

**DECISION RECORD**  
**For Environmental Assessment WY-070-EA11-138**  
**Lance Oil and Gas Corporation**  
**Rose Draw Unit Fed 44-19 APD and Fed 21-19 Utility Corridor**  
**Bureau of Land Management, Buffalo Field Office**

I approve Alternative B as described in the environmental assessment (EA) referenced above, and authorize the proposed project for the Fed 44-19 and the Fed 21-19 utility corridor.

**Compliance.** This decision complies with:

- Federal Land Policy and Management Act of 1976 (FLPMA) (43 USC 1701).
- Mineral Leasing Act of 1920 (30 U.S.C. 181) and as prescribed in 43 CFR Part 3160 to include On Shore Order No. 1.
- National Environmental Policy Act of 1969 (NEPA) (42 USC 4321).
- Migratory Bird Treaty Act (16 USC 703).
- DOI Order 3310, Protecting Wilderness Characteristics on Lands Managed by the Bureau of Land Management, Dec 2010; BLM Manuals 6300-1 and 6300-2 (drafts).
- Powder River Basin Final Environmental Impact Statement (FEIS), and RMP Amendment.
- Buffalo Resource Management Plan 1985, Amendments 2001, 2003.

**The Selected Alternative Features.**

	Well Name	Well #	Qtr/Qtr	Section	TWP	RNG	Lease #
1	Rose Draw Unit Fed	44-19	SESE	19	52N	77W	WYW146318

Infrastructure	Qtr/Qtr	Section	TWP	RNG
Utility corridor (gas, water) from the Fed 21-19 well.	SWSW	19	52N	77W
	SESE	13	52N	78W

This approval is subject to adherence with operating plans and mitigation measures contained in the Rose Draw Unit and (Beta) PODs Surface Use Plan of Operations. This approval is also conditioned on the design features as furnished to the Buffalo Field Office (BFO) and on the mitigation and monitoring requirements contained in the Conditions of Approval.

**Limitations.**

There are no deferrals or denials. There was no application for and no approval of the use of federal water in any surface impoundments.

**THE FINDING OF NO SIGNIFICANT IMPACTS.**

The FONSI supporting EA WY-070-EA11-138, considered the project design, analysis, and rationale and found no significant impact on the human environment aside from those revealed in the Powder River Basin FEIS and RMP Amendment. The FONSI found no significant impacts, thus there is no requirement for an EIS.

**COMMENT OR NEW INFORMATION SUMMARY.**

The BFO received new DOI Order 3310, directing to review project areas for wilderness characteristics, post December 22, 2010.



**FINDING OF NO SIGNIFICANT IMPACT**  
**Environmental Assessment WY-070-EA11-138**  
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**FINDING OF NO SIGNIFICANT IMPACT:**

On the basis of the information contained in the environmental assessment (EA) (numbered above and incorporated here by reference), and all other information available to me, it is my determination that:

- (1) the decision to approve 1 application to drill (APDs), and a right of way (ROW) ( Fed 21-19), and associated plan of development (POD) infrastructure in the Lance Oil and Gas (Lance) Rose Draw Unit Fed 44-19 area coalbed natural gas (CBNG) POD will not have significant environmental impacts beyond those already addressed in the Powder River Basin (PRB) FEIS (2003), to which the EA is tiered; and
- (2) the decision to approve the 1 APD will have minor adverse impact to the environment as the area is in the midst of oil and gas development; and
- (3) the decision to authorize the 1 APD is in conformance with the Buffalo Field Office Resource Management Plan (RMP) (1985, 2001, 2003), or other legislative or regulatory processes including DOI Order 3310, BLM Manuals 6300-1 and 6300-2; and
- (4) the decision to authorize the APD and ROW does not constitute a major federal action having a significant effect on the human environment. Therefore, an environmental impact statement is not necessary and will not be prepared.

This finding is based on my consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), both with regard to the context and to the intensity of the impacts described in the EA, WY-070-EA10-239, which is incorporated here by reference.

**CONTEXT:**

Mineral development (coal, oil and gas, bentonite, and uranium) is a long-standing and common land use within the Powder River Basin. More than one third of the nation's coal production comes from the Powder River Basin. The PRB FEIS reasonably foreseeable development predicted and analyzed the development of 51,000 CBNG wells and 3,200 oil wells (PRB FEIS ROD pg. 2). The additional CBNG development described in Alternative B is insignificant within the national, regional, and local context.

**INTENSITY:**

The implementation of Alternative B will result in beneficial effects in the forms of energy and revenue production however; there will also be adverse effects to the environment. Design features and mitigation measures were included within the proposal, Alternative B, to prevent significant adverse environmental effects. The BLM also added site specific and programmatic mitigation measures to reduce adverse environmental effects of this development.

The preferred alternative does not pose a significant risk to public health and safety. The geographic area of the APD and ROW does not contain unique characteristics identified within the 1985 RMP, 2003 PRB FEIS, or other legislative or regulatory processes, including DIO Order 3310 and supporting manuals.

Relevant scientific literature and professional expertise were used in preparing the EA. The scientific

community is reasonably consistent with their conclusions on environmental effects relative to oil and gas development. Research findings on the nature of the environmental effects are not highly controversial, highly uncertain, or involve unique or unknown risks.

CBNG development of the nature proposed with this POD and similar PODs was predicted and analyzed in the PRB FEIS; the selected alternative does not establish a precedent for future actions with significant effects.

There are no cultural or historical resources present that will be adversely affected by the selected alternative (EA sec 4.2.7). This federal project area is clearly lacking wilderness characteristics because it has surface areas with extensive coal bed natural gas development. No species listed under the Endangered Species Act or their designated critical habitat will be adversely affected (EA, sec 4). The selected alternative will not have any anticipated effects that would threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

Field Manager: Steven A. [Signature] Date: 2/10/11

**ENVIRONMENTAL ASSESSMENT**  
**WY-070-EA11-138**  
**Lance Oil and Gas**  
**Rose Draw Unit Fed 44-19 APD and Fed 21-19 Utility Corridor**

## **1. INTRODUCTION**

This environmental assessment (EA) is a site-specific analysis for 1 application to drill (APD) for coalbed natural gas (CBNG) and 1 right-of-way (ROW). The EA tiers to and incorporates by reference the information and analysis in the *Final Environmental Impact Statement and Proposed Plan Amendment for the Powder River Basin Oil and Gas Project* (PRB FEIS), (January, 2003), the PRB FEIS Record of Decision (ROD) and Resource Management Plan Amendments for the PRB Oil and Gas Project (April 2003) pursuant to 40 CFR 1508.28 and 1502.21, and to the EA for the Rose Draw Unit (7/25/05) and Beta (9/26/08) PODs. These EAs are available for review at the BLM Buffalo Field Office (BFO) or on our website. This EA analyzes site-specific resources and impacts that eluded analysis in the PRB FEIS.

### **1.1. Purpose and Need**

The purpose and need of this project is to determine how and under what conditions to allow the operator to exercise conditional lease rights granted by the United States to develop the oil and gas resources on federal leaseholds, as described in their proposed development in manners that protect the environment and advance resource conservation.

The BLM recognizes the extraction of gas is essential to meeting the nation's future needs for energy. As a result, private exploration and development of federal gas reserves are integral to the agencies' oil and gas leasing programs under the authority of the Mineral Leasing Act of 1920, as amended, the Federal Land Policy Management Act (FLPMA) of 1976, and other pertinent laws and regulations. The oil and gas leasing program managed by BLM encourages the development of domestic oil and gas reserves and reduction of the U.S. dependence on foreign sources of energy.

This action responds to the goals and objectives outlined in the 1985 Buffalo Resource Management Plan (RMP), the 2001 Approved RMP for the Public Lands Administered by the BFO and the 2003 PRB FEIS and Amendments. This action considers the Project toward meeting desired conditions for mineral development with appropriate mitigation consistent with the goals, objectives, and decisions outlined in these two documents.

### **1.2. Conformance with the Land Use Plan, Statutes, Regulations or Other Plans**

The proposed development conforms to the terms and the conditions of the 1985 Buffalo RMP, the 2001 Approved RMP, the 2003 PRB FEIS, the PRB FEIS ROD and RMP Amendments (2003), and DOI Order 3310 as required by 43 CFR 1610.5.

## **2. PROPOSED ACTION and ALTERNATIVES**

### **2.1. Alternative A – No Action**

This alternative consists of no new well and utility corridor. The Department of Interior's authority to implement a "no action" alternative that precludes development and/or upgrading existing infrastructure is conditioned by "just compensation." An oil and gas lease grants the lessee a conditional property right in an informed speculative venture. The no action alternative is further described in the PRB FEIS, Volume 1, pp. 2-54 to 2-62.

**2.2. Alternative B Operator Proposed Action with BLM Modifications**

The proposed development is for drilling a federal well and constructing a utility corridor, both in the Rose Draw Unit. The development, if any, will be subject to conditions of approval (COAs). For more detail on project area access, design features and construction practices of the proposed development, refer to the APD submitted 3/10/09 and the utility corridor sundry submitted 6/18/10. Also see the Rose Draw Unit (approved 2/25/05) and Rose Draw Unit Beta (approved 9/26/08) PODs. The plans were written and reviewed to ensure that environmental impacts to both surface and subsurface resources are eliminated or minimized.

Proposed Action Title/Type: Lance Oil & Gas (Lance or operator), Rose Draw Unit Fed 44-19 APD and Rose Draw Unit Fed 21-19 Utility Corridor sundry.

The proposed actions involve:

<b>Activity</b>	<b>Length (feet)</b>	<b>Width (feet)</b>	<b>Acres of Disturbance</b>
Fed 44-19	150	170	0.6
Fed 44-19 Access/Pipeline Corridor	1,000	45	1.0
Fed 21-19 Utility Corridor	3,000	40	2.8
<b>Total Disturbance</b>			<b>4.4</b>

County: Johnson

Applicant: Lance Oil & Gas

Affected Landowner: Eddie Knudson

**3. AFFECTED ENVIRONMENT**

This section describes the environment that would be affected by implementation of Alternatives described in Section 2. The BFO received the Rose Draw Unit Fed 44-19 APD on 3/10/09 and the Fed 21-19 utility corridor sundry on 6/7/10. The BFO and Lance conducted a field inspection for both proposals on 8/16/10. Aspects of the affected environment described in this section focus on the relevant major issues.

The project area for Alternative B is in a highly developed CBNG field. Table 3.1 lists NEPA documentation used to analyze and eventually permit wells and associated infrastructure in the project area.

**Table 3.1**

<b>Approved POD</b>	<b>NEPA Document</b>	<b>Approval Date</b>
Lance Oil and Gas: Rose Draw Unit	EA-070-05-143	2/25/2005
Lance Oil and Gas: Rose Draw Unit Beta	EA-070-08-186	9/26/2008

The following critical elements (subject to requirements specified in statute, regulation, or executive order) other than wildlife and cultural, were evaluated and are either not present, analyzed under a different action, or are not affected by the proposed action or the alternatives in this EA and will not be analyzed further.

**Table 3.2 Affected Resources**

Resource	Resource Present	Resource Affected	Table 3.1 EAs Sufficient	PRB FEIS Sufficient	Notes
Air quality	Yes	Yes	Yes	Yes	PRB FEIS: 3-291-298, 4-404-406, 4-377-386
Cultural	Yes	No	No	No	PRB FEIS: 3-206-228, 4-273-288, 4-394
Native American religious concerns	No	No		No	PRB FEIS: 3-218-219, 3-228, 4-277-278
Traditional Cultural Properties	No	No		No	PRB FEIS: 3-218-219, 4-277-278
Mineral Potential	Yes	No			PRB FEIS: 3-66-70, 3-230, 4-127-129
Coal	No				PRB FEIS: 3-66
Fluid Minerals	Yes	Yes		Yes	PRB FEIS: 3-68-69
Locatable Minerals	No			No	
Other Leasables	No	No		NA	
Salable Minerals	No	No		NA	
Paleontology	No				PRB FEIS: 3-65-66, 4-125-127
PFYC 3	Yes	Yes	No	Yes	PRB FEIS: 3-65-66, 4-125-127
PFYC 5	No				PRB FEIS: 3-65-66, 4-125-127
Recreation	No				PRB FEIS: 3-263-273, 4-319-328
Social & Economic	Yes	Yes		Yes	PRB FEIS: 3-275-289, 4-336-370
Soils & Vegetation	Yes	Yes	Yes	Yes	Addressed in EA. PRB FEIS: 3-78-107, 4-134-152, 4-153-164, 4-393-394, 4-406
Erosion Hazard	Yes	Yes	No	No	Addressed in EA.
Slope hazard	Yes	Yes	No	No	Addressed in EA.
Forest products	No				
Invasive Species	Yes	Yes	Yes	Yes	Addressed in Rose Draw Unit and (Beta) EAs. PRB FEIS: 3-103-108, 4-153-172
Wetlands/Riparian	No				PRB FEIS: 4-117 to 124 3-108-113, 4-172-178, 4-406
Special Designations	No				
Proposed ACEC	No				
Wild & Scenic River	No				PRB FEIS: 3-273
Wilderness Characteristics/Citizen Proposed	No	No	No	No	DOI Order 3310
WSA	No				

Resource	Resource Present	Resource Affected	Table 3.1 EAs Sufficient	PRB FEIS Sufficient	Notes
Visual Resources	No				PRB FEIS: 3-252-263, 4-302-314, 4-403
Class II	No				
Class III	No				
Water	No				PRB FEIS: 3-1-56, 4-1-122, 4-135, 4-33, 4-405
Floodplains	No				
Ground water	Yes	No			PRB FEIS: 3-1-30, 4-1-69, 4-392, 4-405
Surface water	No				PRB FEIS: 4-85 to 86, 4-117 to 124 3-36-56, 4-69-122, 4-393, 4-405
Drinking water	No				PRB FEIS: 3-52, 4-50-52
Wildlife	Yes	Yes		Yes	PRB FEIS: 3-113-153, 4-179, 4-247, 4-397
ESA listed, proposed, or candidate species	Yes	Yes		Yes	
BLM sensitive species	Yes	Yes		Yes	
General wildlife	Yes	Yes		Yes	
West Nile virus potential	Yes	No			

The changes to the proposed action resulted in development of Alternative B. These changes reduced impacts to the environment which will result from this action; therefore only the environmental consequences of Alternative B are described below.

### 3.1. Soils/Slope Hazard

A soil's stability is greatly affected by the slope on which it occurs, in general, the greater the slope, the greater the potential for slumping, landslides and water erosion. The proposed access road for the Fed 44-19 traverses Rose Draw. The slopes on both side of the drainage are approximately 20%. The slopes are short in length and bench out to relatively flat terrain.

Soils with slopes of 20% or greater may be prone to high erosion because of the soil type, particle size, texture, or amount of organic matter.

### 3.2. Wildlife

The BFO previously consulted several resources to identify wildlife species that may occur in the proposed project area. Consulted resources included the wildlife database compiled and managed by the BFO wildlife biologists, the PRB FEIS, the Wyoming Game and Fish Department (WGFD) big game and sage-grouse maps, and the Wyoming Natural Diversity Database (WYNDD). Big Horn Environmental Consultants (BHEC) completed habitat assessments and wildlife inventory surveys. Information regarding surveys performed prior to the approval of the PODs listed in Table 3.1 is found in their associated environmental assessments, listed in the same table. Post approval, BHEC performed surveys in the Rose Draw Unit Beta POD in 2009 and 2010 for mountain plover, greater sage-grouse, raptor nests, and bald eagle roosts. BHEC also performed surveys for raptor nests and bald eagle roosts in the Rose Draw (Alpha) POD in 2009, and 2010 and raptor nests, bald eagle roosts, greater sage-grouse, sharp-

tailed grouse, and breeding mountain plover, annually, from 2003 to 2008. Western Land Services (WLS) performed surveys for Ute ladies'-tresses orchids for the Rose Draw (Alpha) POD in 2004 and BHEC surveyed for Ute ladies'-tresses orchids for the Rose Draw (Alpha) POD in 2005 and 2006. All surveys conformed to the Powder River Basin Interagency Working Group (PRBIWG) protocol.

### **3.2.1. Threatened, Endangered, Proposed, Candidate, and BLM Sensitive Species**

#### **3.2.1.1. Threatened and Endangered Species**

Threatened, Endangered, Candidate and Proposed species are described below.

##### **3.2.1.1.1. Black-footed ferret**

The black-footed ferret is listed as Endangered under the ESA. The affected environment for black-footed ferrets is discussed in the PRB FEIS on pg. 3-175. No prairie dog colonies are present in the project area. Additional information regarding the affected environment for black-footed ferret is discussed in those documents listed in Table 3.1.

##### **3.2.1.1.2. Blowout Penstemon**

Blowout penstemon is listed as Endangered under the ESA. It is a regional endemic species with documented populations in the Sand Hills of west central Nebraska and the northeastern Great Divide Basin of Carbon County, Wyoming. Suitable blowout penstemon habitat consists of sparsely vegetated, early successional, shifting sand dunes and blowout depressions created by wind. In Wyoming, the habitat is typically found on sandy aprons or the lower half of steep sandy slopes deposited at the base of granitic or sedimentary mountains or ridges. The BLM biologist confirmed in the field that the project area does not contain areas with these characteristics, and blowout penstemon is not expected to occur.

##### **3.2.1.1.3. Ute Ladies'-Tresses Orchid**

The Ute ladies'-tresses orchid (ULT) is listed as Threatened under the ESA. The affected environment for ULT is discussed in the PRB FEIS on pg. 3-175. Ute ladies'-tresses orchids do not occur in the project area. Additional information regarding affected environment for Ute ladies'-tresses orchid is discussed in those documents listed in Table 3.1.

#### **3.2.1.2. Proposed Species**

##### **3.2.1.2.1. Mountain Plover**

The affected environment for mountain plover is discussed in the PRB FEIS on pp. 3-177 to 3-178. The project area does not contain suitable mountain plover breeding habitat. Additional information regarding affected environment for mountain plover is discussed here and in those documents listed in Table 3.1.

At the time the PRB FEIS was written, the mountain plover was proposed for listing as a threatened species under the ESA. USFWS withdrew the proposal in 2003 but reinstated it again in 2010. USFWS will submit a final listing determination in 2011. Mountain plover is a WGFD Species of Greatest Conservation Need (SGCN), because population status and trends are unknown but are suspected to be stable, habitat is vulnerable without ongoing significant loss, and the species is sensitive to human disturbance. The Wyoming Bird Conservation Plan rates them as a species with highest conservation priority, indicating they are clearly in need of conservation action. They are also listed by USFWS as a Bird of Conservation Concern (BCC) for Region 17, which includes the project area. BCCs are those species that represent USFWS's highest conservation priorities, outside of those that are already listed under ESA. The goal of identifying BCCs is to prevent or remove the need for additional ESA bird listings by implementing proactive management and conservation actions.

#### **3.2.1.3. Candidate Species Greater**

##### **3.2.1.3.1. Sage-grouse**

The WGFD data show that no sage-grouse leks are within 4 miles of the project area. The affected

environment for greater sage-grouse (sage-grouse) is discussed in the PRB FEIS (pp. 3-194 to 3-199). Additional information regarding the affected environment for sage-grouse is discussed here and in the documents listed in Table 3.1.

In 2010, USFWS determined that the sage-grouse is warranted for federal listing across its range, but listing is precluded by other higher priority listing actions. In addition to being listed as a Wyoming BLM sensitive species, sage-grouse are listed as a WGFD species of greatest conservation need, because populations are declining and they are experiencing ongoing habitat loss. The Wyoming Bird Conservation Plan rates them as a Level I species, indicating they are clearly in need of conservation action. They are also listed by USFWS as a BCC for Region 17.

The WY BLM sage-grouse management strategy solidified (BLM Instruction Memorandum WY-2010-012) and aligned with the State of Wyoming's Greater Sage-grouse Core Area Protection (WY EO 2010-4). As such, this well and pipeline segment do not occur within sage-grouse key habitats (Wyoming Core, BFO Focus, and Connectivity), and their proposed construction is in conformance with the Wyoming BLM policy to manage sage-grouse seasonal habitats and maintain habitat connectivity to support population objectives set by the Wyoming Game and Fish (WGFD).

### **3.2.2. Sensitive Species**

Wyoming BLM listed sensitive species for which BLM management efforts focus on maintaining habitats under a multiple use mandate. The goals of the policy are to:

- Maintain vulnerable species and habitat components in functional BLM ecosystems;
- Ensure consideration of sensitive species in land management decisions;
- Prevent a need for species listing under the ESA; and
- Prioritize needed conservation work with an emphasis on habitat.

The authority for the sensitive species policy is from the Endangered Species Act of 1973, as amended; Title II of the Sikes Act, as amended; the Federal Land Policy and Management Act (FLPMA) of 1976; Department Manual 235.1.1A, BLM Manual 6840, and the WY BLM guidance. The affected environment for sensitive species is discussed in the PRB FEIS and in the documents listed in Table 3.1.

#### **3.2.2.1. Migratory Birds**

Migratory bird habitat, riparian corridors and sagebrush steppe communities, are present in the project area. The affected environment for migratory birds is discussed in the PRB FEIS (pp. 3-150 to 3-153). Additional information regarding affected environment for migratory birds is discussed in that document's Table 3.1.

#### **3.2.2.2. Bald Eagles**

Occupied bald eagle nesting and roosting habitat is present less than a mile east of the well location and less than a mile north of the proposed pipeline location. The affected environment for bald eagles is discussed in the PRB FEIS on pp. 3-141 to 3-148. Additional information regarding affected environment for bald eagles is discussed here and in the documents listed in Table 3.1.

#### **3.2.2.3. Raptors**

The affected environment for raptors is discussed in the PRB FEIS on pp. 3-141 to 3-148. Additional information regarding affected environment for raptors is discussed here and in the documents listed in Table 3.1.

Table 3.3, below, displays raptor nesting history of the nest occurring within 0.5 miles of the proposed well and pipeline segment.

**Table 3.3 Occupied raptor nests occurring within 0.5 miles of the proposed development.**

BLM ID	UTMs	Legal	Substrate	Year	Condition	Status	Species
3052	406955E 4923957N	S19 T52N R77W	Cottonwood - Live	2010	Fair	Inactive	n/a
				2009	Fair	Inactive	n/a
				2008	Fair	Inactive	n/a
				2007	Good	Active	Red-tailed hawk
				2006	Fair	Active	Red-tailed hawk

### 3.3. Cultural Resources

A previously reviewed and accepted Class III cultural resource inventory (BFO # 70040150) adequately covered the proposed project area. No cultural resources are in the area of potential effect (APE).

### 3.4 Wild Lands/Wilderness

The proposed development is in the midst of a highly developed CBNG fields, complete with well heads, mechanically maintained roads, water and electrical infrastructure, see the EAs in Table 3.1.

## 4. ENVIRONMENTAL EFFECTS

This section analyzes the environmental effects of implementing the proposed Alternative B. The analysis addresses the direct and indirect effects the cumulative effects of the proposed action combined with reasonably foreseeable federal and non-federal actions, identifies and analyzes mitigation measures (COAs), and discloses any residual effects remaining following mitigation. For a discussion of the environmental consequences of Alternative A, the no action, see the PRB FEIS.

### 4.1. Alternative A

The No Action Alternative was analyzed in the PRB FEIS (Alternative 3) and is incorporated into this EA by reference, see pp. 4-150 to 4-374.

#### 4.1.1. Direct and Indirect Effects

##### 4.1.1.1. Cumulative Effects

#### Soils

Direct and Indirect Effects: pg. 4-150

Cumulative Effects: pg. 4-152

#### Vegetation

Direct and Indirect Effects: pg. 4-163

Cumulative Effects: pg. 4-164

#### Wildlife

##### Big Game

Direct and Indirect Effects: pg. 4-186

Cumulative Effects: pg. 4-211

##### Raptors

Direct and Indirect Effects: pg. 4-224

Cumulative Effects: pg. 4-225

##### Waterfowl

Direct and Indirect Effects: pg. 4-230

Cumulative Effects: pg. 4-230

Migratory Birds	Direct and Indirect Effects: pg. 4-234
	Cumulative Effects: pg. 4-235
Aquatic Species	Direct and Indirect Effects: pg. 4-246
	Cumulative Effects: pg. 4-249
Sensitive Species	
Greater Sage-Grouse	Direct and Indirect Effects: pg. 4-271
	Cumulative Effects: pg. 4-271
Cultural Resources	
	Direct and Indirect Effects: pg. 4-286
Visual Resources	
	Direct and Indirect Effects: pg. 4-313
	Cumulative Effects: pg. 4-314
Water	
Ground Water	Direct and Indirect Effects: pg. 4-63
	Cumulative Effects: pg. 4-69
Surface Water	Direct and Indirect Effects: pg. 4-77
	Cumulative Effects: pg. 4-69
Social Economics	
	Direct and Indirect Effects: pg. 4-362
	Cumulative Effects: pg. 4-370

## 4.2. Alternative B

The resources identified as being adequately analyzed in previous NEPA documentation (Table 3.2) were reviewed for environmental consequences. The direct, indirect and cumulative effects that would result from implementation of the new proposed action are similar (both quantitatively and qualitatively) to effects analyzed in the existing NEPA documentation listed in Table 4.1 and will not be analyzed further.

**Table 4.1**

Approved POD	NEPA Document	Approval Date
Lance Oil and Gas: Rose Draw Unit	EA-070-05-143	2/25/2005
Lance Oil and Gas: Rose Draw Unit Beta	EA-070-08-186	9/26/2008

Table 4.1 lists existing NEPA documentation that addressed environmental consequences.

NOTE: The new proposed action will have potential consequences effecting wildlife, steep slopes, reclamation potential, and cultural resources thus environmental consequences are reviewed in the following sections.

### 4.2.1. Soils/Slope Hazard

#### 4.2.1.1. Direct and Indirect Effects

The impacts listed below, singly or in combination, would increase the potential for valuable soil loss due to increased water and wind erosion, invasive plant establishment, and increased sedimentation and salt loads to the watershed system.

The effects to soils, including highly erosive, and slopes resulting from well pad, access roads and pipeline construction include:

- Mixing of horizons – occurs where construction on roads, pipelines or other activities take place. Mixing may result in removal or relocation of organic matter and nutrients to depths where it would be unavailable for vegetative use. Soils which are more susceptible to wind and water erosion may be moved to the surface. Soil structure may be destroyed, which may impact infiltration rates. Less desirable inorganic compounds such as carbonates, salts or weathered materials may be relocated and have a negative impact on revegetation. This drastically disturbed site may change the ecological integrity of the site and the recommended seed mix. Reclamation applications and success may be affected by impacts to listed above.
- Loss of soil vegetation cover, biologic crusts, organic matter and productivity.
- Soil erosion would also affect soil health and productivity. Erosion rates are site specific and are dependent on soil, climate, slope & aspect and cover.
- Soil compaction – the collapse of soil pores results in decreased infiltration and increased erosion potential. Factors affecting compaction include soil texture, moisture, organic matter, clay content and type, pressure exerted, and the number of passes by vehicle traffic or machinery.
- Alteration of surface run off characteristics on slopes.
- An important component of soils in Wyoming’s semiarid rangelands, especially in the Wyoming big sagebrush cover type, are biological soil crusts, or cryptogamic soils that occupy ground area not covered with vascular plants. Biological soil crusts are important in maintaining soil stability, controlling erosion, fixing nitrogen, providing nutrients to vascular plants, increasing precipitation infiltration rates, and providing suitable seed beds (BLM 2003). They are adapted to growing in severe climates; however, they take many years to develop (20 to 100) and can be easily disturbed or destroyed by surface disturbances associated with construction activities.

Direct effects (removal and/or compaction) to vegetation would occur from ground disturbance caused by construction of the well pad and associated pipelines and roads. Short term effects would occur where vegetated areas are disturbed but later reclaimed within 1 to 3 years of the initial disturbance. Long-term effects would occur where the well pads and access road may result in loss of vegetation and affect reclamation success for the life of the project.

The operator has engineered the access road the traverses the side slopes on both banks of the Rose Draw drainage. The design has cut down the slope to less than 16% on both banks to minimize the slope and to allow for safe vehicular access. Other contributing factors to slope stability include slope length, slope aspect and colluviums. Slope length has considerable control over runoff and potential accelerated water erosion.

The Rose Draw drainage will be crossed with an access road to the Fed 44-19. The operator has submitted an engineered design including a culvert/low water crossing overflow spillway. The culvert/low water crossing is designed to meet the 25 year peak flow for in Rose Draw.

Topsoil/vegetation removal will be required. These activities when combined with daily truck traffic, drilling operations traffic and maintenance work after ephemeral flow will affect channel stability. The change in channel stability will result in additional sediment transport until the disturbed areas are completely revegetated.

#### **4.2.1.2. Cumulative Effects**

The designation of the duration of disturbance is defined in the PRB FEIS (pg 4-1 and 4-151). Most soil disturbances would be short term impacts with expedient interim reclamation and site stabilization, as committed to by the operator in their POD Surface Use Plan and as required by the BLM in COAs.

Geomorphic effects of roads and other surface disturbance range from chronic and long-term contributions of sediment into waters of the state to catastrophic effects associated with mass failures of road fill material during large storms. Roads can affect geomorphic processes primarily by: accelerating erosion from the road surface and prism itself through mass failures and surface erosion processes; directly affecting stream channel structure and geometry; altering surface flow paths, leading to diversion or extension of channels onto previously unchannelized portions of the landscape; and causing interactions among water, sediment, and debris at road-stream crossings.

Short term and long term reclamation success will be affected by limiting factors such as; highly erosive soils, lack of top soil, slope & aspect, precipitation, timing of construction and interim reclamation applications.

#### **4.2.1.3. Mitigation Measures**

The proponent planned their project to maximize the fluid mineral drainage while avoiding areas with soil limitation where possible. BLM made further recommendations during the onsite to avoid areas with low reclamation potential and poor site suitability. Disturbances approved within these areas require the programmatic/standard COA's be complimented with a site specific performance based reclamation related COA. The following mitigation will be applied through a COA:

- The Fed 44-19 proposed road is to be developed on steep slopes. Improved roads used in conjunction with accessing federal wells must be fully built (including all water control structures such as wing ditches, culverts, relief ditches, low water crossings, surfacing, etc.) and functional to BLM standards as outlined in the BLM Manual 9113 prior to drilling of the well.
- The operator will follow the guidance provided in the Wyoming Policy on Reclamation (IM WY-90-231). The Wyoming Reclamation Policy applies to all surface disturbing activities. Authorizations for surface disturbing actions are based upon the assumptions that an area can and ultimately will be successfully reclaimed. BLM reclamation goals emphasize eventual ecosystem reconstruction, which means returning the land to a condition approximate to an approved "Reference Site" or NRCS Ecological Site Transition State. Final reclamation measures are used to achieve this goal. BLM reclamation goals also include the short-term goal of quickly stabilizing disturbed areas to protect both disturbed and adjacent undisturbed areas from unnecessary degradation. Interim reclamation measures are used to achieve this short-term goal.

#### **4.2.1.4. Residual Effects**

Due to the presence of highly erosive soils and the topography of the project area erosion will occur. Rilling and gullyng of cut and fill slopes will take place. Impacts from livestock to stabilized cut and fill slopes will limit soils becoming stable and getting vegetation establish.

Residual Effects were also identified in the PRB FEIS, p. 4-408, such as the loss of vegetative cover, despite expedient reclamation, for several years until reclamation is successfully established.

## **4.2.2. Wildlife**

### **4.2.2.1. Threatened, Endangered, Proposed and Candidate Species**

#### **4.2.2.1.1. Black-Footed Ferret**

##### **4.2.2.1.1.1. Direct and Indirect Effects**

Direct and indirect effects to black-footed ferret were previously analyzed in the documents listed in Table 4.1. Implementation of the proposed well and pipeline project will have “no effect” on black-footed ferret.

##### **4.2.2.1.1.2. Cumulative Effects**

The cumulative effects to black-footed ferrets are discussed in the PRB FEIS (p. 4-251). Cumulative effects to black-footed ferret were also previously analyzed in the documents listed in Table 4.1.

##### **4.2.2.1.1.3. Mitigation Measures**

No mitigation is proposed.

##### **4.2.2.1.1.4. Residual Effects**

No residual effects are anticipated.

#### **4.2.2.1.2. Blowout penstemon**

##### **4.2.2.1.2.1. Direct and Indirect Effects**

Suitable habitat is not present within the project area. Implementation of the proposed well and pipeline project will have “no effect” on blowout penstemon.

##### **4.2.2.1.2.2. Cumulative Effects**

No cumulative effects are anticipated.

##### **4.2.2.1.2.3. Mitigation Measures**

No mitigation is proposed.

##### **4.2.2.1.2.4. Residual Effects**

No residual effects are anticipated.

#### **4.2.2.1.3. Ute Ladies’-Tresses Orchid**

##### **4.2.2.1.3.1. Direct and Indirect Effects**

Direct and indirect effects to Ute ladies’-tresses orchid were previously analyzed in the documents listed in Table 4.1. Implementation of the proposed well and pipeline project will have “no effect” on Ute ladies’-tresses orchid.

##### **4.2.2.1.3.2. Cumulative Effects**

The cumulative effects to Ute ladies’-tresses orchid are discussed in the PRB FEIS (pp. 4-253 to 4-254). Cumulative effects to ULT were also previously analyzed in the documents listed in Table 4.1.

##### **4.2.2.1.3.3. Mitigation Measures**

No mitigation is proposed.

##### **4.2.2.1.3.4. Residual Effects**

No residual effects are anticipated.

#### **4.2.2.1.4. Proposed Species Mountain Plover**

##### **4.2.2.1.4.1. Direct and Indirect Effects**

Direct and indirect effects to mountain plover were previously analyzed in the documents listed in table 4.1. Implementation of the proposed well and pipeline project is *not likely to jeopardize* the continued existence of mountain plovers.

##### **4.2.2.1.4.2. Cumulative Effects**

The cumulative effects to mountain plover are discussed in the PRB FEIS (pp. 4-254 to 4-255). Cumulative effects to mountain plover were also analyzed in the documents listed in Table 4.1.

##### **4.2.2.1.4.3. Mitigation Measures**

No mitigation is proposed.

##### **4.2.2.1.4.4. Residual Effects**

No residual effects are anticipated.

#### **4.2.2.1.5. Candidate Species**

##### **4.2.2.1.5.1. Greater Sage-grouse**

###### **4.2.2.1.5.1.1. Direct and Indirect Effects**

Direct and indirect effects to greater sage-grouse were previously analyzed in the documents listed in Table 4.1.

Impacts to sage-grouse associated with energy development are discussed in detail in the *12-Month Findings for Petitions to List the Greater Sage-Grouse (Centrocercus urophasianus) as Threatened or Endangered* (USFWS 2010). Impacts to sage-grouse are generally a result of loss and fragmentation of sagebrush habitats associated with roads and infrastructure. Research indicates that sage-grouse hens also avoid nesting in developed areas.

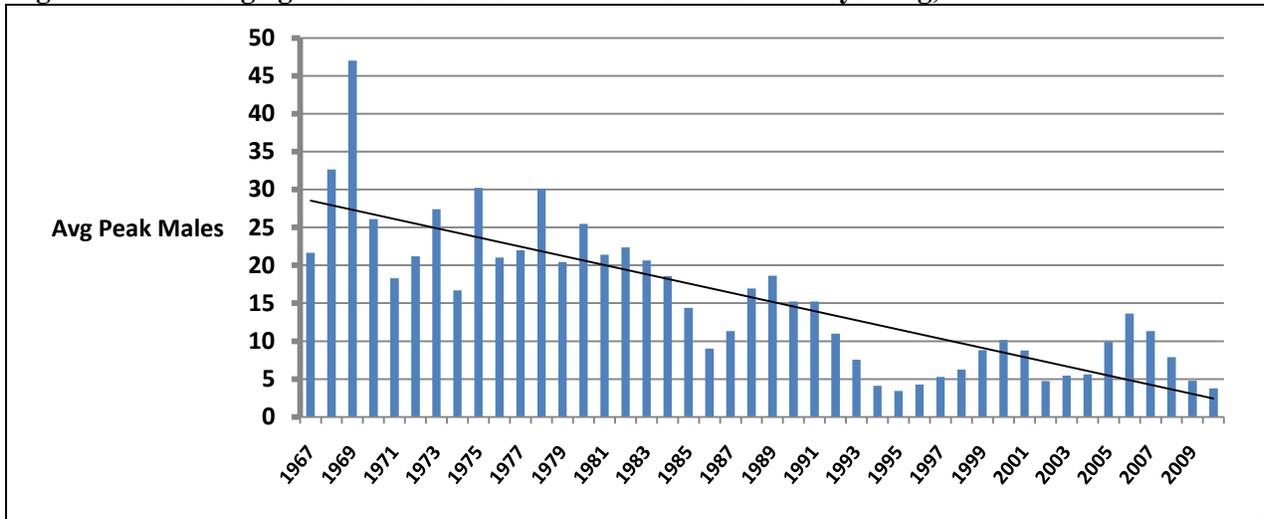
###### **4.2.2.1.5.1.2. Cumulative Effects**

The cumulative effects to greater sage-grouse were previously analyzed in the documents listed in Table 4.1. Additional effects analysis is presented below.

The sage-grouse population within northeast Wyoming is exhibiting a steady long term downward trend, as measured by lek attendance (WGFD 2010). Figure 4.2 illustrates a ten-year cycle of periodic highs and lows. Each subsequent population peak is lower than the previous peak. Research suggests that these declines may be a result, in part, of CBNG development, as discussed in detail in USFWS (2010). Holloran (2005) found a positive correlation between decreased male attendance and increased potential for greater noise intensity at leks. Displacement of adult males and low recruitment of juvenile males contributed to declines in the number of breeding males on impacted leks.

Habitat models generated through GIS analysis indicate that the proposed well location and pipeline corridor occurs in an area that provides only small amounts of scattered patches of high quality nesting and wintering habitats for sage-grouse.

**Figure 4.2 Male sage-grouse lek attendance within northeastern Wyoming, 1967-2010.**



Based on the summary of research describing the impacts of energy development on sage-grouse, efforts to reduce habitat loss, fragmentation, and degradation are likely to be the most effective in ensuring long-term lek persistence.

**4.2.2.1.5.1.3. Mitigation Measures**

No mitigation is proposed.

**4.2.2.1.5.1.4. Residual Effects**

Suitability of the project area for sage-grouse will be negatively affected due to proximity of human activities associated with CBNG development.

**4.2.2.2. Sensitive Species**

BLM will take necessary actions to meet the policies set forth in sensitive species policy (BLM Manual 6840). BLM Manual 6840.22A reads that “The BLM should obtain and use the best available information deemed necessary to evaluate the status of special status species in areas affected by land use plans or other proposed actions and to develop sound conservation practices. Implementation-level planning should consider all site-specific methods and procedures which are needed to bring the species and their habitats to the condition under which the provisions of the ESA are not necessary, current listings under special status species categories are no longer necessary, and future listings under special status species categories would not be necessary.”

The PRB FEIS discusses impacts to sensitive species on pp. 4-257 to 4-265. Direct, indirect, cumulative, and residual effects to species that may occur in the project area were previously analyzed in the documents listed in Table 4.1.

**4.2.2.3. Bald Eagle**

**4.2.2.3.1. Direct and Indirect Effects**

Impacts to bald eagles are discussed in the PRB FEIS on pp. 4-251 to 4-253. Human activities, traffic, and construction may displace winter roosting, or foraging eagles that use habitats along the riparian corridor of Crazy Woman Creek which is approximately 1 mile to the north and the Powder River which is approximately 1 mile to the east.

#### **4.2.2.3.2. Cumulative Effects**

The cumulative effects associated with the proposed action are within the analysis parameters and impacts described in the PRB FEIS. For details on expected cumulative impacts, refer to the PRB FEIS, pg. 4-235. The cumulative effects to migratory birds were previously analyzed in the documents listed in Table 4.1.

#### **4.2.2.3.3. Mitigation Measures**

To reduce the risk of disruption to the winter roosting activities of bald eagles, BFO will require a 1.0 mile radius timing limitation on all winter roost habitat located both east (Powder River) and North (Crazy Woman Creek) of the proposed activity between 1 Nov and 1 Apr, annually.

#### **4.2.2.3.4. Residual Effects**

Once construction of POD components has been completed, regular attendance to wells and their infrastructure within a mile of the identified bald eagle winter use area to the east, will cause disturbance to eagles using the area.

### **4.2.2.4. Migratory Birds**

#### **4.2.2.4.1. Direct and Indirect Effects**

Direct and indirect effects to migratory birds are discussed in the PRB FEIS (pp. 4-231 to 4-235). Effects to migratory birds were also previously analyzed in the documents listed in Table 4.1.

#### **4.2.2.4.2. Cumulative Effects**

The cumulative effects associated with the proposed action are within the analysis parameters and impacts described in the PRB FEIS. For details on expected cumulative impacts, refer to the PRB FEIS, pp. 4-235. The cumulative effects to migratory birds were previously analyzed in the documents listed in Table 4.1.

#### **4.2.2.4.3. Mitigation Measures**

Migratory bird species within the Powder River Basin nest in the spring and early summer and are vulnerable to the same effects as sage-grouse and raptor species. Though no timing restrictions are typically applied specifically to protect migratory bird breeding or nesting, where sage-grouse or raptor nesting timing limitations are applied, nesting migratory birds are also protected. Where these timing limitations are not applied and migratory bird species are nesting, migratory birds remain vulnerable.

#### **4.2.2.4.4. Residual Effects**

Protections around active raptor nests (Feb 1- July 31) extend past most migratory bird nesting seasons. Only a percentage of known nests are active any given year, so the protections for migratory birds from June 30-July 31 will depend on how many raptor nests are active.

### **4.2.2.5. Raptors**

#### **4.2.2.5.1. Direct and Indirect Effects**

The red-tailed hawk pair that once nested in nest 3052 has likely abandoned this nest due either to ongoing CBNG development, traffic, human disturbance, or old age, accident, or death. Direct and indirect effects to raptors are analyzed in the PRB FEIS (pp. 4-216 to 4-221), and were also previously analyzed in the documents listed in Table 4.1.

#### **4.2.2.5.2. Cumulative Effects**

Cumulative effects to raptors are discussed in the PRB FEIS (pg. 4-221), and were also previously analyzed in the documents listed in Table 4.1.

#### **4.2.2.5.3. Mitigation Measures**

To reduce the risk of decreased productivity or nest failure, the BLM BFO requires a timing limitation during the breeding season for all surface disturbing activities within 0.5 miles of active raptor nests.

#### **4.2.2.5.4. Residual Impacts**

Even with a timing limitation, raptors may abandon nests due to alteration in foraging habitats associated with development or because of sensitivity to well or infrastructure placement. Declines in breeding populations of some species that are more sensitive to human activities may occur.

### **4.2.3. Cultural Resources**

#### **4.2.3.1. Direct and indirect effects**

No historic properties will be impacted by the proposed project. Following the Wyoming State Protocol Section VI(A)(1) the Bureau of Land Management electronically notified the Wyoming State Historic Preservation Officer (SHPO) on 11/5/2010 (DBU\_WY\_2010\_1574) and 12/20/2010 (DBU\_WY\_2010\_1875), that no historic properties exist within the APE. If any cultural values [sites, artifacts, human remains (Appendix L PRB FEIS)] are observed during operation of this lease/permit/right-of-way, they will be left intact and the Buffalo Field Manager notified. Further discovery procedures are explained in the Standard COA (General)(A)(1).

#### **4.2.3.2. Cumulative**

Construction and development of oil and gas resources impacts cultural resources through ground disturbance, unauthorized collection, and visual intrusion of the setting of historic properties. This results in fewer archaeological resources available for study of past human life-ways, changes in human behavior through time, and interpreting the past to the public. Additionally, these impacts may compromise the aspects of integrity that make a historic property eligible for the National Register of Historic Places. Recording and archiving basic information about archaeological sites and the potential for subsurface cultural materials in the proposed project area serve to partially mitigate potential cumulative effects to cultural resources.

1. Fee actions constructed in support of federal actions can result in impacts to historic properties. Construction of large plans of coalbed natural gas development on split estate often include associated infrastructure that is not permitted through BLM. Project applicants may connect wells draining fee minerals, or previously constructed pipelines on fee surface with a federal plan of development. BLM has no authority over such development which can impact historic properties. BLM has the authority to modify or deny approval of federal undertakings on private surface, but that authority is limited to the extent of the federal approval. Historic properties on private surface belong to the surface owner and they are not obligated to preserve or protect them. The BLM may go to great lengths to protect a site on private surface from a federal undertaking, but the same site can be legally impacted by the landowner at any time. The cumulative effect of numerous federal approvals can result in impacts to historic properties. Archeological inventories reveal the location of sites and although the BLM goes to great lengths to protect site location data, information can potentially get into the wrong hands. BLM authorizations that result in new access can inadvertently lead to impacts to sites from increased visitation by the public.

#### **4.2.3.3. Mitigation Measures**

If any cultural values [sites, artifacts, human remains (Appendix L PRB FEIS)] are observed during operation of this lease/permit/right-of-way, they will be left intact and the Buffalo Field Manager notified. Further discovery procedures are explained in the Standard COA (General)(A)(1).

#### **4.2.3.4. Residual Effects**

During the construction phase, there will be numerous crews working across the project area using heavy

construction equipment without the presence of archaeological monitors. Due to the extent of work and the surface disturbance caused by large vehicles, it is possible that unidentified cultural resources can be damaged by construction activities. The increased human presence associated with the construction phase can also lead to unauthorized collection of artifacts or vandalism of historic properties.

**4.3. Wild Lands/Wilderness**

The proposed development area is clearly lacking wilderness characteristics because it is in the midst of a highly developed CBNG fields, complete with well heads, mechanically maintained roads, water and electrical infrastructure, see the EAs in Table 3.1.

**5. CONSULTATION/COORDINATION:**

Contact	Title	Organization	Present at Onsite?
Jeb Tachick	Regulatory Agent	Yates Petroleum	Yes
Brad MacKenrney	Pipeliner	Rowdy Pipeline	Yes
Mary Hopkins	State Historic Preservation Officer	Wyoming State Historic Preservation Office	No
Ardeth Hahn	Archaeologist	BLM	No

**6. REFERENCES AND AUTHORITIES:**

The National Environmental Policy Act of 1969 (NEPA), as amended (Pub. L. 91-90, 42 U.S.C. 4321 et seq.).

Code of Federal Regulations (CFR)

- 40 CFR All Parts and Sections inclusive Protection of Environment Revised as of July 1, 2001.
- 43 CFR All Parts and Sections inclusive - Public Lands: Interior. Revised as of October 1, 2000.

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## **7. REVIEWER**

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Chris Durham, Assistant Field Manager Resources  
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