacts would occur under these thresholds with any (regardless how small) increase in disturbance or runoff.	The significance criteria presented in the EIS are criteria that were used in the RMP to assess significance of impacts. Therefore, they cannot be changed.
WR-S	Surface discharge	In05, In08	78	The BLM notes that WDEQ and EPA have certain authority over the discharge of water pursuant to the CWA. CD-C Draft EIS, pg. 4-20. In the CD-C Final EIS, the BLM needs to appropriately recognize that the State of Wyoming has primacy over water quality standards, enforcement, and remediation within the State of Wyoming. The BLM should recognize that erosion and stormwater runoff are regulated by the EPA through its National Pollutant Discharge Elimination System (NPDES) program under the CWA, which is administered by the State of Wyoming. See 33 U.S.C. § 1342; 40 C.F.R. parts 122, 123. The BLM should also recognize the State of Wyoming's stormwater regulations that already require full stormwater pollution prevention plans for disturbances over one acre in size. WDEQ Rules, Chapter 2, Section 6.	The text in **Section 4.4.1** has been revised to include a discussion of water quality regulation and stormwater discharge permits.
WR-S	Water quality monitoring	C02	45	The Draft EIS should also recognize local government efforts in monitoring surface-water quality in and around the project area. CD-C Draft EIS at 3-36. LSRCD has developed and implemented a watershed plan for Muddy Creek, which includes an extensive monitoring program...The LSRCD monitors for physical, chemical and biological parameters and stream discharge at stations along the Muddy Creek, Savery Creek, and Loco Creek watersheds.	The LSRCD and its role in improvement of the Muddy Creek watershed is cited numerous times in **Section 3.4, Water Resources**.
WR-S	Water quality monitoring	C02	46	SWCCD has also developed a watershed plan, which includes a similar monitoring program to address the Bitter Creek. Bitter and Killpecker Creeks Watershed Management Plan, at 16 (June 2006) (See Attachment 3). The SWCCD watershed plan calls for monitoring and credible data collection of the water to see the effects of implementation of the plan and to focus on impacts that ground water has on bacteria and chloride levels in the Bitter Creek. Id. The watershed plan also includes a Milestone Table that sets out when certain actions will be completed as it pertains to monitoring, data collection, and other activities such as supporting soil surveys and grazing best management practices.	The text has been revised to reference the work done by the SWCCD.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
WR-S	Water quality monitoring	C02	47	Not only should the Draft EIS recognize these watershed plans, it should also ensure that the Proposed Action is consistent with the plans since they were developed by local Conservation Districts.	Please see the responses to C02-45 and 46. Alternative F, the Agency Preferred Alternative, calls for intensive management of both the Muddy Creek and Bitter Creek watersheds.
WR-S	Surface discharge, produced water	C02	44	BLM does not have the authority to regulate the surface discharge of produced waters. See CD-C Draft EIS at 2-16, 4-93, 4-103, 5-32. ("No surface discharge of produced waters within the Muddy Creek and Bitter Creek watersheds." Id. at 2-16, 4-93.) That authority rests with the EPA and the WDEQ pursuant to the Clean Water Act, 33 U.S.C. §1342, and the NPDES permit program in the regulations, 40 C.F.R. §122.1 et seq.	Reference to surface discharge of produced water has been removed from Alternative B in the Final EIS.
WR-S, WR-G	Mitigation	F01	12	The EPA recommends that the BLM consider requiring water quality monitoring prior to, during, and after the project to detect and prevent impacts to both groundwater and surface water.	On November 12, 2013 the WOGCC adopted a rule change (Chapter 3, Section 46) requiring groundwater monitoring of water sources within a 0.5-mile radius of a proposed gas well. Effective April 1, 2014, all operators are required to submit a groundwater baseline sampling, analysis, and monitoring plan with an APD. Surface water quality information is available within and near the project area from stations on the Little Snake River, four Muddy Creek locations, Lower Barrel Springs Draw, Bitter Creek, Fillmore Creek, the Chain Lakes, and Separation Creek).
WR-S, WR-G	Mitigation	F01	13	The EPA recommends that BLM identify a Preferred Alternative that includes these BLM identified measures to reduce impacts to air and water resources: 1) directional drilling (Alt. D); 2) limitations on surface disturbance (Alt. C); 3) uniform application of dust-abatement procedures during construction and drilling operations (Alt. B); 4) cluster development of production facilities (Alt. B); 5) minimize construction of new roads (Alt. B); 6) road design that minimizes surface disturbance (Alt. B); 7) reclamation of roads once production starts (Alt. B); 8) pipelines for transporting liquids offsite or installation of larger-capacity storage tanks (Alt. B); 9) improvements to existing roads or construction of new roads to minimize hydrologic alteration (Alt. B); 10) no new road crossings of Muddy Creek (Alt. B); and 11) enhanced resource protection measures for the Muddy Creek and Bitter Creek corridors/Watersheds (Alt. B).	The Preferred Alternative (Alternative F) incorporates design features that are intended to minimize impacts to identified sensitive resources, in particular impacts to the Muddy Creek and Bitter Creek watersheds. By limiting the number of well pads to eight per section, surface disturbance should be reduced and directional drilling encouraged. A dust control plan **(Appendix P**) has been incorporated as part of Alternative F. Because this is an infill project, most road development will be limited to the construction of resource and/or local roads. The larger arterial roads have already been constructed. To aid in transportation planning, the CD/WII Transportation Plan has been updated and included (**Appendix N**) as part of the Preferred Alternative. Specific measures for the Muddy Creek watershed have been incorporated into Alternative F as design features.

Table L-3. Comments and Responses, Air Quality

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Ambient Analysis	F02	11	This section talks only briefly about mid-field modeling; there should be a heading and detailed discussion of it in the Draft EIS and Air Quality Technical Support Document (AQTSD).	The discussion of mid-field modeling has been expanded and clarified in the Final EIS and the revised AQTSD.
AQ	Ambient Analysis	F02	24	Paragraph 1 requires a more complete explanation for the use of the Bulk Richardson approach to AERMOD meteorological data preparation.	Text has been added to the revised AQTSD to explain the use of the Bulk Richardson approach for AERMET.
AQ	Ambient Analysis	F04	5	Page 2, paragraph 4. Relative to previous modeling studies, CAMx simulated ozone for the CD-C analysis appears quite small given the magnitude of future estimated NOx emissions from the proposed development.	Comment noted.
AQ	Ambient Analysis	IN01	10	This incorrectly states that there are short-term 100-meter receptor grid 1-hour NO_2, 24-hour $PM_{2.5}$ and 24-hour PM_{10} exceedances. However, according to Table 4.5-12, there are only 1-hour NO_2 exceedances. This should be corrected to reflect the data in Table 4.5-12.	Modeling analyses and impacts discussions have been revised in the Final EIS.
AQ	Ambient Analysis	IN01	11	This states that there are short-term 100-meter receptor grid 1-hour NO_2, 24-hour $PM_{2.5}$, and 24-hour PM_{10} exceedances. However, the tables show that the referenced exceedances did not occur for every alternative. This should be corrected to reflect the actual data presented in the tables.	Modeling analyses and impacts discussions have been revised in the Final EIS.
AQ	Ambient Analysis	IN02	1	The near field modeling should be refined to address physical emission characteristics (stack parameters and source separation), rather than using a screening level approach that assumes that all emissions were collocated and released at grade with no plume rise. When the actual source configuration is accounted for in the modeling, predicted impacts will be substantially reduced.	Near-field modeling scenarios have been revised for the Final EIS.
AQ	Ambient Analysis	IN03	13	Page 9, paragraphs 2-5. It is recommended that BLM define ambient air based on receptor locations starting 100 meters from the edge of the drill pad and concurrently drop the 250 meter receptor network. Figure 3-1 in the comment letter presents an example of a plot plan for an 8-well pad and provides justification for the suggested approach.	Near-field modeling scenarios have been revised for the Final EIS.
AQ	Ambient Analysis	IN03	14	When considering drilling impacts followed by production impacts, establishing receptors closer than those identified for drilling (i.e., closer than 100 meters from the edge of the well pad) do not have any meaning in the context of the multi-year NO2 standard.	Near-field modeling scenarios have been revised for the Final EIS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Ambient Analysis	IN03	15	Page 11, paragraphs 2-6. It is very important for BLM to continue to address near field modeling impacts relative to the form of the 1-hour NO_2 NAAQS (National Ambient Air Quality Standards) which is expressed as the 3-year average of the 98th percentile (8th highest concentration) of the daily maximum 1-hour concentration.	Thank you for your comment.
AQ	Ambient Analysis	IN03	16	Page 11, paragraph 7 through page 14. The selection of AERMOD OLM Group ALL was an appropriate modeling method for the assessment of potential NO_2 impacts from production activities and BLM should maintain it usage.	Thank you for your comment.
AQ	Ambient Analysis	IN03	17	Page 14, paragraph 3 through page 15. BLM should retain the concept of modeling a “patch of wells” to evaluate near field air quality impacts.	Thank you for your comment.
AQ	Ambient Analysis	IN03	18	Page 15, paragraph 4 through page 20. The modeling approach for estimating NO_2 impacts from production equipment needs to be refined to better describe source characteristics in the modeling. Heaters should be modeled as a point source.	Near-field modeling scenarios have been revised for the Final EIS.
AQ	Ambient Analysis	IN03	19	Page 20, paragraph 5 through page 28. BLM needs to refine the modeling of drilling impacts followed by production impacts consistent with the form of the NAAQS.	Thank you for your comment. Near-field modeling scenarios have been revised for the Final EIS.
AQ	Ambient Analysis	IN03	20	Page 29, paragraphs 2-5. It is recommended that the comparison of particulate matter (PM) construction impacts (temporary emission sources) be deleted from the EIS. This is because the PM standards are statistically based multi-year standards.	Thank you for your comment.
AQ	Ambient Analysis	IN03	21	The document needs to be updated indicating the WAAQS (Wyoming Ambient Air Quality Standards) are now equivalent to the NAAQS.	The document has been updated as recommended.
AQ	Ambient Analysis	IN05	5	BLM suggests that it conducted "reasonable but conservative" air quality modeling. The BLM used extraordinarily conservative, virtually worst-case, modeling assumptions for the CD-C Draft EIS. In many cases, the BLM actually modeled a level of oil and gas development not contemplated by or proposed by the operators which is a significant mistake.	Thank you for your comment. Revised modeling analyses have been performed for the Final EIS.
AQ	Ambient Analysis	IN05	16	The BLM appropriately utilized AERMOD model to evaluate the near-field air quality impacts of the CD-C Project. CD-C Draft EIS, pg. 4-39.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Ambient Analysis	IN05	17	Source characterizations are important to evaluating impacts and should be explained in more detail in the AQTSD, including actual input data.	Revised modeling analyses have been performed for the Final EIS. Additional text has been added to the revised AQTSD to describe source parameters.
AQ	Ambient Analysis	IN05	20	The BLM indicates that it will be utilizing the applicable PSD (prevention of significant deterioration) increments to determine significance criteria. As already discussed, the BLM has no authority over PSD increments. This is recognized in the MOU which states that BLM NEPA documents will only identify PSD increment consumption for informational purposes only.	Your comment is accurate. The BLM's analysis of increment consumption is for informational and disclosure purposes only. Determination of adverse impacts based on exceedances of the increment is determined by the WDEQ-AQD.
AQ	Ambient Analysis	IN05	26	The assumptions for drill rig operations in the near-field modeling analyses are unreasonable. The BLM analyzed as many as 73 individual wells in a single section in a two-year period. The operators have not sought, or could they possibly drill, that amount. The BLM should not have modeled more than 16 wells in any section, consistent with WOGCC spacing regulations. That 16 wells per section assumes no existing wells have previously been drilled, as is the case in a vast majority of sections within the PA.	The near-field modeling analysis has been revised for the Final EIS. The maximum development scenario is up to 16 wells per section.
AQ	Ambient Analysis	IN05	27	The analysis is absurd because drilling operations could not and would not occur consistently for an entire 17,520 hours within a two-year period. Drilling rigs would be stopped for maintenance operations and operations would necessarily pause between each well drilled on a single location as the drilling rig is moved and retooled.	Thank you for your comment. The analysis presented provides a conservative estimate of the potential 1-hour NO_2 impacts from drilling emissions. The assumption of operating for a two-year period was used to estimate the maximum 1-hour NO_2 impacts that could occur in each year (of a two-year period), assuming a drill rig could operate on the same pad, for a period, in two different years.
AQ	Ambient Analysis	IN05	28	In section 4.5.6.1, why didn't BLM include Rocky Mountain National Park as a Class I area analyzed in the CD-Draft EIS? A CD-C-EIS map indicates that a portion of Rocky Mountain National Park is within the 4km modeling grid for the CD-C Draft EIS. The BLM must make its reasons for excluding RMNP available to the public.	AQ and AQRV impacts at RMNP have been evaluated in the Final EIS.
AQ	Ambient Analysis	IN05	29	The BLM must update/correct the information regarding the NAAQS for PM_{10} annual throughout chapter 4 of the Draft EIS. In multiple tables the BLM incorrectly suggests that the PM_{10} 24-hour standard not the annual PM_{10} standard was revoked.	This change has been made in the revised AQTSD and in the Final EIS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Ambient Analysis	IN05	30	BLM should clarify why the $PM_{2.5}$ concentrations are based on the maximum when the standard refers to the 98th percentile of the highest values, or correct the footnote if 98th percentile values were used.	This change has been made in the revised AQTSD and in the Final EIS.
AQ	Ambient Analysis	IN05	31	The BLM's near-field modeling is absolutely inaccurate and must be either completely redone and new text developed, or the BLM must clearly explain that its analysis is not an accurate description of potential development scenarios within the CD-C Project Area.	The near-field modeling analysis has been revised for the Final EIS.
AQ	Ambient Analysis	IN05	32	The BLM must explain its decision to utilize both the 250-meter receptor distance and the 150-meter receptor distance in the near-field modeling. As far as Devon is aware, there are no regulatory requirements relating to receptor distances in near-field modeling. The BLM must justify its decision to utilize both the 250 and 150 meter receptor distance.	The near-field modeling analysis has been revised for the Final EIS.
AQ	Ambient Analysis	IN05	33	The BLM must revise its near-field modeling scenarios when both drilling and construction operations are modeled. Near-field modeling assumes that up to 73 wells would be drilled consecutively within the single section over a three-year period. When two or even four rigs are analyzed, the results become even more absurd with up to 292 wells being drilled within a single section while at the same time construction and production operations are on-going. The BLM' s modeling, thus, shifts from reasonable but conservative to absolutely ridiculous. It would be virtually impossible for operators to develop 292 wells within the single section when only 16 wells can be permitted under existing WOGCC spacing requirements.	The near-field modeling analysis has been revised for the Final EIS. The maximum development scenario is up to 16 wells per section.
AQ	Ambient Analysis	IN05	34	Given the overly conservative nature of the BLM's modeling, it is inappropriate to suggest that there have been any potential violations of the NAAQS for NO_2 or PM_{10}. It is even more inappropriate for the BLM to suggest that additional mitigation measures will be necessary in order to demonstrate there will not be future exceedances. The BLM's modeling is so inaccurate it does not merit the imposition of additional mitigation measures. The BLM should not have modeled such "worst case" scenarios.	Thank you for your comment. The near-field modeling analysis has been revised for the Final EIS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Ambient Analysis	IN05	35	The BLM should review the language on page 4-65 regarding modeled impacts at 100-meter receptor distances. The text indicates that short-term concentrations were predicted to be above the one-hour N02 NAAQS, the 24-hour $PM_{2.5}$ NAAQS, and the 24-hour PM_{10} NAAQS. This information is not supported by the information in Table 4.5-14A which indicates there were no modeled exceedances for either PM_{10} or $PM_{2.5}$.	The near-field modeling analysis has been revised for the Final EIS.
AQ	Ambient Analysis	IN05	36	Formaldehyde from compressors and a gas plant are estimated, and the MEI is defined as an individual who lives 100 or 200 meters from a gas plant his full life. This is completely unrealistic, as is even the MLE with a nine-year exposure at this distance. This factor should be emphasized and not utilized to justify additional mitigation.	Thank you for your comment. The analysis is required for disclosure purposes.
AQ	Ambient Analysis	IN05	37	Flaring emissions for the 16-well production pad formaldehyde for cancer risk assessment should be labeled as very conservative, and information about the uncertainty of these emissions should be included. The BLM needs to more clearly explain the conservatisms.	The near-field modeling analysis has been revised for the Final EIS.
AQ	Ambient Analysis	IN05	38	The BLM should revise its modeling assumptions given the fact that green completions will generally be required under NSPS Subpart OOOO and flaring will be minimized. This will significantly reduce the amount of flaring which will reduce already conservatively calculated formaldehyde emissions. The overall well decline should include an estimate or correction for reduced VOC emissions, flaring, etc.	The CD-C project emission inventory was evaluated and found to be compliant with OOOO. No changes to the project emission inventory were needed as a result of the promulgation of OOOO.
AQ	Ambient Analysis	IN05	39	Formaldehyde impacts are based on compounded conservative assumptions, which include an admitted gross estimate of emissions from flaring, an overly conservative production scenario and continual flaring data, conservative modeling assumptions, a conservative distance to nearby receptors, and MLE and MEI which may not be representative of any site within one mile of the proposed sources. Some sense of the compounded conservative assumptions should be provided.	The near-field modeling analysis has been revised for the Final EIS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Ambient Analysis	IN05	40	Section 4.5.9 draws conclusions that mitigation will be a required condition based on the impacts; however, any results that point to mitigation should not be based on such conservative analyses but rather more accurate and representative analyses. Given the potential operational impact of mitigation, it would be important to investigate the impacts in more detail.	Additional mitigation measures that may be warranted will be discussed and addressed with the Operator group.
AQ	Ambient Analysis	IN05	41	The BLM must include more specific information regarding the various alternatives discussed in Draft EIS Ch. 4 to be scenarios modeled in the AQTSD. It appears the AQTSD was written entirely separate, and it is virtually impossible to clearly identify specific alternative modeling with scenarios in the AQTSD. BLM should correct this error in the Final EIS and clearly identify this.	The Final EIS text includes a discussion of which alternatives have been modeled as well as a summary of the impacts by alternative and associated compliance demonstrations.
AQ	Ambient Analysis	IN05	44	The BLM should highlight in the CD-C Final EIS the determination that the CD-C Project does not contribute to exceedances of any NAAQS, WAAQS, or CAAQS (Colorado Ambient Air Quality Standards).	Thank you for your comment.
AQ	Ambient Analysis	IN08	4	BLM suggests that it conducted "reasonable but conservative" air quality monitoring. In Samson's opinion the BLM used extraordinarily conservative, virtually worst-case, modeling assumptions for the CD-C Draft EIS. In many cases, the BLM actually modeled a level of oil and gas development not contemplated by or proposed by the operators which is a significant mistake.	A number of revisions and adjustments to modeling assumptions were made for the Final EIS revised modeling analysis to address incorrect assumptions or information.
AQ	Ambient Analysis	IN08	9	The BLM appropriately utilized AERMOD model to evaluate the near-field air quality impacts of the CD-C Project. CD-C Draft EIS, pg. 4-39.	Thank you for your comment.
AQ	Ambient Analysis	IN08	11	The BLM indicates that it will be utilizing the applicable PSD increments to determine significance criteria. As already discussed, the BLM has no authority over PSD increments. This is recognized in the MOU which states that BLM NEPA documents will only identify PSD increment consumption for informational purposes only.	The BLM does not enforce or regulate PSD increment consumption. The analysis included in the Draft EIS and Final EIS is for informational and disclosure purposes only.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Ambient Analysis	IN08	14	The assumptions for drill rig operations in the near-field modeling analyses are unreasonable. The BLM analyzed as many as 73 individual wells in a single section in a two-year period. The operators have not sought, or could they possibly drill, that amount. The BLM should not have modeled more than 16 wells in any section, consistent with WOGCC spacing regulations. That 16 wells per section assumes no existing wells have previously been drilled, as is the case in a vast majority of sections within the PA.	The near-field modeling analysis has been revised for the Final EIS. The maximum development scenario is up to 16 wells per section.
AQ	Ambient Analysis	IN08	15	The analysis is absurd because drilling operations could not and would not occur consistently for an entire 17,520 hours within a two-year period. Drilling rigs would be stopped for maintenance operations and operations would necessarily pause between each well drilled on a single location as the drilling rig is moved and retooled.	Thank you for your comment. The analysis presented provides a conservative estimate of the potential 1-hour NO_2 impacts from drilling emissions. The assumption of operating for a 2-year period was used to estimate the maximum 1-hour NO_2 impacts that could occur in each year (of a two-year period), assuming a drill rig could operate on the same pad, for a period, in two different years.
AQ	Ambient Analysis	IN08	16	In section 4.5.6.1, why didn't BLM include Rocky Mountain National Park as a Class I area analyzed in the CD-Draft EIS? A CD-C-EIS map indicates that a portion of Rocky Mountain National Park is within the 4km modeling grid for the CD-C Draft EIS. The BLM must make its reasons for excluding RMNP available to the public.	AQ and AQRV impacts at RMNP have been evaluated in the Final EIS.
AQ	Ambient Analysis	IN08	17	The BLM must update/correct the information regarding the NAAQS for PM_{10} annual throughout chapter 4 of the Draft EIS. In multiple tables the BLM incorrectly suggests that the PM_{10} 24-hour standard not the annual PM_{10} standard was revoked.	This has been corrected in the Final EIS.
AQ	Ambient Analysis	IN08	18	The BLM's near-field modeling is absolutely inaccurate and must be either completely redone and new text developed, or the BLM must clearly explain that its analysis is not an accurate description of potential development scenarios within the CD-C Project Area.	The near-field modeling analysis has been revised for the Final EIS.
AQ	Ambient Analysis	IN08	19	The BLM must explain its decision to utilize both the 250-meter receptor distance and the 150-meter receptor distance in the near-field modeling. As far as Samson is aware, there are no regulatory requirements relating to receptor distances in near-field modeling. The BLM must justify its decision to utilize both the 250 and 150 meter receptor distance.	The near-field modeling analysis has been revised for the Final EIS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Ambient Analysis	IN08	20	The BLM must revise its near-field modeling scenarios when both drilling and construction operations are modeled. Near-field modeling assumes that up to 73 wells would be drilled consecutively within the single section over a three-year period. When two or even four rigs are analyzed, the results become even more absurd with up to 292 wells being drilled within a single section while at the same time construction and production operations are on-going. The BLM' s modeling, thus, shifts from reasonable but conservative to absolutely ridiculous. It would be absolutely impossible for operators to develop 292 wells within the single section when only 16 wells can be permitted under existing WOGCC spacing requirements.	The near-field modeling analysis has been revised for the Final EIS.
AQ	Ambient Analysis	IN08	21	Given the overly conservative nature of the BLM's modeling, it is inappropriate to suggest that there have been any potential violations of the NAAQS for N02 or PM_{10}. It is even more ridiculous for the BLM to suggest that additional mitigation measures will be necessary in order to demonstrate there will not be future exceedances. The BLM's modeling is so inaccurate it did not merit inclusion in the EIS and certainly does not merit the imposition of additional mitigation measures. The BLM should not have modeled such "worst case" scenarios.	Thank you for your comment. The near-field modeling analysis has been revised for the Final EIS.
AQ	Ambient Analysis	IN08	22	The BLM should review the language on page 4-65 regarding modeled impacts at 100-meter receptor distances. The text indicates that short-term concentrations were predicted to be above the one-hour N02 NAAQS, the 24-hour $PM_{2.5}$ NAAQS, and the 24-hour PM_{10} NAAQS. This information is not supported by the information in Table 4.5-14A which indicates there were no modeled exceedances for either PM_{10} or $PM_{2.5}$.	The near-field modeling analysis has been revised for the Final EIS.
AQ	Ambient Analysis	IN08	25	The BLM should highlight in the CD-C Final EIS the determination that the CD-C Project does not contribute to exceedances of any NAAQS, WAAQS, or CAAQS.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Ambient Analysis	O15	2	Comment Attachment, pages 4-16. BLM's Analysis Predicts Significant Air Quality Impacts. Ozone, NO_2, particulate matter, HAPs, Visibility, and Ecosystem impacts from the proposed development are significant.	The Final EIS includes a revised modeling analysis for both the near-field and far-field impacts. Air quality impacts from the CD-C project that are deemed to be adverse or significant as determined by technical experts from the EPA, USFS, NPS, and Wyoming Department of Environmental Quality – Air Quality Division (WDEQ-AQD) will be addressed and appropriate mitigation will be determined for inclusion in the ROD.
AQ	Ambient Analysis	O15	3	Comment Attachment, pages 16-18. BLM's air quality modeling analysis does not assure the Prevention of Significant Deterioration (PSD) air quality requirements are met.	The CD-C project is not subject to PSD air quality requirements. A PSD analysis was performed for informational purposes only and showed that the PSD increments were not exceeded at any Class I or sensitive Class II area within the 4 km domain. PSD air quality regulations are administrated by the WDEQ-AQD. The applicability of and compliance with these regulations are assessed by that agency prior to development.
AQ	Ambient Analysis	O15	5	Comment Attachment, pages 24-26. The approach used to determine short term NO_2 and $PM_{2.5}$ impacts is flawed.	Thank you for your comment.
AQ	Ambient Analysis	O15	6	Comment Attachment, pages 26-27. The NO_2 and $PM_{2.5}$ background concentrations used in the Draft EIS are not representative.	Background concentrations used were developed in coordination with WDEQ-AQD and other stakeholders, and were intended to reflect pollutant concentrations not impacted by regional industrial activity, since that activity was being explicitly modeled in the analysis.
AQ	Ambient Analysis	O15	7	Comment Attachment, pages 27-29. The Draft EIS fails to consider secondary formation of $PM_{2.5}$.	The Draft EIS does consider secondary formation of $PM_{2.5}$. The far-field analysis used the CAMx air quality model, which explicitly simulates the formation of $PM_{2.5}$ from its precursors (i.e. secondary $PM_{2.5}$) as well as the transport and fate of $PM_{2.5}$. See http://www.camx.com for a complete description of the model.
AQ	Ambient Analysis	O15	9	Comment Attachment, page 30. Upper air sounding data used as input to the AERMOD modeling analysis may not be representative of conditions in the project area.	The Riverton Wyoming upper air sounding data are representative for the project area. The Riverton site is the closest site to the project area and was deemed acceptable by members of the interagency review team during development of the analysis.
AQ	Ambient Analysis	O15	12	Comment Attachment, pages 38-39. The far-field modeling should include additional designated wilderness areas that could be affected by the proposed development.	In the final CAMx modeling, air quality and AQRV impacts were evaluated at all Class I/sensitive Class II areas within a 200 km radius of the CD-C project area.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Ambient Standards	IN01	5	On December 19, 2012, the Wyoming Ambient Air Quality Standards (WAAQS) were revised to be identical to the National Ambient Air Quality Standards (NAAQS). Tables throughout Chapters 3 and 4 of the Draft EIS and Chapter 3 of the Air Quality TSD should be revised to reflect this change. Pages 4-46 through 4-65 of the Draft EIS and pages ES-11 and 3-9 through 4-27 of the TSD should be revised to include the term WAAQS in the 1-hour NO_2 and 24-hour $PM_{2.5}$ discussions, and remove all WAAQS 24-hour PM_{10} discussions.	This has been corrected in the revised AQTSD and Final EIS.
AQ	Analysis Area	O10	4	Assessments from air quality emissions must include the outlying ecosystems which will be affected by increased emissions. Populations of Colorado River cutthroat trout exist within higher elevations and in isolated outreaches of the Muddy Creek watershed and in the Medicine Bow National Forest in Class I air sheds east of the CD-C project location. The Final EIS must include a more comprehensive and cumulative impact analysis that includes this information.	Thank you for your comment.
AQ	Analysis Area	O11	1	Using the area identified on the Draft EIS project map as the “Central Area” as the center of project air emissions, the line-of-sight distances from that center to communities included in the analysis – Green River (84 mi) and Rock Springs (66 mi) – are greater than or equal to Encampment/Riverside and Saratoga (56 and 63 mi, respectively) which are not included. Our communities are downwind and located in the first low-lying valley where atmospheric inversions could develop, potentially trapping and concentrating hazardous air pollutants.	This has been corrected in the revised AQTSD and Final EIS.
AQ	Analyzed Scenarios	F01	5	In order to understand the impacts of the alternatives evaluated in the EIS, the Final EIS should identify which modeled scenarios represent which of the alternatives. Several of the operating scenarios predict exceedances of the NAAQS ($PM_{2.5}$, PM_{10}, and NO_2), and it is not clear within the Draft EIS and AQTSD how those scenarios relate to the Proposed Action and other action alternatives.	The Final EIS text includes a discussion of which alternatives have been modeled and also includes a summary of the impacts by alternative and associated compliance demonstrations.
AQ	Analyzed Scenarios	F01	6	The modeling analysis for any scenarios that would be part of the Preferred Alternative should demonstrate that adverse air quality impacts can be avoided.	Mitigation measures will be identified and included in the ROD based on impacts disclosed for the air quality analysis in the FEIS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Analyzed Scenarios	F01	7	The gas plant and compressor station were modeled individually. The Final EIS should explain that these sources will not be collocated, and therefore, there will not be overlapping impacts associated with these two facilities.	Text has been added to the revised AQTSD to describe that these sources would not be constructed in close proximity to each other. The Final EIS explains that the gas plant and compressor station are not collocated and were modeled independently.
AQ	ANC	F02	4	Decreasing ANC reported in the cumulative analysis is presented as an improvement in the lakes' condition, when in fact a reduction in ANC causes deterioration of a lake's chemistry.	Language regarding acid neutralizing capacity (ANC) impacts has been corrected and clarified in the Final EIS and revised AQTSD.
AQ	ANC	F02	5	The Draft EIS discussion of changes in ANC is inconsistent, with ANC interpreted differently at various points in the text.	Language regarding ANC impacts has been corrected and clarified in the Final EIS and revised AQTSD.
AQ	ANC	F02	9	In paragraph 4, the definition for change of very sensitive lakes is not correct; it should say that a change in ANC of > 1 ueq/l is not acceptable. This applies throughout the analysis.	Language regarding ANC impacts has been corrected and clarified in the Final EIS and revised AQTSD.
AQ	ANC	F02	13	Paragraph 2 is not consistent with AQTSD Table 4-93. Also, the limit of acceptable ANC change is no more than 1 ueq/l for very sensitive lakes.	This change has been made in the revised AQTSD.
AQ	ANC	F02	14	Paragraph 4 is not consistent with AQTSD Table 4-93.Also, the limit of acceptable ANC change is no more than 1 ueq/l for very sensitive lakes.	This change has been made in the revised AQTSD.
AQ	ANC	F02	15	Paragraph 5 is not consistent with AQTSD Table 4-93. Also, the limit of acceptable ANC change is no more than 1 ueq/l for very sensitive lakes.	This change has been made in the revised AQTSD.
AQ	ANC	F02	16	Paragraph 4 is not consistent with AQTSD Table 4-93. Also, the limit of acceptable ANC change is no more than 1 ueq/l for very sensitive lakes.	This change has been made in the revised AQTSD.
AQ	ANC	F02	18	Paragraph 3 is not consistent with AQTSD Table 4-93. Also, the limit of acceptable ANC change is no more than 1 ueq/l for very sensitive lakes.	This change has been made in the revised AQTSD.
AQ	ANC	F02	21	Referenced section in AQTSD cannot be found. Also, the statement in paragraph 1 is not reflective of Table 4-93 which shows five lakes with more than 10% change, and the two very sensitive lakes with changes of -3.37 to -5.57 ueq/l. Decreasing ANC is not a good thing.	Language regarding ANC impacts has been corrected and clarified in the Final EIS and revised AQTSD.
AQ	ANC	F02	33	The definition for the very sensitive lakes threshold is correct here, but elsewhere in the Draft EIS and AQTSD it is incorrect; see comment 13 on Draft EIS.	Language regarding ANC impacts has been corrected and clarified in the Final EIS and revised AQTSD.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	ANC	F02	34	Contrary to paragraph 2, a negative change in ANC is not an improvement and a change of > 1 ueq/l is not acceptable in very sensitive lakes. Please revisit this analysis.	Language regarding ANC impacts has been corrected and clarified in the Final EIS and revised AQTSD.
AQ	ANC	F02	35	Table 4-92 and 4-93. ANC decreasing is not a positive thing. The equation in paragraph 1 is not correctly stated, and indicates that projected changes in ANC would exceed the limit of acceptable change.	Language regarding ANC impacts has been corrected and clarified in the Final EIS and revised AQTSD.
AQ	ANC	F02	36	Thresholds are misinterpreted in the last paragraph; the limit of acceptable change for sensitive lakes is 1 ueq/L, a change of < 1 ueq/l is considered to be acceptable.	Language regarding ANC impacts has been corrected and clarified in the Final EIS and revised AQTSD.
AQ	ANC	F02	37	See comment 36.	Language regarding ANC impacts has been corrected and clarified in the Final EIS and revised AQTSD.
AQ	ANC	F02	42	For lakes with ANC values of 25 ueq/l and less the threshold of acceptable change is 1 ueq/l, not "no further decrease".	Language regarding ANC impacts has been corrected and clarified in the Final EIS and revised AQTSD.
AQ	Applicable Regulations	IN01	6	Page 3-52 contains a bulleted list of regulations and standards that are relevant to the project air impact analysis. APC requests that Chapter 6 of the Wyoming Air Quality Standards and Regulations (WAQSR) and National Emission Standards for Hazardous Air Pollutants (NESHAPS) are added to the list of relevant standards and regulations.	These have been added to the list of relevant standards and regulations.
AQ	Applicable Regulations	IN01	7	APC requests that the bullet list be revised to include Subpart OOOO – Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution.	NSPS, Subpart OOOO has been added to the list of NSPS.
AQ	Applicable Regulations	IN01	9	Please add to the discussion that the WDEQ-AQD regulates emissions through the Oil and Gas Permitting Guidance that emissions are also regulated through WAQSR Chapter 5, Section 2: Construction Permits.	WAQSR Chapter 5 is entitled “National Emissions Standards: and Chapter 2 incorporates by reference federal NSPS. A reference to that WAQSR section has been added in the discussion of NSPS in Draft EIS Chapter 3, Section 3.5.2.4. Construction permitting regulated through WAQSR Chapter 6 Section 2 is described in Draft EIS Section 3.5.2.
AQ	Applicable Regulations	IN05	13	BLM has failed to identify 40 CFR 60 Subpart OOOO. Not only should BLM identify this regulation, they must include in all of its future modeling the reductions in emissions that will be implemented as a result of this rule.	NSPS, Subpart OOOO was promulgated after the Draft EIS and AQTSD were written. OOOO has been added to the listed of NSPS in the final version of the document. No changes were required to the CD-C Project inventory as a result of OOOO.
AQ	Applicable Regulations	IN05	14	The text on page 3-58 of the CD-C Draft EIS duplicates for JJJJ the text regarding subpart KKKK.	This change has been made in the Final EIS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Applicable Regulations	IN10	3	In 2012 EPA promulgated New Source Performance Standard, Subpart OOOO – Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution. Subpart OOOO should be added to the list of applicable NSPS. Also, it should be noted NSPS ARE applicable to the CD-C project, rather than POTENTIALLY applicable.	NSPS, Subpart OOOO has been added to the list of NSPS.
AQ	AQTSD	IN01	1	The Draft EIS states that more than 4,400 wells have already been drilled in the CD-C project area. However, pages ES-1 and 1-1 of the Air Quality Technical Support Document (TSD) states that there were 2,454 existing wells in 2008. A consistent and accurate statement is needed in both places.	This has been corrected in the Final EIS and AQTSD.
AQ	AQTSD	IN05	45	Devon recognizes and appreciates the substantial amount of technical work and collaborative deliberation that BLM, WDEQ, and stakeholders have put into the AQ effort.	Thank you for your comment.
AQ	AQTSD	IN05	46	The near-field modeling should be withdrawn, recharacterized with a thorough understanding of the compound conservative assumptions, or further analyzed. The adverse results depicted in the modeling analysis should not be used to require mitigation efforts without additional clarification or refinement of the emissions, more accurate modeling, and establishing threshold that have been adopted for evaluation.	The near-field modeling analysis has been revised for the Final EIS.
AQ	AQTSD	IN05	47	The BLM should correct the information included throughout the AQTSD regarding proposed CBNG wells. The BLM continues to suggest that up to 900 CBNG wells may be developed, despite the fact the operators reduced the number of CBNG wells from 900 to 500 in 2007.	CNBG well projections have been revised in the Final EIS.
AQ	AQTSD	IN05	48	Devon appreciates that the BLM partially recognizes that the WDEQ has authority over air quality emissions related to oil and gas development.	Thank you for your comment.
AQ	AQTSD	IN05	49	The BLM should more clearly explain to members of the pubic, in language the public will understand, the conservative nature of the modeling performed by the BLM for the CD-C Project Area. Devon encourages the BLM to explain throughout the air quality analysis that the estimated impacts from the CD-C Project are likely extraordinarily overestimated because of BLM's "conservative" analysis. However, much of the BLM's analysis ceases to be "conservative" and is simply unsupportable.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	AQTSD	IN05	50	In order to ensure future defensibility, the BLM should specifically identify each of the stakeholders and clearly state in the AQTSD that every stakeholder had an opportunity to review and approve the modeling assumptions and decisions made throughout this document. In past litigation, the involvement of the AQ stakeholders has been critical to a reviewing court's deference to the BLM's analysis.	Members of the Interagency Review Team (air quality stakeholders group) are identified in the revised AQTSD. The revised AQTSD describes that each stakeholder had an opportunity to review and comment on the methodologies and modeling results.
AQ	AQTSD	IN05	51	The BLM should replace Figure 1-1 in the AQTSD with Map 1-1 from the CD-C Draft EIS because Figure 1-1 in the AQTSD is actually a map of the BLM's proposed Alternative C.	This has been corrected in the final version of the document.
AQ	AQTSD	IN05	52	In section 1.1.2 of the AQTSD, the BLM incorrectly suggests that the Great Divide Resource Management Plan from 1990 still governs operations within the CD-C Project Area. The BLM issued a new RMP for the Rawlins Field Office in December 2008, and this should be corrected in the Final EIS.	This has been corrected in the final version of the document.
AQ	AQTSD	IN05	53	The BLM appropriately utilized AERMOD model to evaluate the near-field air quality impacts of the CD-C Project.	Thank you for your comment.
AQ	AQTSD	IN05	54	The BLM notes that in April of 2009 that Governor of Wyoming recommended to the EPA that Sublette County and portions of Lincoln and Sweetwater Counties, Wyoming be designated as non-attainment areas. The BLM should indicate that EPA finalized this designation in April and May 2012.	This has been updated in the Final EIS.
AQ	AQTSD	IN05	55	The BLM partially acknowledges the conservative nature of its modeling and its lack of clear scientific consensus on the formaldehyde emissions from oil and gas flares. Devon encourages the BLM to determine whether a more appropriate standard exists. The BLM should far more clearly and adequately explain that the BLM's modeling assumptions extraordinarily overestimate potential impacts to ozone and the near-field estimates of formaldehyde concentrations and cancer risks given the overly conservative nature of the BLM's modeling.	The assumption of 20 percent by weight formaldehyde (from the EPA Speciate database), although likely a conservative value, was used in lieu of any representative field specific data. The near-field modeling has been revised for the Final EIS.
AQ	AQTSD	IN05	56	BLM should also not attempt to impose mitigation measures or other controls on future operations within the CD-C Project Area given the overly conservative nature of its modeling.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	AQTSD	IN05	57	VOC emissions in particular are likely overly conservative given EPA's recent New Source Performance Standards for oil and gas operations. These standards will significantly reduce future VOC and NOx emissions by requiring low-bleed pneumatics, green completions, and other controls on oil and gas operations.	NSPS, Subpart OOOO was promulgated after the Draft EIS and AQTSD were written. OOOO has been added to the list of NSPS in the final version of the document. No changes were required to the CD-C project inventory as a result of OOOO.
AQ	AQTSD	IN05	58	The BLM should also consider the new emission standards for Reciprocating Internal Combustion Engines that were issued in January of this year.	All applicable new emissions standards have been considered in the project emissions inventory.
AQ	AQTSD	IN05	59	For the regional emission inventories, condensate and gas production for existing wells declined by about 70 percent in 2037 but the number of wells declined by only about 26 percent. The methodology calculates future VOC emissions and emissions from venting and pneumatics based on the number of wells, or 26 percent reduction; and the VOC emissions from dehydrating units declines by about 40 percent. The conservative nature of this well VOC calculation should be emphasized because any wells that are re-worked or modified through additional completions or hydraulic fracturing operations would trigger additional controls for compliance with WY BACT and NSPS OOOO.	The RFD documentation section has been revised. RFD emissions have been updated for the Final EIS modeling.
AQ	AQTSD	IN05	60	The BLM must explain why the VOC emission inventory developed for this project was arbitrarily increased by the WDEQ by 3 percent. The BLM and the WDEQ must have a scientifically valid and justified reason for this arbitrary increase. Absent such information, the increase appears arbitrary and undermines the quality of the analysis contained in the Draft EIS.	During development of the 2005, 2006, and 2008 Southwest Wyoming Oil and Gas emissions inventories, VOC emissions were adjusted to account for working and breathing losses from well site tanks. This adjustment is valid, as these emissions were not accounted for in early versions of the inventories, and it resulted in an approximate 3% increase in VOC emissions.
AQ	AQTSD	IN05	61	The BLM must provide significant additional information justifying the RFD emissions for the 4km grid for 2022 as the projects identified by the BLM are not consistent with the rest of the RFD projects identified in Table 5.0-1 of the Draft EIS. The BLM should simply explain its rationale if there is a justifiable reason. This is particularly important because the BLM identifies all these natural gas projects in chapter 5 of the Draft EIS.	The RFD documentation section has been revised. RFD emissions have been updated for the Final EIS modeling.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	AQTSD	IN05	62	The BLM elected to evaluate drilling rigs with EPA Tier 0, Tier 2 and Tier 4 engines. The BLM's model included Tier 0 engines despite the fact the operators agreed to utilize only Tier 2 drilling rigs or better. Analyzing and presenting information regarding activities that are inconsistent with the Proposed Action is not only a waste of BLM's time and resources. It also may serve to confuse the public. The BLM should not have modeled actions that are inconsistent with future development plans.	At the time of the Draft EIS modeling there was no commitment by operators to not use Tier 0 rigs. The Final EIS modeling has been revised to include Tier 2 and Tier 4 engines.
AQ	AQTSD	IN05	63	The BLM should justify, and provide scientific information supporting, its decision to analyze receptors at both the 100 meter and 200 meter positions. The BLM's analysis at the 250 meter location did not identify potential NAAQS violations while the 100 meter receptor modeling did.	The near-field modeling analysis has been revised for the Final EIS.
AQ	AQTSD	IN05	64	An accurate characterization of the Proposed Action including the most dense development that is proposed, needs to be modeled as accurately as it can be represented, and stack and source parameters included as accurately as possible.	The near-field modeling analysis has been revised for the Final EIS.
AQ	AQTSD	IN05	65	It would not be reasonable or appropriate for the BLM to utilize a distance less than 100 meters from an active drilling operation. Devon and other operators have strict safety protocols that prohibit members of the public from entering the actual drilling location or the area within 100 to 200 meters of the drilling location.	The near-field modeling analysis has been revised for the Final EIS.
AQ	AQTSD	IN05	66	The drilling scenarios description and figures appear to be inconsistent and mislabeled. The detailed data in Appendix L used to develop modeling results, should reflect exactly which scenarios are being modeled. It is virtually impossible for even experienced AQ experts and NEPA practitioners to understand the analysis. BLM should identify each drilling scenario so they may be understood by the public.	The near-field modeling analysis has been revised for the Final EIS.
AQ	AQTSD	IN05	67	The near-field modeling analyses for construction and drilling operations are entirely unsupportable and must be completely revised by the BLM. There is no justifiable reason to model a multi-well pad with 32 wells in production or provide results for a drilling scenario that is not reasonably foreseeable.	The near-field modeling analysis has been revised for the Final EIS. The maximum development scenario is up to 16 wells per section.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	AQTSD	IN05	68	The assumption for drill rig operations in the near-field modeling analysis is unreasonable. The BLM modeled a drill rig for a full 8,760 hours per year for a combined total of 17,520 hours in each of the modeled scenarios. 73 individual wells drilled within a two year period is unreasonable because no more than 16 wells can be drilled in an entire section. Further, could not occur consistently for an entire 17,520 hours within a two year period; rather they would be stopped for maintenance operations and in between individually drilled wells. BLM also assumed that construction operations and existing wells could be producing at the same time 73 new wells are drilled. Such a level of development is just not possible.	Thank you for your comment. The analysis presented provides a conservative estimate of the potential 1-hour NO_2 impacts from drilling emissions. The assumption of operating for a two-year period was used to estimate the maximum 1-hour NO_2 impacts that could occur in each year (of a two-year period), assuming a drill rig could operate on the same pad, for a period, in two different years.
AQ	AQTSD	IN05	69	The BLM analysis effectively assumes that 292 wells could be drilled in a single section within a three-year period. That would effectively require operators to develop one well every 2.19 acres, a level of development not contemplated or experienced anywhere within North America, and certainly not in the CD-C Project Area. The BLM's near-field analysis exceeds reasonable development by such a degree that Devon believes the BLM must eliminate all of the scenarios in which more than 16 wells could be drilled in a single section.	The near-field modeling analysis has been revised for the Final EIS. The maximum development scenario is up to 16 wells per section.
AQ	AQTSD	IN05	70	The suggestion that additional mitigation must be required from the operators in order to prevent the modeling exceedances demonstrated by the BLM's ridiculous modeling scenarios is unsupported. Additional mitigation should only be required if reasonable drilling scenarios demonstrate potential exceedances, which is not the case for the CD-C Project.	Thank you for your comment. The near-field modeling analysis has been revised for the Final EIS.
AQ	AQTSD	IN05	71	The assumption that construction operations would continue for two full years is unsupportable. The average well pad and access road requires only three to seven days depending on topography. Even if 16 well pads were constructed in the same year within any particular section, at most construction operations would require approximately 112 days. Further, construction operations do not occur 24-hours a day as construction does not occur after dark. Once again the BLM's modeling has passed from "reasonable but conservative" to wildly outrageous.	The near-field modeling analysis has been revised for the Final EIS. The Draft EIS modeling and the Final EIS modeling assume that well pad and access road construction occur during daytime hours only.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	AQTSD	IN05	72	The hazardous air pollutants impact assessment is overly conservative, modeling a scenario where up to 32 wells would be located on a single pad within a single section. This level of development had neither been requested by the operators nor authorized by the WOGCC. As such, the scenario is not reasonable and it was inappropriate for the BLM to analyze this level of development or present information in the EIS.	The near-field modeling analysis has been revised for the Final EIS. The maximum development scenario is up to 16 wells per section.
AQ	AQTSD	IN05	73	The use of overly conservative modeling assumptions should not be utilized to justify additional HAP mitigation measures.	The near-field modeling analysis has been revised for the Final EIS. The maximum development scenario is up to 16 wells per section.
AQ	AQTSD	IN05	74	The BLM should add additional language to clarify the information presented in Figure 4-5 which indicates an increase in 1-hr NO_2 within the Project Area. The AQTSD indicates this is due to EGUs and oil and gas sources; however, EGU and trona emissions are likely to be reduced to regional haze controls. As a result, 1-hr NO_2 and N deposition model results are overestimated.	Thank you for your comment.
AQ	AQTSD	IN05	75	Ozone modeling discussion is generally excellent and the BLM's own analysis demonstrates that the CD-C impacts itself are very low, and are particularly low on days that have the higher background related to non-CD-C Project impacts. The analysis needs to emphasize that impacts to the Jonah Pinedale non-attainment area are negligible.	The analysis in the AQTSD describes that impacts to the Sublette County, which includes the JPAD area, are minimal.
AQ	AQTSD	IN05	76	The visibility analysis indicates that the CD-C Project will have virtually no impact on visibility within the region. All impacts are less than 1 dv under the FLAG analysis and only 1 dv above the 1.0 dv using the BLM' s analysis. The BLM should not attempt to impose mitigation measures in order to protect visibility within the area.	Thank you for your comment.
AQ	AQTSD	IN05	77	The analysis assumes there is virtually unlimited ammonia in the atmosphere to convert SO3 and NO3 ions into sulfate and nitrate. The analysis should use/reference CAMx ammonia levels, especially for winter months. BLM should note that degradation because of sulfate and nitrate ions are not always completely neutralized by ammonia.	Unlike CALPUFF, CAMx does not use reference levels for ammonia, but predicts ammonia concentrations for each grid cell. An ammonia emission inventory was prepared as an input to CAMx, and the model explicitly simulates the transport, chemical transformation and fate of ammonia. Although CAMx does explicitly model ammonia, there is considerable uncertainty in the emissions and modeled values, so we assume complete neutralization.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	AQTSD	IN05	78	The BLM has not adequately explained its description of potential mid-field impacts. There is almost no detail how the mid-field impacts were calculated or what they represent. What information is the BLM trying to convey with the mid-field analyses? How is it defined? What standards were utilized? As far as Devon is aware there are no mid-field modeling requirements or standards that have been developed by the EPA or WDEQ. The BLM should clearly define where the mid-field receptors were located and why such information may be important to the public.	The discussion of mid-field modeling has been expanded and clarified in the Final EIS and the revised AQTSD.
AQ	AQTSD	IN08	26	The BLM should correct the information included throughout the AQTSD regarding proposed CBNG wells. The BLM continues to suggest that up to 900 CBNG wells may be developed, despite the fact the operators reduced the number of CBNG wells from 900 to 500 in 2007.	CBNG well projections have been revised in the Final EIS.
AQ	AQTSD	IN08	27	Samson appreciates that the BLM partially recognizes that the WDEQ has authority over air quality emissions related to oil and gas development.	Thank you for your comment.
AQ	AQTSD	IN08	28	The BLM should more clearly explain to members of the pubic, in language the public will understand, the conservative nature of the modeling performed by the BLM for the CD-C Project Area. Samson encourages the BLM to explain throughout the air quality analysis that the estimated impacts from the CD-C Project are likely extraordinarily overestimated because of BLM's "conservative" analysis. However, much of the BLM's analysis ceases to be "conservative" and is simply unsupportable.	Thank you for your comment.
AQ	AQTSD	IN08	29	In order to ensure future defensibility, the BLM should specifically identify each of the stakeholders and clearly state in the AQTSD that every stakeholder had an opportunity to review and approve the modeling assumptions and decisions made throughout this document. In past litigation, the involvement of the AQ stakeholders has been critical to a reviewing court's deference to the BLM's analysis.	Members of the Interagency Review Team (air quality stakeholders group) are identified in the revised AQTSD. The revised AQTSD describes that each stakeholder had an opportunity to review and comment on the methodologies and modeling results.
AQ	AQTSD	IN08	30	The BLM should replace Figure 1-1 in the AQTSD with Map 1-1 from the CD-C Draft EIS because Figure 1-1 in the AQTSD is actually a map of the BLM's proposed Alternative C.	This figure has been replaced in the revised AQTSD.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	AQTSD	IN08	31	In section 1.1.2 of the AQTSD, the BLM incorrectly suggests that the Great Divide Resource Management Plan from 1990 still governs operations within the CD-C Project Area. The BLM issued a new RMP for the Rawlins Field Office in December 2008, and this should be corrected in the Final EIS.	This change has been made in the revised AQTSD.
AQ	AQTSD	IN08	32	The BLM appropriately utilized AERMOD model to evaluate the near-field air quality impacts of the CD-C Project.	Thank you for your comment.
AQ	AQTSD	IN08	33	The BLM notes that in April of 2009 that Governor of Wyoming recommended to the EPA that Sublette County and portions of Lincoln and Sweetwater Counties, Wyoming be designated as non-attainment areas. The BLM should indicate that EPA finalized this designation in April and May 2012.	This has been updated in the Final EIS.
AQ	AQTSD	IN08	34	The BLM partially acknowledges the conservative nature of its modeling and its lack of clear scientific consensus on the formaldehyde emissions from oil and gas flares. Samson encourages the BLM to determine whether a more appropriate standard exists. The BLM should far more clearly and adequately explain that the BLM's modeling assumptions extraordinarily overestimate potential impacts to ozone and the near-field estimates of formaldehyde concentrations and cancer risks given the overly conservative nature of the BLM's modeling.	The assumption of 20 percent by weight formaldehyde (from the EPA Speciate database), although likely a conservative value, was used in lieu of any representative field specific data to support use of a different value. The near-field modeling has been revised for the Final EIS.
AQ	AQTSD	IN08	35	BLM should also not attempt to impose mitigation measures or other controls on future operations within the CD-C Project Area given the overly conservative nature of its modeling.	Thank you for your comment.
AQ	AQTSD	IN08	36	VOC emissions in particular are likely overly conservative given EPA's recent New Source Performance Standards for oil and gas operations. These standards will significantly reduce future VOC and NOx emissions by requiring low-bleed pneumatics, green completions, and other controls on oil and gas operations.	The CD-C project emission inventory was evaluated and found to be compliant with OOOO. No changes to the project emission inventory were needed as a result of the promulgation of OOOO.
AQ	AQTSD	IN08	37	The BLM should also consider the new emission standards for Reciprocating Internal Combustion Engines that were issued in January of this year.	All applicable new emissions standards have been considered in the project emissions inventory.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	AQTSD	IN08	38	For the regional emission inventories, condensate and gas production for existing wells declined by about seventy percent in 2037 but the number of wells declined by only about 26 percent. The methodology calculates future VOC emissions and emissions from venting and pneumatics based on the number of wells, or 26 percent reduction; and the VOC emissions from dehydrating units declines by about 40 percent. The conservative nature of this well VOC calculation should be emphasized because any wells that are re-worked or modified through additional completions or hydraulic fracturing operations would trigger additional controls for compliance with WY BACT and NSPS OOOO.	The regional emission inventory has been adjusted for well decline and abandonment. The conservative nature of the inventory with respect to rework/recompletion has been noted.
AQ	AQTSD	IN08	39	The BLM must explain why the VOC emission inventory developed for this project was arbitrarily increased by the Wyoming Department of Environmental Quality (WDEQ) by 3 percent. The BLM and the WDEQ must have a scientifically valid and justified reason for this arbitrary increase. Absent such information, the increase appears arbitrary and undermines the quality of the analysis contained in the Draft EIS.	During development of the 2005, 2006, and 2008 Southwest Wyoming Oil and Gas emissions inventories, VOC emissions were adjusted to account for working and breathing losses from well site tanks. This adjustment is valid, these emissions were not accounted for in early versions of the inventories, and it resulted in an approximate 3% increase in VOC emissions.
AQ	AQTSD	IN08	40	The BLM must provide significant additional information justifying the RFD emissions for the 4krn grid for 2022 as the projects identified by the BLM are not consistent with the rest of the RFD projects identified in Table 5.0-1 of the Draft EIS. The BLM should simply explain its rationale if there is a justifiable reason. This is particularly important because the BLM identifies all these natural gas projects in chapter 5 of the Draft EIS.	RFD sources have been updated for the Final EIS modeling.
AQ	AQTSD	IN08	41	The BLM elected to evaluate drilling rigs with EPA Tier 0, Tier 2 and Tier 4 engines. The BLM's model included Tier 0 engines despite the fact the operators agreed to utilize only Tier 2 drilling rigs or better. Analyzing and presenting information regarding activities that are inconsistent with the Proposed Action is not only a waste of BLM's time and resources. it also may serve to confuse the public. The BLM should not have modeled actions that are inconsistent with future development plans.	At the time of the Draft EIS modeling there was no commitment by operators to not use Tier 0 rigs. The Final EIS modeling has been revised to include Tier 2 and Tier 4 engines.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	AQTSD	IN08	42	The BLM should justify, and provide scientific information supporting, its decision to analyze receptors at both the 100 meter and 200 meter positions. The BLM's analysis at the 250 meter location did not identify potential NAAQS violations while the 100 meter receptor modeling did.	The near-field modeling analysis has been revised for the Final EIS.
AQ	AQTSD	IN08	43	It would not be reasonable or appropriate for the BLM to utilize a distance less than 100 meters from an active drilling operation. Samson and other operators have strict safety protocols that prohibit members of the public from entering the actual drilling location or the area within 100 to 200 meters of the drilling location.	The near-field modeling analysis has been revised for the Final EIS.
AQ	AQTSD	IN08	44	The near-field modeling analyses for construction and drilling operations are entirely unsupportable and must be completely revised by the BLM. There is no justifiable reason to model a multi-well pad with 32 wells in production or provide results for a drilling scenario that is not reasonably foreseeable.	The near-field modeling analysis has been revised for the Final EIS. The maximum development scenario is up to 16 wells per section.
AQ	AQTSD	IN08	45	The assumption for drill rig operations in the near-field modeling analysis is unreasonable. The BLM modeled a drill rig for a full 8,760 hours per year for a combined total of 17,520 hours in each of the modeled scenarios. 73 individual wells drilled within a two year period is unreasonable because no more than 16 wells can be drilled in an entire section. Further, could not occur consistently for an entire 17,520 hours within a two year period; rather they would be stopped for maintenance operations and in between individually drilled wells. BLM also assumed that construction operations and existing wells could be producing at the same time 73 new wells are drilled. Such a level of development is just not possible.	Thank you for your comment. The analysis presented provides a conservative estimate of the potential 1-hour NO_2 impacts from drilling emissions. The assumption of operating for a two-year period was used to estimate the maximum 1-hour NO_2 impacts that could occur in each year (of a two-year period), assuming a drill rig could operate on the same pad, for a period, in two different years.
AQ	AQTSD	IN08	46	The BLM analysis effectively assumes that 292 wells could be drilled in a single section within a three-year period. That would effectively require operators to develop one well every 2.19 acres, a level of development not contemplated or experienced anywhere within North America, and certainly not in the CD-C Project Area. The BLM's near-field analysis exceeds reasonable development by such a degree that Samson believes the BLM must eliminate all of the scenarios in which more than 16 wells could be drilled in a single section.	The near-field modeling analysis has been revised for the Final EIS. The maximum development scenario is up to 16 wells per section.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	AQTSD	IN08	47	The suggestion that additional mitigation must be required from the operators in order to prevent the modeling exceedances demonstrated by the BLM's ridiculous modeling scenarios is unsupported. Additional mitigation should only be required if reasonable drilling scenarios demonstrate potential exceedances, which is not the case for the CD-C Project.	The near-field modeling has been revised for the Final EIS. The potential for additional mitigation to prevent exceedances will be based on an evaluation of the revised results presented in the Final EIS.
AQ	AQTSD	IN08	48	The assumption that construction operations would continue for two full years is unsupportable. The average well pad and access road requires only three to seven days depending on topography. Even if 16 well pads were constructed in the same year within any particular section, at most construction operations would require approximately 112 days. Further, construction operations do not occur 24-hours a day as construction does not occur after dark. Once again the BLM's modeling has passed from "reasonable but conservative" to wildly outrageous.	The near-field modeling analysis has been revised for the Final EIS. The Draft EIS modeling and the Final EIS modeling assume that well pad and access road construction occur during daytime hours only.
AQ	AQTSD	IN08	49	The hazardous air pollutants impact assessment is overly conservative, modeling a scenario where up to 32 wells would be located on a single pad within a single section. This level of development had neither been requested by the operators nor authorized by the WOGCC. As such, the scenario is not reasonable and it was inappropriate for the BLM to analyze this level of development or present information in the EIS.	The near-field modeling analysis has been revised for the Final EIS. The maximum development scenario is up to 16 wells per section.
AQ	AQTSD	IN08	50	The use of overly conservative modeling assumptions should not be utilized to justify additional HAP mitigation measures.	Thank you for your comment. The near-field modeling analysis has been revised for the Final EIS.
AQ	AQTSD	IN08	51	Ozone modeling discussion is generally excellent and the BLM's own analysis demonstrates that the CD-C impacts itself are very low, and are particularly low on days that have the higher background related to non-CD-C Project impacts. The analysis needs to emphasize that impacts to the Jonah Pinedale (JPAD) non-attainment area are negligible.	The analysis in the AQTSD describes that impacts to Sublette County, which includes the JPAD area, are minimal.
AQ	AQTSD	IN08	52	The visibility analysis indicates that the CD-C Project will have virtually no impact on visibility within the region. All impacts are less than 1 dv under the FLAG analysis and only 1 dg above the 1.0dv using the BLM' s analysis. The BLM should not attempt to impose mitigation measures in order to protect visibility within the area.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	AQTSD	IN08	53	The BLM has not adequately explained its description of potential mid-field impacts. There is almost no detail how the mid-field impacts were calculated or what they represent. What information is the BLM trying to convey with the mid-field analyses? How is it defined? What standards were utilized? As far as Samson is aware there are no mid-field modeling requirements or standards that have been developed by the EPA or WDEQ. The BLM should clearly define where the mid-field receptors were located and why such information may be important to the public.	Text has been added to the revised AQTSD and Final EIS describing mid-field modeling and impacts.
AQ	Cancer Risk Assessment	F01	11	If additional formaldehyde modeling continues to predict elevated cancer risk, the Final EIS should include a discussion of how the elevated risk compares to the Superfund 1 x 10-6 threshold and identify measures to reduce formaldehyde emissions to acceptable cancer risk levels.	Formaldehyde concentrations have been compared to the Superfund threshold. Potential measures for reducing formaldehyde to acceptable risk levels have been discussed. Note that, as discussed in AQTSD Section 2.1.3.4, "...the estimates of formaldehyde emissions from flaring are likely to be conservative (i.e., likely overstate the amount of formaldehyde from flaring). This will lead to conservatism in the estimates of CD-C Project ozone impacts as well as in the near-field estimates of formaldehyde concentrations and cancer risk."
AQ	Cancer Risk Assessment	F01	12	Please clarify which of the NOx mitigation options listed in the Draft EIS will reduce formaldehyde from production sources.	See response to previous comment. Mitigation measures will be addressed and included in the Record of Decision (ROD).
AQ	Class I Areas	F02	7	Air quality discussion "… Category I air sheds" is not the proper terminology, please use "PSD Class I areas" instead.	Language in the Final EIS has been changed as recommended.
AQ	Climate Change	O15	13	Comment Attachment, pages 39-44. The Draft EIS does not sufficiently address greenhouse gas emissions and climate change impacts from the proposed development.	CD-C project greenhouse gas (GHG) emissions were inventoried and their magnitude is disclosed Given the global and complex nature of climate change, it is not possible to attribute a particular climate impact in any given region to GHG emissions from a particular source. GHGs were not modeled in either the near-field or far-field impact analyses, but the GHG inventory is presented for informational purposes and is compared to other U.S. GHG emission inventories in order to provide context for the CD-C project GHG emissions. The FEIS includes a more detailed discussion on GHG emissions and climate change including a discussion of the Council on Environmental Quality's (CEQ) recent (2014) draft guidance for federal agencies on consideration of GHGs and the effects of climate change in NEPA documents.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Climate change	P28	4	"Climate change considerations have turned maximally urgent since 2005." BP proposes up to 500 coalbed methane wells. The wastewater, however stored in future, would remain at the sites for centuries."	Thank you for your comment.
AQ	Controls	IN10	1	WDEQ-AQD (Air Quality Division) requires the control of air emissions from hydrocarbon storage tanks. Usually the only available control device for these emissions is a high-profile combustion unit (20 to 30 feet tall). As such, Yates requests the BLM be aware of these requirements and adopt a flexible approach to authorizing the placement of high-profile structures when those structures are required by the WDEQ-AQD.	Comment noted. Thank you.
AQ	Controls	IN10	2	New Source Performance Standard, Subpart OOOO – Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution includes air quality regulations and standards that are more stringent than those required by the WDEQ, and which have not yet been adopted by the WDEQ. It should be noted that BLM approved energy development projects must comply with EPA regulations and standards as well as WDEQ regulations and standards.	The CD-C project emission inventory was evaluated and found to be compliant with OOOO. No changes to the project emission inventory were needed as a result of the promulgation of OOOO.
AQ	Cumulative air quality impacts	C01	14	Carbon County residents are very concerned about potential air quality degradation, visual haze and the resulting impacts on health and the tourism and recreation economy. AQ modeling and mitigation should address cumulative impacts in the project area and in the region with strict adherence to Best Available Control Technology.	Section 5.5 of the DEIS and the FEIS discuss the assessment of cumulative air quality impacts associated with the proposed CD-C project and other past, present, and reasonably foreseeable future activities. Section 5.5.2 of the FEIS concludes that … "The results of the cumulative modeling showed that there were no exceedances of the NAAQS, WAAQS, or CAAQS for ozone or any other criteria pollutant within the study area that were related to CD-C project emissions." Cumulative Visibility impacts are discussed in Section 5.3.3 of the DEIS and the FEIS. Significant visual haze impacts are not anticipated as indicated by the modeling results.
AQ	Cumulative Analysis	F04	3	It is unclear whether a requisite level of assessment was included for federal oil and gas plans in other states such as Utah and Colorado. A comprehensive review of all federal actions affecting this park may be necessary to address the existing air quality situation, as it is a significant cumulative issue.	Reasonably foreseeable development emissions for the Final EIS modeling have been updated to include emissions in Utah, Colorado, and Wyoming.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Cumulative Emissions Inventory	IN05	43	The BLM indicates that it modeled the Moxa Arch Preferred Alternative for air quality purposes. However, the BLM did not identify a Preferred Alternative for the Moxa Arch Area Infill Gas Development Project when it was issued in October of 2007.	Information for a Preferred Alternative development scenario was provided by the BLM Kemmerer Field Office during the development of a revised Draft EIS for the Moxa Arch Infill Drilling Project during 2010-2012. This revised Draft EIS is not yet completed and the project is currently on hold.
AQ	Cumulative Emissions Inventory	IN08	24	The BLM indicates that it modeled the Moxa Arch Preferred Alternative for air quality purposes. However, the BLM did not identify a Preferred Alternative for the Moxa Arch Area Infill Gas Development Project when it was issued in October of 2007.	Information for a Preferred Alternative development scenario was provided by the BLM Kemmerer Field Office during the development of a revised Draft EIS for the Moxa Arch Infill Drilling Project during 2010-2012. This revised Draft EIS is not yet completed and the project is currently on hold.
AQ	Deposition	F02	1	We are concerned about nitrogen deposition at Mt. Zirkel, Rawah, and Savage Run Wilderness areas, which from the CD-C Project alone is shown to be as high as 3 to 4 times the DAT.	The BLM intends to apply mitigation measures to reduce the future impacts to cumulative nitrogen deposition at Forest Service wilderness areas. These mitigation measures will be included in the ROD.
AQ	Deposition	F02	2	We are concerned about the cumulative deposition impacts of this project when added to the impacts of the many other current and future development projects in proximity to these Class I areas.	See response to F02-1 above. Also, the FEIS modeling results have been compared to updated cumulative deposition threshold values provided by the National Park Service.
AQ	Deposition	F02	3	The cumulative analysis in the Draft EIS suggests that N deposition levels at Mt. Zirkel and Rawah may remain above 1.5 kg/ha/yr and as high as 5 kg/ha/yr, compared to nearby Rocky Mountain NP critical load of 1.5 kg/ha/yr. Buffalo Pass wet deposition of inorganic nitrogen already ranges from 1.5 to 4 kg/ha/yr.	See response to F02-1 above. Also, the FEIS modeling results have been compared to updated cumulative deposition threshold values provided by the National Park Service.
AQ	Deposition	F02	17	Paragraph 2 deposition impacts contain a reference to Section 4.6.2 in the AQTSD that can't be found because the AQTSD does not have section numbers.	Section 4.6.2 is labeled in the AQTSD. No change required.
AQ	Deposition	F02	19	Table 5.5-6 shows the N and S deposition for 2022, but doesn't indicate what baseline was used. Were they taken from the Pinedale and Centennial data on page 3-64? Also, baseline data is not in the AQTSD.	No baseline value was used. The photochemical model simulated the emission, transport, and fate of all sources of emissions throughout the modeling domain; therefore, no baseline values were required to calculate impacts. The model predicted deposition impacts that were directly compared to the BLM thresholds of concern.
AQ	Deposition	F02	20	Table 5.5-7 shows cumulative N and S deposition will decrease from 2008-2022, yet Table 4.93 in the AQTSD shows ANC will further decrease over that time. This does not seem right, please explain.	Language regarding ANC impacts has been corrected and clarified in the Final EIS and revised AQTSD.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Deposition	F02	31	Table 4-84 does not show baseline for sensitive areas; see Draft EIS comment 19.	There is no separate threshold for sensitive areas. No baseline value was used. Deposition impacts were compared to critical load values for Class I areas in the vicinity of the project.
AQ	Deposition	F02	32	Tables 4-84 through 4-87; it is not clear why there is an "average" that is different from the "maximum" since annual total deposition from all sources should be a single number for each year.	Please see AQTSD Section 4.6.2.1, which discusses this issue. "The maximum annual S and N deposition values from any grid cell that intersects a Class I or Class II receptor area were used to represent deposition for that area, in addition to the average annual deposition values of all grid cells that intersect a Class I or Class II receptor area are also presented. Maximum and average predicted S and N deposition impacts were estimated for existing emissions sources within the CD-C project area and for the cumulative effects of all sources in the region.
AQ	Deposition	F02	38	In paragraph 1, DAT exceedances were downplayed and should be explained more fully in the conclusion section.	Language regarding the DATs has been revised.
AQ	Deposition	F02	41	Project-only deposition impacts should be compared to the DAT, not to a critical load value. Critical loads apply to total deposition from all sources, wet and dry, and it is not meaningful to compare project-only impacts as they will always be well below critical load.	The revised AQTSD and Final EIS include comparisons of project-level deposition impacts to the DATs and cumulative impacts to critical load values established by the federal land managers (FLMs).
AQ	Deposition	F04	6	Deposition results including maximum modeled deposition for each Class I and sensitive Class II area should be included in Chapter 4 of the Draft EIS.	Deposition results have been included in Chapter 4 of the Final EIS.
AQ	Deposition	F04	7	Page 3, paragraphs 2 and 3. Maximum CD-C project deposition impacts are predicted to be almost two and a half times greater than the NPS DAT. The maximum modeled cumulative future deposition in Dinosaur NM from the CD-C Project is predicted to be up to 6.02 kg/ha/yr, double the critical load value reported in a recent scientific study (Pardo et al. 2011). This is a significant concern. Please include this information, as described in section V.E.6 of the AQ MOU, in the deposition impacts discussions provided in Chapters 4 and 5 of the Draft EIS.	The CD-C project contributions to nitrogen deposition are identified in Chapter 4 of the Final EIS. NPS concerns regarding nitrogen deposition at Dinosaur NM from all regional sources are addressed in Chapter 5.
AQ	Deposition	F04	8	Chapter 5 of the Draft EIS should clarify that regardless of projected future decreases, total cumulative nitrogen deposition may still exceed critical loads in many of the Class I and sensitive Class II areas, indicating harm to those sensitive ecosystems.	The Final EIS includes this information.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Deposition	F04	9	Chapter 5 of the Draft EIS should acknowledge that these decreases are due to regional reductions in NOx from various regulatory programs. The Wyoming BLM's proposed oil and gas development in the region will continue to increase the deposition load, and offset regional reductions, despite these regional trends.	The Final EIS includes additional explanation for reductions in future year regional emissions.
AQ	Deposition	F04	10	We would like to point out that a critical load represents a cumulative threshold; it is not meaningful to compare project only results to a cumulative threshold.	The revised AQTSD and Final EIS include comparisons of project-level deposition impacts to the DATs and cumulative impacts to threshold values established by the FLMs. The National Park Service has provided updated deposition threshold values for comparison with modeled FEIS cumulative deposition impacts.
AQ	Deposition	F04	11	Page 46, paragraph 2. The statement: "...[NPS] suggests that critical load values above 3 kg/ha/yr may result in moderate impacts" misstates our Technical Guidance.	This language has been revised in the Final EIS.
AQ	Deposition	IN02	2	Page 7, paragraph 2. FLAG 2010 Guidance recommends the use of the 0.005 kg/ha/yr threshold that was established by the NPS and the USFWS to determine significance. The proponents question the legality of this significance guidance for CD-C sources as well as possible mitigation implications from having model predictions above this threshold.	The DAT is not a threshold of significance. It is a level below which project impacts are not deemed adverse and above which a more refined analysis may be required or mitigation may be necessary depending on where the impacts are occurring.
AQ	Deposition	IN10	4	In Atmospheric Deposition Impacts - This should read "Table 5.5-6 shows: Estimated sulfur deposition impacts would be above the 3.0 kg/ha/yr threshold at all areas except for the Bridger Wilderness area and the Savage Run Wilderness area."	This has been corrected in the Final EIS. The FEIS modeling results have been compared to updated cumulative deposition threshold values provided by the National Park Service.
AQ	Deposition	IN10	5	EPA has not established that 100-meters is an acceptable distance for gauging the health impacts from exposure to model-predicted, short-term concentrations that could occur from 1-hour to 24-hours therefore; Yates feels it is unjustifiable and unreasonable to consider the 100-meter distance in this analysis. Yates urges the BLM to remove the 100-meter distance from consideration in the CD-C Draft EIS and subsequent Final EIS. It is anticipated that the 100-meter impact distance will unnecessarily trigger mitigation requirements that are unworkable and detrimental to oil and gas operations in the project area.	The near-field modeling analysis has been revised for the Final EIS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Deposition	O05	2	The Draft EIS is inconsistent in some of its air quality findings. For example, it is stated on page 10 of the Executive Summary that there would be no nitrogen and sulfur deposition impacts that exceed BLM critical load values at any Class I or sensitive Class II area. Yet, on page 4-100 of the AQTSD, far-field modeling predicts that the project contribution to N deposition will exceed the DAT at the Savage Run, Rawah, and Mount Zirkel Wilderness Areas, with contributions at the Class I Savage Run Wilderness area exceeding the DAT by three or four times.	The revised AQTSD and Final EIS include comparisons of project-level deposition impacts to the DATs and comparisons of cumulative impacts to critical load values established by the FLMs. The FEIS modeling results have been compared to updated cumulative deposition threshold values provided by the National Park Service.
AQ	Deposition	O05	3	Page 1, paragraph 3 through page 2. We emphasize this inconsistency because such depositions could increase mountain stream acidity and have serious detrimental effects on local trout populations. We request that the BLM more thoroughly assess the modeled significant deposition impacts on fishery resources. The results of this more thorough assessment will likely show that an enforceable mitigation strategy is required to eliminate or mitigate those impacts.	The BLM addresses potential mitigation measures in the Final EIS.
AQ	Deposition	O10	3	Air quality emissions can directly and indirectly impact watersheds, especially those at high elevations and in nearby Class I regions. Deposition loading to plants and water affect aquatic fish and insects. Sensitive species such as Colorado River cutthroat trout inhabit these areas and deposition loading into snow and streams will impact these populations as well as endangered fish species downstream of the project area. The Final EIS must include a more comprehensive and cumulative impact analysis that includes this information.	Thank you for your comment.
AQ	Deposition/ Mitigation	IN03	27	Page 36, paragraph 2 through page 49. The deposition modeling results indicate that predicted deposition in sensitive areas is minimal and does not merit additional mitigation.	Thank you for your comment.
AQ	Deposition/ Mitigation	IN03	28	Page 44, paragraph 4 through page 45. Mitigation measures are unnecessary to address nitrogen deposition impacts.	Thank you for your comment.
AQ	Deposition/ Mitigation	IN03	29	Page 45, paragraph 5 through page 47. The DAT is a conservative screening tool that does not represent a threshold for adverse impacts.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Deposition/ Mitigation	IN03	30	Page 47, paragraph 2 through page 48. The BLM should be relying on a critical load threshold of between 3 kg/ha/yr and 5 kg/ha/yr of total deposition for a refined/cumulative effects analysis.	Thank you for your comment. The FEIS modeling results have been compared to updated cumulative deposition threshold values provided by the National Park Service.
AQ	Deposition/ Mitigation	IN03	31	Page 48, paragraph 4 through page 49. BLM's analysis does not support an adverse impact determination or imposition of mitigation.	Thank you for your comment.
AQ	DEQ role in regulation	C03	9	Sweetwater County strongly recommends that guidance and enforcement for further air quality issues related to the CD-C and other oil and gas developments, such as Hiawatha, NPL, Large Platform, be deferred to the WDEQ rather than the Environmental Protection Agency (EPA).	The WDEQ-AQD is responsible for regulating emissions from oil and gas sources through their Oil and Gas Permitting Guidance. Oil and gas developments must comply with EPA regulations and standards as well as WDEQ regulations and standards.
AQ	Emissions Inventory	IN01	12	The AQTSD lists source categories that require emission controls and should be amended to include completions subject to green completion control. The WDEQ guidance requires green completions be performed in the concentrated development area, which is a type of control. Blow downs and venting should be removed from the list because they do not require controls. Listing blow downs and venting as having emissions controls is confusing and infers false presumptions.	The source category list shows all source categories and merely states whether controls are applied or not. Text in the AQTSD notes that green completions are required in concentrated development areas and additional information on green completions in the CD-C project area is provided in Appendix K of the AQTSD.
AQ	Emissions Inventory	IN01	13	Add pneumatic devices to #3 of the source category list. APC also suggests revising 3(c) to read “tanks: flashing, working and breathing losses” rather than just flashing to more accurately portray what was included in the analysis.	The source category list has been amended as recommended.
AQ	Emissions Inventory	IN03	1	Page 3, paragraph 3-4. The emissions from the production flaring on the tab “Prod Flaring” of the Environ spread sheet for VOCs were incorrectly calculated. Furthermore the calculations are not in compliance with the WYDEQ’s “Oil and Gas Production Facilities Chapter 6, Section 2 Permitting Guidance". Please see Attachment A of the original comment letter (August 2011) for proper emissions calculations. The calculations in the record need to be changed, however, the photochemical grid modeling does not need to be updated for these small changes.	The calculation is correct as it stands.
AQ	Emissions Inventory	IN03	6	Page 4, paragraph 3. CD-C operators are requesting that 98 percent destruction efficiency be applied to the emissions calculated for storage tanks, dehydration units and pneumatic pumps for the flare control. See Table 2.1. of comment letter for test results.	VOC emissions and control estimates were calculated using a total hydrocarbon (THC) based methodology. Generally this method results in a higher control efficiency.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Emissions Inventory	IN03	7	Page 5, paragraph 1. It should not be assumed that any of the emissions from the flares are 20 percent by weight formaldehyde. Also see comment 22.	This assumption of 20 percent by weight formaldehyde (from the EPA Speciate database), although likely a conservative value, was used in lieu of any representative field-specific data.
AQ	Emissions Inventory	IN03	8	Page 7, paragraph 1. BLM also calculated the methane emissions from the flares incorrectly by using the AP-42 emission factor for methane instead of basing the emissions on the uncombusted methane portion of the waste gas going to the flare. Please see Attachment A of the comment letter for proper emissions calculations. The calculations in the record need to be changed, however, the photochemical modeling does not need to be updated for these small changes.	The calculation is correct as it stands.
AQ	Emissions Inventory	IN03	9	Page 8, paragraphs 1-3. The evaporation pond emissions were improperly applied on a per well basis and the emission calculations need to be revised; however, the photochemical grid modeling does not need to be updated.	Evaporation pond emissions have been corrected and the corrected emission inventory has been used in the CAMx modeling for the Final EIS.
AQ	Emissions Inventory	IN05	15	Future operations both within the proposed action as well as any RFD oil and gas and other regional developments would need to comply with NSPS Subpart OOOO, and the EIS should at least explain how this rule would affect emissions incorporated in the RFD sources.	A discussion of this rule has been added to the revised AQTSD and Final EIS.
AQ	Emissions Inventory	O10	1	The impact from almost 9,000 natural gas wells and their intensive infrastructure will have an impact on air quality. Methane emissions alone will elevate air quality to hazardous levels.	This air quality analysis has shown that the CD-C project will have impacts on air quality that are too small to constitute a health hazard to the general public. Methane emissions were quantified, but air quality impacts of methane were not evaluated, as the U.S. EPA does not consider methane to be either a hazardous air pollutant or a criteria pollutant.
AQ	Emissions Inventory	O15	10	Comment Attachment, pages 30-36. The emissions inventories underestimate emissions and therefore the modeled impacts are likely also underestimated.	In the development of the emission inventories for the CD-C project and for the surrounding region, conservative assumptions were made throughout; these emission inventories are far more likely to overestimate emissions than underestimate them.
AQ	General	F04	1	The NPS is concerned about the potential impacts to Dinosaur NM's air quality and AQRVs, particularly nitrogen deposition. The severity of these impacts are not adequately disclosed in the Draft EIS (i.e., the document provides little information), and the analysis should be updated to reflect the nature of these impacts.	See response to previous comments regarding nitrogen deposition at Class I and sensitive Class II areas.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	General	F04	2	Given predicted impacts to Dinosaur NM, including nitrogen deposition, a rigorous suite of NOx mitigation measures should be incorporated into the final decision including consideration of Tier II drill rigs with selective catalytic reduction, or Tier IV drill rigs.	Mitigation measures to address nitrogen deposition impacts will be identified and included in the ROD.
AQ	General	F04	4	Extensive information regarding the air quality modeling assessments is included in the Air Quality Technical Support Document (AQTSD), however, very little of this information is provided in Chapter 4 of the Draft EIS. Chapter 4 air quality sections should be expanded to include appropriate explanatory information. For instance, the summary discussion of the ozone modeling results could be expanded by including TSD tables and graphics.	References to specific sections, tables, and results included in the revised AQTSD will be included in the Final EIS to enable the reader to more easily locate the supporting data for the results presented in the Final EIS.
AQ	General	O04	1	Air quality concerns in this area may affect both public recreation (through haze from ozone-related smog) in Adobe Town Very Rare or Uncommon Area and other neighboring recreation lands, and may also affect the health and viability of wildlife that inhabit the Project Area and surrounding lands. The BLM should be expected to adequately address this issue so that air quality remains below all Clean Air Act thresholds.	The BLM addresses potential mitigation measures in the Final EIS from project-related impacts. However, the air quality modeling analysis indicates there will be no violations of any National Ambient Air Quality Standard.
AQ	General	O05	1	We are concerned that the Draft EIS identifies a number of significant direct and cumulative ecosystem impacts upon air quality, including excessive cumulative visibility, ozone, NO_2 and PM impacts. It is our understanding, given requirements of the Clean Air Act and BLM's own National Environmental Policy Act (NEPA) guidelines, the analysis is incomplete until it presents project actions that will be taken to eliminate or reduce those impacts to non-significant levels. This is a pervasive deficiency throughout the air quality analysis that in our opinion needs to be corrected.	The BLM is not required by NEPA to reduce impacts to a level of "not significant." Appropriate mitigation for the project's impacts will be included in the ROD if the project's impacts are deemed to be significant or adverse. Cumulative impacts, which accounts for impacts from all regional sources, are outside of the BLM's authority to regulate.
AQ	General	O15	1	Comment Attachment, pages 1-3. BLM's own assessment indicates the proposed development will have adverse impacts on air quality and therefore the Draft EIS, which does not fully acknowledge such impacts, does not satisfy the requirements of the National Environmental Policy Act and the Federal Land Policy and Management Act.	The Final EIS includes a revised modeling analysis for both the near-field and far-field impacts. Air quality impacts from the CD-C project that are deemed to be adverse or significant as determined by technical experts from the EPA, USFS, NPS, and Wyoming Department of Environmental Quality – Air Quality Division (WDEQ-AQD) will be addressed and appropriate mitigation will be determined for inclusion in the ROD.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	General	O15	14	Comment Attachment, pages 44-49. BLM must include adequate plans to protect air quality in the area as part of this Draft EIS.	A determination of adverse impacts must be made first. The Draft EIS must only disclose the impacts. The Final EIS discusses which impacts have been deemed to be adverse or significant based on the assessment of technical experts from EPA, USFS, NPS and WDEQ-AQD.
AQ	General	O15	15	Comment Attachment, page 49-50. Overall, the BLM has not adequately evaluated the air quality impacts from the CD-C project and has not proposed adequate enforceable mitigation measures to assure no adverse impacts on air quality will occur in the affected area. BLM must meet its statutory obligation to provide for compliance with the CAA and related laws and, more fundamentally, to ensure air resource protection throughout the project area and all other affected areas in the region.	Enforceable mitigation measures are included in the ROD only. The BLM will ensure that appropriate mitigation measures are included to ensure compliance with the CAA and the NAAQS.
AQ	GHGs	IN01	8	The EPA requires a greenhouse gas permit with a Prevention of Significant Deterioration (PSD) threshold. APC requests that discussion regarding this permit condition is added to Sections 3.5.2.7 and 4.5.4 of the Draft EIS and Section 2.1.1.4 of the TSD.	A discussion of the permit condition has been added.
AQ	HAPs	IN03	22	Page 29, paragraph 8 through page 31. It is recommended that BLM refine the emission calculations and modeling used to estimate risk from formaldehyde impacts from the combustion stack.	Near-field modeling scenarios have been revised for the Final EIS.
AQ	HAPs	IN03	23	Regarding formaldehyde modeling, it is also important to place the MEI risk calculation into the context of exposure. The MEI presents an incremental risk based on an individual being exposed constantly at the location of maximum impact for a period of 70 years.	Thank you for your comment. The analysis is required for disclosure purposes.
AQ	HAPs	IN03	24	It is recommended that concentration isopleth plots of annual average formaldehyde and MEI incremental risk be developed to illustrate the changes in concentration and incremental risk over larger distances.	Thank you for your comment.
AQ	HAPs	O15	8	Comment Attachment, pages 29-30. The Hazardous Air Pollutant analysis in the Draft EIS is not sufficient to assess all of the potential health impacts from the proposed development.	Thank you for your comment. The analysis presented provides a conservative estimate of the potential impacts from HAP emissions.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Impact Analysis	F01	8	If the impacts from revised modeling performed prior to issuance of the Final EIS are substantially different than those predicted in the Draft EIS, the BLM should prepare a supplement to the Draft EIS to provide the public with an opportunity to understand those results and evaluate whether further comments should be provided.	Revised modeling results have not been deemed to be substantially different as to require a supplement.
AQ	Impact analysis	O11	2	We note that the BLM's own air quality modeling analyses predict the following significant impacts, but offer no plans to mitigate them. These include significant direct and cumulative ecosystem impacts, fails to assure the prevention of significant deterioration of air quality as required by the Clean Air Act, significant ozone, NO_2 and PM impacts, unacceptable health risks associated with hazardous air pollutant impacts, and significant cumulative visibility impacts.	The revised modeling analysis completed for the Final EIS indicates there are no violations of any ambient air quality standards and negligible visibility impacts. Mitigation measures to address cumulative nitrogen deposition, short-term PM exceedances, and hazardous air pollutants are discussed in the Final EIS and final mitigation measures will be included in the ROD.
AQ	Impact analysis	P08	1	"There are no acceptable plans for mitigation for the significant ozone, NO_2, and PM impacts. "	Thank you for your comment.
AQ	Management Objectives	IN05	21	The Management Objectives in Section 4.5.2 state that BLM is "maintaining concentrations of PSD pollutants in compliance with applicable increment". Given the BLM's limited authority over air quality, this is a wholly inappropriate objective, and may interfere with WDEQ responsibilities. The statement of this objective clearly misleads the public in understanding how the AQ analyses will be conducted. Devon encourages the BLM to withdraw or re-characterize this objective.	The BLM does not enforce or regulate PSD increment consumption. The analysis included in the Draft EIS and Final EIS is for informational and disclosure purposes only.
AQ	Maps	F02	8	Map 3.5-1 displays the Gros Ventre Wilderness area as being within the analysis area, but there is no analysis for this area in the document. Please edit the map or explain why this area was not analyzed. The AQTSD has been revised to exclude this wilderness area.	In the final CAMx modeling that is reported in the Final EIS, impacts at the following additional areas has been evaluated: Gros Ventre, Flat Tops, Eagles Nest, and Rocky Mountain National Park. Map 3.5-2 (renumbered from 3.5-1) has been adjusted to show the additional areas.
AQ	Maps	F02	10	Paragraph 5 discusses the non-attainment area and refers to Map 3.5-1.That map does not show the non-attainment area, and it would be helpful if it was displayed there.	The non-attainment area boundary has been added to Map 3.5-2 in the Final EIS.
AQ	Maps	F02	22	Map 3.5-1 displays the Gros Ventre Wilderness area as being within the analysis area, but there is no analysis for this area in the document. Please edit the map or explain why this area was not analyzed. The AQTSD has been revised to exclude this wilderness area.	In the final CAMx modeling that has been reported in the Final EIS, impacts at the following additional areas has been evaluated: Gros Ventre, Flat Tops, Eagles Nest and Rocky Mountain National Park. Map 3.5-2 has been adjusted to show the additional areas.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Mitigation	F01	1	Page 2, paragraphs 2 and 3. BLM commits to mitigating impacts to "demonstrate compliance with the NAAQS." Mitigation required only if a violation of the NAAQS is predicted is problematic because exceedances of the NAAQS can occur without triggering a violation of the NAAQS. BLM's intended approach is to prevent exceedances of the NAAQS and EPA understands that will be clarified in the final EIS. The comment letter provides specific interpretation.	The BLM will address appropriate mitigation measures to avoid exceedances of the NAAQS in the FEIS in addition to working with the Inter-Agency Review Team to develop the final mitigation measures and implementation timeline to be included in the ROD.
AQ	Mitigation	F01	9	The BLM should require in the Final EIS and ROD all mitigation used in the emission inventory for operating scenarios under the Preferred Alternative or, alternatively, require mitigation with equivalent air quality benefits if those given by BLM are not viable.	All required mitigation and operator-committed measures will be identified in the ROD.
AQ	Mitigation	F01	10	Page 3, paragraph 7 and page 4, paragraphs 1-3. Additional mitigation measures for NOx and PM, beyond those identified in the Draft EIS, may be necessary to meet the BLM's commitment to prevent exceedances of the NAAQS. Mitigation options for NOx and PM should be added as outlined.	Mitigation options for exceedances of the NO_2 and PM standards are addressed in the Final EIS.
AQ	Mitigation	F02	6	The agency is concerned about adverse nitrogen impacts from the project on PSD Class I areas they oversee. Consider requiring a liquids gathering system, and either Tier II/SCR or Tier III drill rigs.	Mitigation measures to address nitrogen deposition impacts will be identified in the ROD.
AQ	Mitigation	F04	15	The Draft EIS did not include any specific Conditions of Approval (COA) for Air Quality. A suite of mitigation measures was incorporated into the CAMx modeling analysis. At a minimum, these measures should be incorporated as COAs into the final decision, otherwise the impact predictions are not meaningful and the air quality is not protected.	COAs and required mitigation will be described in the ROD. The ROD is the only enforceable document for requiring mitigation measures for the project.
AQ	Mitigation	IN02	3	Cumulative deposition levels are predicted to be above the nitrogen critical load threshold of 1.5 kg/ha/yr for all areas evaluated. It is recommended that the evaluation of the 1.5 k/ha/yr simply be disclosed and no action regarding additional mitigation in the Final EIS and in the ROD be taken because the cumulative nature of the emissions is well beyond the CD-C project.	Mitigation measures will only be developed to address impacts from CD-C project sources and activities. The FEIS modeling results have been compared to updated cumulative deposition threshold values provided by the National Park Service.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Mitigation	IN02	4	The proponents are concerned that additional NOx mitigation may be proposed to reduce perceived impacts. Any additional mitigation should be evaluated based on environmental benefits, cost to control and technical feasibility.	The BLM intends to discuss mitigation measures with the proponents to identify reasonable and technically feasible options.
AQ	Mitigation	IN02	5	Page 8, paragraphs 1-3. Model predictions must be placed in proper perspective before any policy decisions are made for inclusion into the Final EIS and ROD. A number of technical issues have been identified regarding deposition analyses. DC deposition should be considered a screening level analysis that has compounding levels of conservatism and does not justify additional mitigation until more detailed analyses are conducted.	Thank you for your comment.
AQ	Mitigation	IN03	32	Page 49. With corrections to the near field modeling recommended, the NOx concentrations fall below the NO_2 1-hr NAAQS. NOx emissions mitigation for the NO_2 1-hr NAAQS will not be needed.	Thank you for your comment.
AQ	Mitigation	IN03	33	Page 49. The PM impacts from well pad construction would not exceed the $PM_{2.5}$ NAAQS since the construction activity is temporary (only occurs for 49 days) and the form of the standard is the average over 3 years. There would be no way that the particulate emissions would exceed the standard when averaged over 3 years. Based on corrected air quality analysis, no further mitigation is warranted.	Thank you for your comment.
AQ	Mitigation	IN03	34	Page 49. With the recommended corrections contained in these comments to the HAPS, the risk will be reduced by over 50% removing the concerns over the impacts from HAPS. Based on corrected air quality analysis, no further mitigation is warranted.	Thank you for your comment.
AQ	Mitigation	IN03	35	Page 49. The impacts from deposition to not warrant further NOX controls.	Thank you for your comment.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Mitigation	O11	3	It is our understanding that under the Clean Air Act, if the BLM identifies potentially significant impacts, the agency is required to identify the specific measures it intends to take in order to eliminate or mitigate those impacts to acceptable levels. The Draft EIS fails to specifically address the potential for impacts to the UNPV. This should be done for our communities including mitigation measures to be taken. If the requested information can be made available and additional time for consideration and comment can be allowed, VofV can then facilitate public response to that information from the UNPV.	The revised modeling analysis completed for the Final EIS indicates there are no violations of any ambient air quality standards and negligible visibility impacts. Mitigation measures to address nitrogen deposition, short-term (1-hour) NO_2 and (24-hour) PM exceedances, and hazardous air pollutant impacts are discussed in the Final EIS.
AQ	Mitigation	P10	4	• Require air quality monitoring before, during, and after all activity. Use a mix of stationary monitoring stations and mobile monitoring. • Require companies to comply to DEQ ozone action days when necessary. • Require ongoing leak detection and repair. • Make all monitoring results and reports easily available to the public.	Thank you for your comment.
AQ	NAAQS	F01	3	Include the predicted NAAQS exceedances within the air quality impacts section so that the Final EIS fully discloses the project's impacts.	This information is included in the revised AQTSD and a section number reference is provided in the Final EIS.
AQ	NAAQS	F01	4	To assure impacts and exceedances are accurately disclosed, add the background concentrations to this table and to modeling results given in the Final EIS.	Background values have been added to the results shown in the Final EIS for comparison to NAAQS.
AQ	NAAQS	IN05	9	Table 3.5-4 footnote 6, compliance with the 24-hour standard is based on the 3-year average of the 98th percentile 24-hr level, not the maximum.	This change has been made in the revised AQTSD and in the Final EIS.
AQ	NAAQS	IN05	10	Table 3.5.8, footnote 6, incorrectly states the SO_2 NAAQS as the 98th percentile. The standard is the 99th percentile.	This change has been made in the revised AQTSD and in the Final EIS.
AQ	NAAQS	IN05	11	Clarify why the 24-hour PM_{10} value is the maximum value noted at Wamsutter, rather than the second highest.	The values presented in Table 3.5-8 were designated by WDEQ-AQD as most representative background values for the region.
AQ	NAAQS	IN05	12	Clarify that the estimates of background SO_2 and $PM_{2.5}$ are from remote sites and may be less representative than conditions in the project area, and therefore the results that are evaluated with these data need to be interpreted carefully.	WDEQ-AQD considers these sites to represent background conditions for the modeled region.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	NAAQS	F01	2	Near field air quality impacts are averaged over a three year period. This does not disclose the project's potential for short term impacts. The 4th maximum 24-hour value for PM_{10}, the 8th maximum 1-hour N02 value, and the 8th maximum 24-hour value for $PM_{2.5}$ from each of the three modeled years should be presented to provide a more informative impact evaluation.	For the Final EIS, the maximum second-high 24-hr PM_{10} values and maximum eighth-high 24-hr $PM_{2.5}$ values for any of the years are reported. The maximum eighth-highest 1-hour NO_2 concentrations for any of the three years modeled, for modeling scenarios involving drilling activities, are provided in the revised Air Quality Technical Support Document (AQTSD) and a page reference is provided in the Final EIS.
AQ	Operations Data	IN01	2	This indicates that drilling each well would take 7-20 days. In 2007 drill time was changed to 7-10 days. This appears correct in the emissions inventory, but not throughout the Draft EIS. Drilling time needs to be consistently referenced throughout the document as 7-10 days.	Drilling times have been corrected in the Final EIS.
AQ	Operations Data	IN01	3	States that the “completions and testing operations typically require 10 to 20 (up to 30) days to perform.” This was revised by the operators in 2007 to 10 to 20 days. This appears correct in the emissions inventory, but not throughout the Draft EIS. Completion and testing times need to be consistently referenced throughout the document as 10-20 days.	Completion times have been corrected in the Final EIS.
AQ	Ozone	F02	12	Paragraph 1 discusses ozone in ppb, and Table 4.5-10 shows ozone in µg/m3; please display both units or provide conversion factor as a footnote.	Expressed units have been made consistent or a conversion factor has been provided.
AQ	Ozone	IN03	25	The MATS results for ozone indicated that the 75 ppb ozone NAAQS was attained throughout the 4 km grid except near Boulder. The CD-C project’s contribution was less than 0.04 ppb which is consistent with the terrain and meteorology for the area reducing any impacts. In fact, the maximum impact future design value is less than or equal to only 0.8 ppb in the rest of the modeling domain showing insignificant impacts from the project to ozone.	The magnitude of the impacts is correctly stated.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Ozone	O15	4	Comment Attachment, pages 18-24. BLM's air quality analysis likely underestimates air quality impacts. The ozone analysis for the Draft EIS underestimates impacts and fails to address wintertime ozone impacts.	The BLM has completed a revised modeling analysis for the Final EIS. Data used and assumptions made throughout the emissions inventory and ambient impact analysis cumulatively result in a conservative representation of impacts from the Proposed Action and Alternatives. The winter ozone season was excluded from the analysis due to the inability of the model to accurately replicate the unique conditions under which wintertime ozone is formed. The exclusion of the winter ozone season was recommend by the WDEQ-AQD and was not modified for the Final EIS.
AQ	Plan of Development	IN01	4	The AQTSD states that approximately 500-900 of the proposed wells would be CBM. In a 2007 change to the Plan of Development, this number was changed to "up to 500 wells." The Draft EIS should consistently reference 500 wells.	This has been corrected in the revised AQTSD and Final EIS.
AQ	Proposed Action and Alternatives	O10	2	By implementing phased development with directional drilling options, a stronger management direction is employed that minimizes air pollution in addition to minimizing a host of other impacts.	Thank you for your comment.
AQ	Regional Emissions Inventory	IN05	23	The BLM should explain that its regional emission inventory is extremely conservative, if not bordering on, a "worst-case" scenario. Rather than developing a likely future emissions scenario, the BLM developed an extraordinarily conservative set of assumptions.	The description of the regional emission inventory and its inherent conservatism has been explained in the AQTSD.
AQ	Regional Emissions Inventory	IN05	24	BLM should clarify and explain some key assumptions included in Appendix F of the AQTSD, including the issues of the WRAP Phase III emissions inventory not being used, and spatial depictions of emissions. Determining the relative portion of the key emissions (VOC NOx) attributable to area sources may help interpret results.	The RFD emissions have been updated for the Final EIS modeling.
AQ	Regional Emissions Inventory	IN05	25	Emissions from EGUs modeled should be adjusted to account for any reduction in NOx emissions under the Regional Haze Rule.	The WRAP PRP18b were the most recent projections of future year available at the time of the inventory development and reflect BART controls anticipated at the time the inventory was compiled. EGU emissions were not updated for the Final EIS CAMx model runs.
AQ	Regional Emissions Inventory	IN08	13	The BLM should explain that its regional emission inventory is extremely conservative, if not bordering on, a "worst-case" scenario. Rather than developing a likely future emissions scenario, the BLM developed an extraordinarily conservative set of assumptions.	Language stating that "the assumption that all RFD sources are fully developed during the maximum year of CD-C project development results in conservatism in the cumulative impact analysis" is included in the revised AQTSD and Final EIS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Regional Emissions Inventory	O15	11	Comment Attachment, pages 36-38. The Draft EIS does not include a comprehensive regional inventory for use in determining existing and reasonably foreseeable cumulative air quality impacts.	The Draft EIS uses the most complete and technically rigorous inventories that are available for southwest Wyoming and the western U.S. The regional emissions inventory is based on Western Regional Air Partnerships emission inventories, data from the State of Wyoming, and EPA's Acid rain database. There are no better sources of emissions data available. The RFD inventory has been updated for the final CAMx modeling to give a more complete accounting of Colorado RMP sources.
AQ	Regulations	IN08	7	BLM has failed to identify 40 CFR 60 Subpart OOOO. Not only should BLM identify this regulation, they must include in all of its future modeling the reductions in emissions that will be implemented as a result of this rule.	NSPS, Subpart OOOO was promulgated after the Draft EIS and AQTSD were written. OOOO has been added to the list of NSPS in the final version of the document. No changes were required to the CD-C project inventory as a result of OOOO.
AQ	Regulations	IN08	8	The text on page 3-58 of the CD-C Draft EIS duplicates for JJJJ the text regarding subpart KKKK.	This correction has been made in the Final EIS.
AQ	Regulatory Authority	IN05	1	Devon encourages the BLM to add a statement in the CD-C Draft EIS clarifying the scope of the BLM's authority as defined by the IBLA. The BLM does not have the authority to impose regulations or mandate control measures on emission sources, including oil and gas operations, within Wyoming.	The BLM has the responsibility and authority under FLPMA to mitigate adverse impacts from its management actions.
AQ	Regulatory Authority	IN05	2	The BLM has recognized its inability to impose air quality mitigation in the original ROD for the Continental Divide/Wamsutter II project. The BLM should not arbitrarily modify its previous recognition regarding the State of Wyoming's primacy to regulate air quality in Wyoming.	The BLM has the responsibility and authority under FLPMA to mitigate adverse impacts from its management actions.
AQ	Regulatory Authority	IN05	3	The BLM has no authority over air quality and cannot impose emissions restrictions, either directly or indirectly, on natural gas operations in Wyoming, particularly if the overall goal is to reduce potential visibility impacts	The BLM has the responsibility and authority under FLPMA to mitigate adverse impacts from its management actions.
AQ	Regulatory Authority	IN05	4	The BLM should also recognize that the agency does not have the authority to implement, regulate, or enforce the PSD increment. The BLM's lack of authority of PSD increment was recently recognized in the MOU issued by the Department of the Interior, Department of Agriculture, and the EPA which indicates that BLM NEPA documents relating to oil and gas activities will model PSD increment consumption for informational purposes only.	Your comment is accurate. BLMs analysis of increment consumption is for informational and disclosure purposes only. Determination of adverse impacts based on exceedances of the increment is determined by the WDEQ-AQD.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Regulatory Authority	IN08	1	Samson encourages the BLM to add a statement in the CD-C Draft EIS clarifying the scope of the BLM's authority as defined by the IBLA. The BLM does not have the authority to impose regulations or mandate control measures on emission sources, including oil and gas operations, within Wyoming.	The BLM has the responsibility and authority under FLPMA to mitigate adverse impacts from its management actions.
AQ	Regulatory Authority	IN08	2	The BLM has no authority over air quality and cannot impose emissions restrictions, either directly or indirectly, on natural gas operations in Wyoming, particularly if the overall goal is to reduce potential visibility impacts	The BLM has the responsibility and authority under FLPMA to mitigate adverse impacts from its management actions.
AQ	Regulatory Authority	IN08	3	The BLM should also recognize that the agency does not have the authority to implement, regulate, or enforce the PSD increment. The BLM's lack of authority of PSD increment was recently recognized in the MOU issued by the Department of the Interior, Department of Agriculture, and the EPA which indicates that BLM NEPA documents relating to oil and gas activities will model PSD increment consumption for informational purposes only.	The BLM does not enforce or regulate PSD increment consumption. The analysis included in the Draft EIS and Final EIS is for informational and disclosure purposes only.
AQ	Regulatory Status	IN05	18	The BLM should update the Final EIS to acknowledge the current non-attainment status for portions of southwestern Wyoming for ozone.	The Final EIS has been updated to reflect current ozone non-attainment status.
AQ	Regulatory Status	IN05	19	There is no clear definition of what receptor groups make up the mid-field grid. The regional extent of the mid-field grid should be identified, and BLM should explain how this pattern of emissions and impacts would not represent impacts near a specific source or group of sources. It is not clear that mid-field impacts play any role in the impact evaluation conducted in the EIS.	Text has been added to the revised AQTSD and the Final EIS describing mid-field modeling and impacts.
AQ	Regulatory Status	IN08	10	The BLM should update the Final EIS to acknowledge the current non-attainment status for portions of southwestern Wyoming for ozone.	This section has been updated in the Final EIS.
AQ	RFD	F02	23	Eagle Prospect was bought out and will not be developed.	Eagle Prospect has been removed from the reasonably foreseeable development (RFD) emission inventory for the Final EIS CAMx modeling.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	RFD	IN03	10	The TSD and the EIS should acknowledge that the cumulative RFD emissions are very speculative in both timing and actual emissions. It is also important to note that none of the RFD projects have been approved by BLM and as a result of the EIS process emissions may change before a ROD is issued. It is recommended that the EIS documents list the assumptions made regarding RFD sources so that cumulative emissions and resulting air quality impacts can be placed into proper perspective.	Language stating that "the assumption that all RFD sources are fully developed during the maximum year of CD-C project development results in conservatism in the cumulative impact analysis" is included in the revised AQTSD and Final EIS.
AQ	RFD	IN03	11	Page 8, paragraph 5. Based on a review of the RFD inventories it is not possible to determine if production decline of proposed and existing sources has been included in the calculation of RFD emissions. If decline is not included in the RFD inventories, the document should state that because decline is not accounted for in the RFD sources, that the inventory is conservative.	The RFD documentation section has been revised. RFD emissions have been updated for the Final EIS modeling.
AQ	RFD	IN03	12	Project proponents are simply recommending that the assumptions of RFD sources be listed and no changes in the actual inventories are being recommended.	The RFD documentation section has been revised. RFD emissions have been updated in the Final EIS modeling.
AQ	RFD	IN05	42	It does not appear the BLM used the same set of reasonably foreseeable projects when developing its RFD Scenario emissions for air quality as are contained in Table 5.0-1. The BLM should ensure that it utilizes a consistent set of RFD Scenarios for air quality and other cumulative impacts analyzed to avoid future challenges. The BLM should identify the reasons for excluding certain oil and gas development projects from the air quality modeling,	The RFD documentation section has been revised. RFD emissions have been updated for the Final EIS modeling.
AQ	RFD	IN08	23	It does not appear the BLM used the same set of reasonably foreseeable projects when developing its RFD Scenario emissions for air quality as are contained in Table 5.0-1. The BLM should ensure that it utilizes a consistent set of RFD Scenarios for air quality and other cumulative impacts analyzed to avoid future challenges. The BLM should identify the reasons for excluding certain oil and gas development projects from the air quality modeling,	The RFD documentation section has been revised. RFD emissions have been updated for the Final EIS modeling.
AQ	Visibility	F02	25	Please include an explanation of the term "bPMC" used in the equation for extinction.	bPMC (extinction from coarse particulate matter) has been relabeled bCM and an explanation has been added to the revised AQTSD.
AQ	Visibility	F02	26	Please verify the equation for the BLM delta-deciview calculation method is correct.	The equation is correct.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Visibility	F02	27	In Table 4-20 through 4-27; 4-44 through 4-51; and 4-61 through 4-64, please explain the table heading "b_scr"; it does not seem to be defined in the text.	b_src has been defined in the revised AQTSD. It is the extinction due to CD-C project area emissions sources.
AQ	Visibility	F02	28	In paragraph 1, please clarify the differences between visibility method 1 and visibility method 2. Specifically, a) the term "all sources total" for method 1 while method 2 adds RFD, and b) the term "PSAT" in CAMx/PSAT which is not defined or known if it was used for method 2.	In the final CAMx modeling that has been reported in the Final EIS, a new cumulative visibility impact method developed by the U.S. Fish & Wildlife (USFWS) and U.S. Forest Service (USFS) has been used. Neither method 1 nor method 2 has been used, so discussion of these methods has been replaced with a description of the new method. PSAT is defined in section 4.4.2 of the AQTSD.
AQ	Visibility	F02	29	In paragraph 1, line 2, change "FLAG 201" to "FLAG 2010".	This has been corrected in the final version of the document.
AQ	Visibility	F02	30	Table 4-73; there is concern for the increase in number of days of visibility impairment >1 dv by 2022 from cumulative sources. Though this project does not have a large impact from the project alone, the decision maker should consider the projected increase in cumulative visibility impairment in making responsible decisions.	The cumulative visibility analysis has been revised in the Final EIS. Mitigation measures identified in the Final EIS to address NOx emissions will also decrease the visibility impairment from project-related activities.
AQ	Visibility	F02	39	The last paragraph has an expression for bother that includes the term "bPMC" that is not explained in the text.	bPMC (extinction due to coarse PM) has been relabeled bCM and has been defined along with the other components of extinction in the revised AQTSD.
AQ	Visibility	F02	40	Please explain the heading "b_src" in Tables 3-8 to 3-11; it is not defined in the text.	b_src has been defined in the revised AQTSD. It is the extinction due to CD-C Project Area emissions sources.
AQ	Visibility	F04	12	Include the results from the three methods of cumulative visibility analysis into the Draft EIS cumulative visibility section. Little of this information was included in Chapter 5, the detail provided in the AQTSD should be included in Chapter 5.	In the final CAMx modeling that has been reported in the Final EIS, a new cumulative visibility impact method developed by the USFWS and USFS has been used. Cumulative visibility impacts have been reported in Chapter 5.
AQ	Visibility	F04	13	When considering how to disclose the cumulative visibility impacts, the most weight should be given to Method 3.	See response to F04-12 above. In addition, the Final EIS has reported cumulative visibility impacts for this new method alone.
AQ	Visibility	F04	14	The EIS should disclose the cumulative visibility impacts in the context of the overarching CAA visibility goals, and clarify in the EIS that the results of the analysis do not represent a regulatory regional haze analysis.	Cumulative visibility impacts have been disclosed according to the method proposed by the USFWS and USFS.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Visibility	F04	16	Page 5, paragraph 3. We continue to believe that additional NOx reductions from the CD-C project are warranted. We do not have recommendations for specific NOx mitigations at this time; rather, we would like to establish an ongoing discussion within the stakeholder group to identify a NOx reduction target that may be achieved through a suite of agreed upon mitigation measures, with specific recommendations coming from a collaborative process.	The BLM intends to work with stakeholders to address mitigation of adverse impacts from the CD-C project. Mitigation measures will ultimately be included in the ROD.
AQ	Visibility	IN03	26	Page 32, paragraph 4 through page 36. The visibility analysis is conservative and indicates no degradation in visibility as a result of the proposed development. The CD-C visibility modeling indicates that modeled visibility is conservative and over estimates the number of days in excess of 0.5 dv and 1.0 dv. In addition, the cumulative modeling indicates that visibility will improve between 2008 and 2022.	The visibility analysis is conservative because the model performance evaluation showed that the model tends to overestimate visibility impacts. This is shown in the visibility model performance evaluation documented in AQTSD Appendix A.
AQ	Visibility	IN05	7	Devon does not believe that the 0.5 dv standard is scientifically justifiable. The BLM must demonstrate its justification for utilizing the 0.5 dv standard. The BLM appears to rely upon the Federal Land Managers Air Quality Values Workgroup ("FLAG") report from 2010 as a source for its decision to utilize the 0.5 dv standard. It is important to remember that BLM was not a signatory to the FLAG report and, thus, its reliance on this source is not appropriate.	Per the National Air Quality MOU, the BLM is required to assess visibility impacts to USFS and NPS lands using the FLAG method. 0.5 dv is not the criterion for determining significance or requiring mitigation, but is necessary for disclosure purposes.
AQ	Visibility	IN05	8	A summary of the Regional Haze Rule along with NOx emissions reductions at major sources in the region, and how the implementation of the rule and added controls will positively impact visibility and deposition should be added. The public should understand how these will improve conditions.	Thank you for your comment. Discussion of the RHR has been provided in the revised AQTSD and Final EIS along with description of the new method for cumulative visibility analysis.
AQ	Visibility	IN05	22	There are no formal visibility impairment standards that have been adopted by the BLM as it is not a signatory to the FLAG guidance document, and as discussed earlier in these comments, the BLM should specifically explain why it departed from its previously used standard of 1.0dv as a significance criterion and instead utilized a 0.5dv standard. Absent this explanation, the BLM's decision appears to be arbitrary and capricious and wholly unsupported by the record.	Per the National Air Quality MOU, the BLM is required to assess visibility impacts to FS and NPS lands using the FLAG method. 0.5 dv is not the criterion for determining significance or requiring mitigation, but is necessary for disclosure purposes.

Category	Sub-Category	Comment		Comment	Response
		Code	No		
AQ	Visibility	IN08	6	Samson does not believe that the 0.5 dv standard is scientifically justifiable. The BLM must demonstrate its justification for utilizing the 0.5dv standard. The BLM appears to rely upon the Federal Land Managers Air Quality Values Workgroup ("FLAG") report from 2010 as a source for its decision to utilize the 0.5dv standard. It is important to remember that BLM was not a signatory to the FLAG report and, thus, its reliance on this source is not appropriate.	Per the National Air Quality MOU, the BLM is required to assess visibility impacts to USFS and NPS lands using the FLAG method. 0.5 dv is not the criterion for determining significance or requiring mitigation, but is necessary for disclosure purposes.
AQ	Visibility	IN08	12	There are no formal visibility impairment standards that have been adopted by the BLM as it is not a signatory to the FLAG guidance document, and as discussed earlier in these comments, the BLM should specifically explain why it departed from its previously used standard of 1.0dv as a significance criterion and instead utilized a 0.5dv standard. Absent this explanation, the BLM's decision appears to be arbitrary and capricious and wholly unsupported by the record.	Per the National Air Quality MOU, the BLM is required to assess visibility impacts to USFS and NPS lands using the FLAG method. 0.5 dv is not the criterion for determining significance or requiring mitigation, but is necessary for disclosure purposes.
AQ	Visibility	IN05	6	Devon objects to the BLM's decision to utilize the 0.5 deciview standard. The BLM in Wyoming has long utilized a 1.0 dv standard for visibility impacts in EISs. The BLM must justify its decision to depart from its long-established practice and procedure. Absent such justification, the BLM's decision appears arbitrary. It is not clear why maximum delta deciview values should be used for evaluation; the BLM should provide further justification.	Per the National Air Quality MOU, the BLM is required to assess visibility impacts to FS and NPS lands using the FLAG method. 0.5 dv is not the criterion for determining significance or requiring mitigation, but is necessary for disclosure purposes.
AQ	Visibility	IN08	5	Samson objects to the BLM's decision to utilize the 0.5 deciview standard. The BLM in Wyoming has long utilized a 1.0 dv standard for visibility impacts in EISs. The BLM must justify its decision to depart from its long-established practice and procedure. Absent such justification, the BLM's decision appears arbitrary.	Per the National Air Quality MOU, the BLM is required to assess visibility impacts to FS and NPS lands using the FLAG method. 0.5 dv is not the criterion for determining significance or requiring mitigation, but is necessary for disclosure purposes.

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