

**DECISION RECORD**  
**Environmental Assessment (EA) WY-070-EA12-61**  
**Lance Oil & Gas Co., Inc., Simba Fed 20-44H Well**  
**Buffalo Field Office, Bureau of Land Management**

**DECISION.**

The BLM approves Lance Oil & Gas Company’s Simba Fed 20-44H oil and gas well application for permit to drill (APD) as described in Alternative B of the EA, WY-070-EA12-61. This approval includes the well’s associated infrastructure.

**Compliance.** This decision complies with:

Federal Land Policy and Management Act of 1976 (FLPMA) (43 USC 1701); DOI Order 3310.  
 Mineral Leasing Act of 1920 (MLA) (30 U.S.C. 181); to include On Shore Order No. 1.  
 National Environmental Policy Act of 1969 (NEPA) (42 USC 4321).  
 Buffalo Resource Management Plan (RMP) 1985, Amendments 2001, 2003, 2011.

BLM summarized the details of the approval of Alternative B, below. The project description, including specific changes made at the onsites, and site-specific mitigation measures, are in the EA.

**Well.**

BLM approves the following APD and associated infrastructure:

	Well Name	Well #	Qtr/Qtr	Section	TWP	RNG	Lease #
1.	Simba Fed	20-44H	NWNE	20	47	78	WYW146889

**Limitations.** There are no denials or deferrals. Also see the conditions of approval (COAs).

**Right-of-Way Amendments.**

Lance identified the following right-of-way locations with the Simba Federal 20-44H APD. BLM will grant amended right-of-way, WYW-151548, under FLPMA. Construction on the right of way may begin after receipt of the written authorization. The APD’s COAs govern this right-of-way.

ROW Grant	ROW Action	Sections	TWP	RNG	Lengths	Width
Amend WYW151548	Road	8, 17	47N	78W	10,224’	NTE 50’
Amend WYW151548	Power	17, 20	47N	78W	3,867’	25’
Amend WYW151548	Well Pad Site	17, 20	47N	78W	Acres of Disturbance	
					14.5 acres	

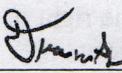
**THE FINDING OF NO SIGNIFICANT IMPACT (FONSI).** Analysis of Alternative B of the EA and the FONSI found Lance’s proposal for the Simba Fed 20-44H well will have no significant impacts on the human environment, beyond those in the Powder River Basin Final Environmental Impact Statement (PRB FEIS), so there is no need for an EIS. This was also true for the Whiskey Drawn, WY-070-09-048, and Falxa Red Draw, WY-070-05-315, EAs to which this EA also tiers.

**COMMENT OR NEW INFORMATION SUMMARY.** BLM publically posted the proposed APD for 30 days, received no comments, and then internally scoped it. BLM’s experience in the PRB (outside of the Fortification Creek Planning Area) revealed little public input or new issue discovery other than those revealed after rigorous public scoping during development of the PRB Oil and Gas Project. This was also the case for the Whiskey Drawn and Flaxa Red Draw EAs, cited above.

**DECISION RATIONALE.** BLM bases the decision authorizing the selected project on:

1. BLM and Lance included mitigation measures to reduce environmental impacts while meeting the project's need. See the EA's COAs for a complete description of all site-specific COAs.
2. Alternative B will not result in any undue or unnecessary environmental degradation and applies the current practice of the Wyoming BLM.
3. The selected alternative will help meet the nation's energy needs and help stimulate local economies by maintaining workforce stability.
4. The Operator committed to:
  - Comply with the approved APD, applicable laws, regulations, orders, and notices to lessees.
  - Obtain necessary permits from agencies.
  - Provide water well agreements the owners of record for permitted wells.
  - Provide water well analysis from a known reference point.
  - Incorporate measures to alleviate resource impacts in their surface use plan and drilling plan.
5. The project is clearly lacking wilderness characteristics as the federal surface is less than 5,000 acres.

**ADMINISTRATIVE REVIEW AND APPEAL.** This decision is subject to administrative review according to 43 CFR 3165. Request for administrative review of this decision must include information required under 43 CFR 3165.3(b) (State Director Review), including all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, P.O. Box 1828, Cheyenne, Wyoming 82003, no later than 20 business days after this Decision Record is received or considered to have been received. Any party who is adversely affected by the State Director's decision may appeal that decision to the Interior Board of Land Appeals, as provided in 43 CFR 3165.4.

Field Manager: 

Date: 3/19/12

**FINDING OF NO SIGNIFICANT IMPACT**  
**Environmental Assessment (EA), WY-070-EA12-61**  
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**FINDING OF NO SIGNIFICANT IMPACT (FONSI).** Based on the information in the EA, WY-070-EA12-61, which BLM incorporates here by reference; I find that: (1) the implementation of Alternative B will not have significant environmental impacts beyond those already addressed in the Buffalo Final Environmental Impact Statement (FEIS) 1985, the Powder River Basin (PRB) FEIS, 2003, and the EAs for Whiskey Drawn (WY-070-09-048) and Falxa Red Draw (WY-070-05-315) to which this EA tiers; (2) Alternative B conforms to the Buffalo Field Office (BFO) Resource Management Plan (RMP) (1985, 2001, 2003, 2011); and (3) Alternative B does not constitute a major federal action having a significant effect on the human environment. Thus there is no requirement for an EIS. I base this finding on consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), with regard to the context and to the intensity of the impacts described in the EA, and consideration of Interior Department Order 3310.

**CONTEXT.** Mineral development is a common land use in the PRB - sourcing 42% of the nation's coal. The PRB FEIS reasonably foreseeable development analyzed the development of 54,200 fluid mineral wells. The development described in Alternative B is insignificant in the national 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 in Alternative B will minimize adverse environmental effects. The preferred alternative does not pose a significant risk to public health and safety. The geographic area of project does not contain unique characteristics identified in the 1985 RMP, 2003 PRB FEIS, or other legislative or regulatory processes. BLM used relevant scientific literature and professional expertise 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. The PRB FEIS predicted and analyzed oil development of the nature proposed with this project and similar projects. 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. The project area is clearly lacking wilderness characteristics as the federal surface is smaller than 5,000 acres. The project will not adversely affect any designated critical habitat or species listed under the Endangered Species Act. The selected alternative will not have any anticipated effects that would threaten a violation of federal, state, or local law imposed for the protection of the environment.

**ADMINISTRATIVE REVIEW AND APPEAL:** This finding is subject to administrative review according to 43 CFR 3165. Request for administrative review of this finding must include information required under 43 CFR 3165.3(b) (State Director Review), including all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, P.O. Box 1828, Cheyenne, Wyoming 82003, no later than 20 business days after this FONSI is received or considered to have been received. Any party who is adversely affected by the State Director's finding may appeal that finding to the Interior Board of Land Appeals, as provided in 43 CFR 3165.4.

Field Manager: \_\_\_\_\_



Date: \_\_\_\_\_

3/19/12

**ENVIRONMENTAL ASSESSMENT**  
**Environmental Assessment (EA), WY-070-EA12-61**  
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## **1. INTRODUCTION**

This site-specific analysis 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), WY-070-02-065, 2003, the PRB FEIS Record of Decision (ROD), and the EAs for Whiskey Drawn, WY-070-09-048 and Falxa Red Draw, WY-070-05-315 pursuant to 40 CFR 1508.28 and 1502.21. Review these documents at the BLM Buffalo Field Office (BFO) and on our website.

Congress made a 4-part process for federal fluid mineral decisions under the long-term needs of multiple-use. First, is the land use / resource management plan (RMP); here it is the PRB FEIS and ROD amendment to the BFO RMP. Second, are the decisions of whether and, if so, under what conditions, to lease lands for fluid mineral development. Courts held leasing decisions are an almost irrevocable resource commitment. Third, (this phase) is deciding on the proposed APD: the site-specific analysis, and mitigation. Fourth is the monitoring and reclamation of wells and their features.

### **1.1. Background**

BLM received the application for permit to drill (APD) for Lance's Simba Fed 20-44H well and its associated infrastructure on November 29, 2011. Lance proposes horizontal drilling, PRB FEIS, Appendix A, pp. 4-15. This process allows for the drilling of a well or additional wells, from one location, in different directions, with less surface disturbance per section or in areas with limited access and less cumulative water use than drilling 8 vertical wells per section. Although initial surface disturbance for horizontal wells will be greater than the 3 to 5.5 acres for traditional vertical conventional wells, total surface disturbance will be less due to fewer roads and wells needed per section or area. The area is currently used for ranching, wildlife production, hunting, and fluid mineral production.

### **1.2. Need for the Proposed Project**

The need for this project is to determine how and under what conditions to balance natural resource conservation with allowing the operator to exercise lease rights to develop fluid minerals on federal leaseholds as described in their proposed project. APD information is an integral part of this EA and BLM incorporates it by reference (40 CFR 1502.21). Fluid mineral extraction is important to meeting the nation's energy needs. The fluid mineral leasing programs are under the authority of the Mineral Leasing Act of 1920, the Federal Land Policy Management Act (FLPMA), and other laws and regulations.

### **1.3. Decision to be Made**

The BLM will decide whether or not to approve the proposed development, and if so, under what terms and conditions to agreeing with the Bureau's multiple use mandate, environmental protection, and RMP.

### **1.4. Scoping and Issues**

The BFO external scoping included a 30 day posting of the proposed APD and the EA's timely publication on the BFO website. Previously BFO conducted extensive external scoping for the PRB FEIS - discussed on p. 2-1 of the PRB FEIS and on p. 15 of the PRB ROD. This project is similar in scope to other fluid mineral development analyzed by the BFO. External scoping would be unlikely to identify new issues, as verified by the few fluid mineral EAs that were recently externally scoped. Recent external

scoping in 2010 and 2011 for a geographically-focused proposed RMP amendment revealed no new issues outside of the geographically-specific issues.

The BFO interdisciplinary team (ID team) conducted internal scoping by reviewing the proposal and its location to identify potentially affected resource and land uses. The ID team identified resources and land uses present and affected by the proposed project. This EA will not discuss resources and land uses that are either not present, not affected, or that the PRB FEIS adequately addressed. The ID team identified important issues for the affected resources to focus the analysis. This EA addresses the project and its site-specific impacts that were unknown and unavailable for review at the time of the PRB FEIS analysis to help the decision maker come to a reasoned decision. Project issues include:

- Air quality
- Soils and vegetation: loss, erosion, reclamation
- Riparian and wetland resources
- Wildlife: Sage-grouse lek occupancy/persistency
- Water resource
- Invasive species
- Cultural resources
- Socio-economic resources

These issues are absent or minimally present. BLM analyzed them in the EIS and not in this EA.

Geological resources	Recreation	Wilderness characteristics
Cave and karst resources	Heritage & visual resources	Livestock & grazing
Mineral resources: locatable, leasable-coal, salable	Fire, fuels management, and rehabilitation	Areas of critical environmental concern
Paleontological resources	Rights of way & corridors	Environmental justice
Forest products	Transportation & access	Tribal treaty rights
Lands & realty	Wild and scenic rivers	

## 2. PROPOSED PROJECT AND ALTERNATIVE

### 2.1. Alternative A – No Action

The PRB FEIS considered a No Action Alternative, pp. 2-54 to 2-62. This alternative must also consider and combine the PRB FEIS analysis with the subsequent analysis and / or development from the adjacent and intermingled plans of development (PODs) which include up to 305 wells: (coalbed natural gas (CBNG)), oil and gas, in the cumulative area of effects of this proposal. BFO incorporates by reference here the actual development and NEPA documents represented in Table 3.1 – the closest developments, to update and complete the No Action Alternative situation. BFO approved 359 conventional wells in the PRB, including 193 horizontal wells (as of March 2012). The Wyoming Oil and Gas Conservation Commission (WOGCC) permitted 103 wells in the PRB (as of January 2012). The total is 462, representing 14% of the projected 3,200 oil wells in the 2003 PRB ROD. This agrees with the PRB FEIS which analyzed the reasonably foreseeable development rolling across the PRB of over 51,000 CBNG and 3,200 natural gas and oil wells. The no action alternative would be no new federal well. This alternative would deny this APD requiring the operator to resubmit an APD that complies with statutes and the reasonable measures in the PRB RMP ROD in order to lawfully exercise conditional lease rights. This alternative could, through secretarial discretion suspend the senior leasehold, or could administratively cancel or withdraw the lease if improperly awarded, or seek to cancel the lease. It is not possible in the abstract to identify every interest and that is beyond the scope here.

### 2.2. Alternative B Proposed ActionProject Name: Simba Fed 20-44H

**Well Name/#/Lease/Location/County:** Simba Fed 20-44H, WYW-146889, NWNE, Sec. 20, T47 R78, Johnson County.

**Right-of-Way.**

Lance identified the following right-of-way locations with the Simba Federal 20-44H well APD. BLM will consider granting an amended right-of-way, WYW-151548 under FLPMA, Tables 2.1 and 2.2. The well's conditions of approval (COAs) will govern parameters for the right-of-way segments.

**Table 2.1. Proposed Amended Right-of-Way Grant**

ROW Grant	ROW Action	Sections	TWP	RNG	Lengths	Width
Amend WYW-151548	Road	8, 17	47N	78W	10,224'	NTE 50'
Amend WYW151548	Power	17, 20	47N	78W	3,867'	25'
Amend WYW151548	Well Pad Site	17, 20	47N	78W	Acre of Disturbance	
					14.50 acres	

**Operator/Applicant.** Lance Oil & Gas Co., Inc.

**Surface Owner.** BLM. The project area clearly lacks wilderness characteristics as it has less than 5000 acres of federal surface.

The proposed project is to drill and develop an oil/gas well in an existing fluid mineral development area. The project will use existing, previously analyzed roads and infrastructure, except for the last 0.65 miles of road, which will be new access. Lance's reasonably foreseeable development may drill additional wells here. The project would be subject to the COAs for drilling of an oil/gas well in the BFO jurisdiction. Refer to the surface use plan (SUP) and drilling plan included with the APD for a detailed description of the proposed project design features and construction practices. Also see the subject APD for maps showing the proposed well location and associated facilities described above, (administrative record, AR).

**Table 2.2. - Summary of Surface Disturbance (inclusive of that for amended right-of-way)**

Facility	No. or Mileage	Dimensions	Disturbance (acres)	Duration
Well Pad	1	W525' x L650'	11.2	Long Term
Production Facilities Pad	1	W300' x L325'	2.6	Long Term
Improved Roads (Engineered) corridor, includes buried powerline	0.65 mi.	50' Corridor	4	Long Term
Existing Improved Roads	0.97 mi.	50' Corridor	5.8	Long Term
Connector Rd. Between Pads	0.08 mi.	20' Corridor	0.6	Long Term
Buried Power outside corridor	0.08 mi.	25'	0.4	Short Term

**Drilling, Construction, and Production Design Features Include (see APD's AR):**

- Targeting the Sussex Formation at about a 14,000 feet target zone depth.
- Lance anticipates completing drilling and construction in 2 years. Drilling and construction is year-round in the region. Weather may cause delays but delays rarely last multiple weeks. Timing limitations in the form of COAs may impose longer temporal restrictions.
- A road network consisting of existing improved roads and a proposed improved road to the well.
- An existing above ground power line network.
- Production facilities including a pumping unit, a tank battery including hydraulic fracturing, production and pumping tanks, heater treater, and pump trucks.
- Equipping all engines with an adequate muffler system, decibel level not to exceed 70 decibels at a distance of 200 feet from the exhaust of any muffler.
- No pits at the producing oil well location.
- Sands needed for fracturing will be hauled by trucks to the location and stored in silos.

- Water needed for drilling will come from existing, CBNG wells, approximately 5 miles from the Simba well. The water will be hauled by water trucks, making about 700 round trips and stored in large tanks on location. Approximately 80,000 barrels of water will be used to complete the well.
- Cuttings will be placed in a lined pit with 2 feet of freeboard and buried within 90 days of completion of the well.

### **Existing Water Wells and Other**

There are 4 existing water wells in the 1 mile effects analysis area for livestock and domestic use. These are from 270 to 400 feet deep.

BLM incorporated and analyzed the implementation of committed mitigation measures in the SUP and drilling plan, in addition to the COAs in the PRB FEIS ROD. Additionally, the Operator, in their APD, committed to:

1. Comply with the approved APD, applicable laws, regulations, orders, and notices to lessees.
2. Obtain necessary permits from agencies.
3. Provide water well agreements the owners of record for permitted wells.
4. Provide water well analysis from a known reference point.
5. Maintain the access roads throughout the life of the project.
6. Confine all vehicles/equipment to access roads and well site location as shown in the APD.
7. Reclaim disturbed areas no longer needed for production with interim and final reclamation.

### **2.3. Alternative C Proposed Action with Additional Mitigation**

Alternative C modifies Alternative B based on BLM developing mitigation measures to reduce environmental effects not included in the proposed action. The description of Alternative C is the same as Alternative B, with the addition of specific mitigation to protect migratory birds to assure compliance with the Migratory Bird Treaty Act (MBTA), a non-discretionary statute.

### **2.4. Conformance with the Land Use Plan and Other Environmental Assessments**

This proposal does not diverge from the goals and objectives in the Buffalo Resource Management Plan (RMP), 1985, 2001, 2003, 2011, and generally conforms to the terms and conditions of that land use plan, its amendments, and supporting FEISs, 1985, 2003.

## **3. AFFECTED ENVIRONMENT**

This section briefly describes the physical and regulatory environment affected by implementation of the alternatives in Section 2. BLM focuses on the major issues here. Resources unaffected, or not affected beyond the level analyzed in the PRB FEIS, are outside the scope of this EA. The Wyoming Game and Fish Department's (WGFD's) Recommendations for Development of Oil and Gas Resources within Important Wildlife Habitats (2009), made no distinction between surface disturbance impacts per well type or drilling technology. BLM's position is there is a rare lack of distinction in surface disturbance impacts attributable to well type or drilling technology, subject to showing a distinction, not a mere difference, and this tracks to other surface disturbances as with soils, vegetation, invasive species, wetlands, cultural resources, etc. See State Director Review, WY-2010-023, Part 2, p. 3, fn. 7. This supports national and congressional policy in which no distinction exists in 43 CFR 3160 et. seq, leasing, Onshore Oil and Gas Orders, and the 2005 Energy Policy Act. Sandolin Oil Company developed hydraulic fracturing in 1947. The industry improved the process, drilling, and completion technologies to where hydraulic fracturing is economical and developed about 2.5 million wells in the U.S.

### **Project Area Description**

The Simba Fed project area is approximately 29 miles southeast of Buffalo, Wyoming and has 1 federal oil and gas well and associated infrastructure. BLM incorporates general topography by reference from Falxa Red Draw and Whiskey Drawn EAs' Sections 3.1 (WY-070-05-315 and WY-070-09-048, respectively). An unnamed ephemeral creek flowing north in Whiskey Draw is about 1 mile west of the Simba site. Fourmile Creek is 2 miles north of the Simba site, receives the flow from Whiskey Draw and flows east to the Powder River. Red Draw is 1.5 miles southeast of the Simba site and flows east to the Powder River. The north-flowing Powder River is about 3.5 miles east of the Simba site. Current land use includes fluid mineral production, livestock production, and hunting. BLM incorporates by reference, Travel Management, Section 3.8, and the map (p.13) from the Falxa Red Draw EA, WY-070-05-318.

**Table 3.1. Some Adjacent/Overlapping Development within 1 mile of the Simba Fed 20-44H.**

	<b>Development Name</b>	<b>Operator</b>	<b>Approval Date</b>	<b>Well Type/#</b>	<b>BLM NEPA #</b>
1	Whiskey Drawn	Lance	8/14/2009 10/26/2010	CBNG/11	WY-070-09-048
2	Falxa Red Draw	Black Diamond	8/19/2005	CBNG/34	WY-070-05-315
3	Whiskey Draw Unit 1 Add	Lance	9/19/2005	CBNG/61	WY-070-05-261
4	Whiskey Draw Unit	Lance	4/24/2005	CBNG/66	WY-070-04-201
5	Whiskey Draw Unit 28A	BP Exploration	1983	Oil/1	Unknown
6	Fed Van Houken 29-10	Webb Resources	1974	Oil/1	Unknown
7	Bonidee Flats Unit 1	BP Exploration	1981	Oil/1	Unknown
8	Lucky Unit 30-A	Webb Resources	1976	Oil/1	Unknown

### **3.1. Air Quality**

Refer to the PRB FEIS pp. 3-291 to 3-299, for a 2003-era description of the air quality conditions. BLM incorporates by reference here, Section 3.9, Air Quality, Whiskey Drawn EA, WY-070-09-048. Existing air quality in the PRB is in attainment with all ambient air quality standards. It is also in an area that is in prevention of significant deterioration zone. PRB air quality is a rising concern due to ozone in the oil and gas producing Upper Green River Basin, Wyoming that exceeded EPA limits for 13 days in 2011 requiring 10 warnings to stay indoors. Particulate matter (PM) (coal dust) was the source of PRB-area air quality alerts issued in 2011. Four sites monitor the air quality in the PRB: Cloud Peak in the Bighorn Mountains, Thunder Basin northeast of Gillette, Campbell County south of Gillette, and Gillette. In addition, the Wyoming Air Resource Monitoring System (WARMS) measures meteorological parameters from 6 sites, and particulate concentrations from 5 of those sites, monitors speciated aerosol (3 locations), and evapotranspiration rates (3 locations). These sites are at Sheridan, Taylor Reservoir, South Coal Reservoir, Buffalo, Juniper, and Newcastle. The northeast Wyoming visibility study is ongoing by the Wyoming Department of Environmental Quality (WDEQ). Sites adjacent to the Wyoming PRB-area are at Birney on the Tongue River 24 miles north of the Wyoming-Montana border, Broadus on the Powder River in Montana, and Devils Tower.

### **3.2. Soils**

The PRB FEIS analyzed that an average conventional oil or gas pad would disturb about 5.5 acres (p. 4-316). Total surface disturbance for conventional wells would be about 8,800 acres (pp. 2-40 to 2-42). BLM incorporates by reference, Section 3.2, Vegetation and Soils, Falxa Red Draw EA, WY-070-05-315 as that project analyzed this area. Ecological site descriptions provide soils and vegetation information needed for resource identification, management, and reclamation recommendations, see: Natural Resource Conservation Service, (NRCS, USDA), Technical Guides for the Major Land Resource Area 58B Northern Rolling High Plains, in the 10-14 inches Northern Plains precipitation zone. BLM verified the zones through onsite field inspections. The disturbed project area predominantly consists of Loamy ecological sites and a small portion of Shallow Clayey ecological site.

The Loamy site soils are mostly deep to moderately deep (greater than 20 inches to bedrock), well drained and moderately permeable. Layers of the soil most influential to the plant community is from 3 to 6

inches thick. These layers consist of the A horizon with very fine sandy loam, loam, or silt loam texture and may also include the upper few inches of the B horizon with sandy clay loam, silty clay loam or clay loam texture. The main soil limitations include: low organic matter content and low soil moisture. When these soils are disturbed, erosion potential from wind and water increase.

The Shallow Clayey site occurs on slopes and ridge tops, but may occur on all slopes. Landform: Hill sides, ridges, and escarpments. The soils of this site are shallow (less than 20 inches to bedrock) well-drained soils formed in alluvium or residuum. These soils have moderate to slow permeability and may occur on all slopes. The bedrock is clay shale which is virtually impenetrable to plant roots. The soil textures included in this site are silty clay, clay, and the finer portions of sandy clay loam, clay loam, or silty clay loam. BLM disregarded thin ineffectual layers of other soil textures. Layers of the soil most influential to the plant community vary from 3 to 6 inches thick. The main soil limitations include: depth to bedrock, low organic matter content, and low soil moisture. Lance should consider the low annual precipitation when planning a seeding. Erosion potential from wind or water increases after disturbing these soils. For more detailed soil information, see the NRCS Soil Survey WY719.

For both soil sites Lance should consider the low annual precipitation when planning a seeding and seek more information from the NRCS Soil Survey WY719.

### **3.3. Vegetation**

Species typical of short grass prairie comprise the project area flora. Specific species in the project area include: western wheatgrass, bluebunch wheatgrass, prairie junegrass, green needlegrass, needle and thread, bluegrama, cheatgrass, birdfoot sage, prickly pear cactus, yucca, rabbitbrush, saltbush, buckwheat, salsify and winter fat. Linear cottonwood stands occur along Fourmile Creek and the Powder River, 2 miles north and 3.5 miles east, respectively, of the Simba site. Scattered Junipers occur throughout the area. Differences in dominant species in the project area varies with soil type, aspect, and topography. Reclamation potential ranges from mostly fair in the project disturbance area to a small portion that is rated as poor. Sound range management, applied operator and BLM mitigation, adequate moisture, and time will yield successful project reclamation. Successful reclamation of previous CBNG and oil and gas development is evident throughout the area.

### **3.4. Water Resources**

BLM incorporates by reference here, Sections 3.5, 3.5.1, and 3.5.2, Water Resources, Groundwater, and Surface Water, respectively, from Falxa Red Draw EA, WY-070-05-315 as they analyzed this affected area. Refer to the PRB FEIS, Affected Environment for additional information, pp. 3-1 to 3-36. WDEQ assumed primacy from U.S. Environmental Protection Agency for maintaining Wyoming's water quality. The Wyoming State Engineer's Office (WSEO) has authority for regulating water rights issues and permitting impoundments for the containment of the State's surface waters. The WYOGCC has authority for permitting and bonding off channel pits located over state and fee minerals.

The historical use for groundwater in this area was for stock water or domestic purposes. The WSEO Ground Water Rights Database showed 4 registered stock and domestic water wells within 1 mile of the proposed site with depths from 270 to 400 feet. WDEQ water quality parameters for groundwater classifications (Chapter 8 – Quality Standards for Wyoming Groundwater) define general limits for total dissolved solids (TDS): 500 mg/l TDS for drinking water (Class I), 2000 mg/l for agricultural use (Class II) and 5000 mg/l for livestock use (Class III). Refer to the WDEQ web site for additional water quality limits for groundwater. The operator will use produced water from approved CBNG wells in the area.

### **3.5. Wetlands/Riparian**

BLM incorporates by reference here, Sections 3.2.1, Wetlands/Riparian, and 3.3.2, Aquatics, from the Falxa Red Draw EA, WY-070-05-315 and Whiskey Drawn EA, WY-070-09-048 since these analyzed the area. See generally, the impacts analyzed in the PRB FEIS, pp. 4-173 to 4-179. There are no wetlands or riparian areas in the immediate proposed site area, other than those downstream, see p. 5, above.

### **3.6. Invasive Species**

BLM incorporates by reference here, Sections 3.2.2 and 3.2.4, Invasive Species, from Falxa Red Draw EA, WY-070-05-315 and Whiskey Drawn EA, WY-070-09-048, respectively, since they analyzed the area. Lance discovered state-listed noxious weeds and/or invasive/exotic plant infestations by a search of inventory maps and databases and/or during subsequent field investigation. Weeds identified include, Russian knapweed, salt cedar (Tamarix), Scotch thistle, Canada thistle, common cocklebur, buffalo bur and cheatgrass. Cheatgrass or downy brome (*Bromus tectorum*) and to a lesser extent, Japanese brome (*B. japonicus*) exist in the affected environment. These 2 species occur in high densities and numerous locations throughout NE Wyoming.

### **3.7. Wildlife (Fish and Wildlife)**

BLM incorporates by reference, Sections 3.3, Wildlife, from the Falxa Red Draw EA, WY-070-05-315 and Whiskey Drawn EA, WY-070-09-048 as they analyzed the area. Biologists consulted several resources to identify wildlife species occurring in the proposed project area. Consulted resources include the wildlife database compiled and managed by the BFO wildlife biologists, the PRB FEIS, the WGFD big game and sage-grouse maps, and the Wyoming Natural Diversity Database (WYNDD).

Big Horn Environmental Consultants (BHEC) performed habitat assessment and wildlife inventory surveys. BHEC performed surveys for bald eagle winter roosts, mountain plover, raptor nests, greater sage-grouse, sharp-tailed grouse, and prairie dog colonies according to Powder River Basin Interagency Working Group (PRBIWG) accepted protocol in 2011 (BHEC 2011). BHEC performed a habitat assessment for Ute ladies'-tresses orchid habitat. PRBIWG accepted protocol is available on the BFO internet website at: [http://www.blm.gov/wy/st/en/field\\_offices/Bufalo/wildlife.html](http://www.blm.gov/wy/st/en/field_offices/Bufalo/wildlife.html). A BLM biologist conducted field visits on October 19, 2011. During this time, the biologist reviewed the wildlife survey information for accuracy, evaluated impacts to wildlife resources, and provided project design modification recommendations where wildlife issues arose.

WGFD is the agency responsible for management of wildlife populations in Wyoming. WGFD developed several guidance documents that BLM BFO wildlife staff relies upon in evaluating impacts to wildlife and wildlife habitats. WGFD documents used to analyze the proposed project under the current analysis are referenced in this section

#### **3.7.1. Threatened, Endangered, Proposed, Candidate, and Special Status (Sensitive) Species**

##### **3.7.1.1. Threatened and Endangered Species**

Project effects will not impact threatened, endangered, candidate, and proposed species occurring in the area beyond the level analyzed in the PRB FEIS. A discussion of the affected environment is in the PRB FEIS, pp. 3-174 to 3-179. A description of habitat and presence for threatened and endangered species is in Table 4.2, in Section 4.6.1 below. Ute ladies'-tresses (ULT) habitat is not present in the project area and the species is not expected to occur.

##### **3.7.1.2. Candidate Species**

###### **3.7.1.2.1. Greater Sage-grouse**

The U.S. Fish and Wildlife Service (FWS) determined that the greater sage-grouse (sage-grouse) warrants federal listing as threatened or endangered across its range, but precluded listing due to other higher priority listing actions, 75 Fed. Reg. 13910 to 14014, Mar. 23, 2010; 75 Fed. Reg. 69222 to 69294,

Nov. 10, 2010. Sage-grouse are a WY BLM special status species (SSS) and 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. Sage-grouse are also a BCC for FWS's Region 17. The PRB FEIS addressed the affected environment for sage-grouse, pp. 3-194 to 3-199. BLM incorporates by reference, Sections 3.3.5.2.2 and 3.3.8.9, Greater Sage-Grouse, from Falxa Red Draw EA, WY-070-05-315 and Whiskey Drawn, respectively.

The State Wildlife Agencies' Ad Hoc Committee for Consideration of Oil and Gas Development Effects to Nesting Habitat (2008) recommends that impacts be considered for leks within 4 miles of oil and gas developments. WGFD records indicate that 3 sage-grouse leks occur within 4 miles of the project area. These leks are listed in Table 3.2, below. Currently there are 305 existing (producing or approved) wells within a 4 mile radius of these 3 leks, (Automated Fluid Minerals Support System [AFMSS] and Wyoming Oil and Gas Commission [WOGCC], February 9, 2011).

**Table 3.2. Sage-grouse Leks within 4 miles of the Project Area**

Lek Name	Distance to Project (mi)	Occupied?	Year: Peak Males		In Core Area?
Curtis Draw	3.6	Yes	2011: 0 2010: 3 2009: 8	2008: 9 2007: 17	Yes
Fourmile Road	2.8	Yes	2011: 0 2010: 0 2009: 4	2008: 0 2007: 3	Yes
Red Draw	1.2	Yes	2011: 0 2010: 1 2009: 12	2008: 15 2007: 54	No

In its Recommendations for Development of Oil and Gas Resources within Important Wildlife Habitats (2009), WGFD categorized impacts to sage-grouse by number of well pad locations per square mile within 2 miles of a lek and within identified nesting/brood-rearing habitats greater than 2 miles from a lek. Moderate impacts occur when well density is between 1 and 2 well pad locations per square mile or where there is less than 20 acres of disturbance per square mile. High impacts occur when well density is between 2 and 3 well pad locations per square mile or when there are between 20 and 60 acres of disturbance per square mile. Extreme impacts occur when well density exceeds 3 well pad locations per square mile or when there are greater than 60 acres of disturbance per square mile. Under these parameters, the Red Draw and Curtis Draw Leks are experiencing extreme impacts, while the Fourmile Lek is experiencing moderate impacts ([AFMSS] and [WOGCC], February 9 2011).

Sage-grouse are found in prairie, sagebrush shrublands, other shrublands, wet meadows, and agricultural areas. They depend upon substantial sagebrush stands for nesting and winter survival (BLM 2003). The project area is approximately 1 mile north of the Buffalo core area, as identified in Wyoming's Executive Order 2011-5, Greater Sage-grouse Core Area Protection. Sage-grouse habitat models indicate that portions of the project area may contain high quality sage-grouse nesting habitat (Walker et al. 2007). A BLM biologist confirmed suitable nesting and brood rearing habitat in the form of sagebrush grasslands at the Simba, 20-44H well site.

### 3.7.1.3. Special Status (Sensitive) Species (SSS) – Plants, Fish, and Wildlife

BLM incorporates by reference here, Sections 3.3.5.2 and 3.3.8, Sensitive Species, from Falxa Red Draw EA, WY-070-05-315 and Whiskey Drawn, respectively. A description of habitat and species presence for BLM sensitive species is in Table 4.3, in Appendix B, below.

### **3.7.2. Big Game**

The PRB FEIS discussed the affected environment for pronghorn and mule deer, pp. 3-117 to 3-122 and pp. 3-127 to 3-132, respectively. BLM incorporates by reference, Sections 3.3.1 Big Game, from Falxa Red Draw EA, WY-070-05-315 and Whiskey Drawn, as they analyzed this area. The project area contains yearlong range for pronghorn antelope and winter-yearlong range for mule deer. White-tailed deer may also occur in the area. Winter-yearlong use is when a population or a portion of a population of animals makes general use of the documented suitable habitat sites within this range on a year-round basis. During the winter months there is a significant influx of additional animals into the area from other seasonal ranges. Yearlong use is when a population of animals makes general use of suitable documented habitat sites within the range on a year round basis. Animals may leave the area under severe conditions.

The project is in the range of the Pumpkin Buttes mule deer and Crazy Woman pronghorn herds. The job completion report from 2010 identifies that the Pumpkin Buttes herd is 2% below the population objective (WGFD 2011a). The report describes that the herd declined 20% since 2006. The Crazy Woman herd experienced a 40% population decline since 2006, but the herd is above population objectives.

### **3.7.3. Migratory Birds**

The PRB FEIS discussed the affected environment for migratory birds, pp. 3-150 to 3-153. Migratory birds migrate for breeding and foraging at some point in the year. The BLM-FWS MOU (2010) promotes the conservation of migratory birds, as directed through Executive Order 13186 (Federal Register V. 66, No. 11). BLM must include migratory birds in every NEPA analysis of actions having potential to affect migratory bird species of concern to fulfill obligations under the Migratory Bird Treaty Act (MBTA). BLM encourages voluntary design features and conservation measures agreeing with those in the programmatic mitigation in Appendix A of the PRB ROD.

Habitats occurring near the proposed well location include sage-brush steppe grasslands and mixed grass prairie. Many species that are of high management concern use these areas for their primary breeding habitats (Saab and Rich 1997). Nationally, grassland and shrubland birds declined more consistently than any other ecological association of birds over the last 30 years (WGFD 2009). The FWS's Birds of Conservation Concern (BCC 2008) report identifies species of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act. Species in this list that have the potential to occur in the project area are: Brewer's sparrow, sage thrasher, loggerhead shrike, short-eared owl, and grasshopper sparrow. Of these, 3 species are identified on the BLM Wyoming Sensitive Species list. More information about the BCC is on the Wyoming Ecological Services website.

The WGFD Wyoming Bird Conservation Plan (Nicholoff 2003) identified 3 groups of Wyoming's high-priority bird species: Level I – those that clearly need conservation action, Level II – species where the focus should be on monitoring, rather than active conservation, and Level III – species that are not of high priority but are of local interest. Species likely occurring in the project area are in Table 3.4.

**Table 3.4. Migratory Birds Occurring in Shrub-Steppe Habitat in NE Wyoming (Nicholoff 2003)**

Level	Species	Wyoming BLM Sensitive
Level I	Brewer's sparrow	Yes
Level II	Lark bunting	No
	Lark sparrow	No
	Loggerhead shrike	Yes
	Sage thrasher	Yes
	Vesper sparrow	No

### 3.7.4. Raptors

The PRB FEIS discussed the affected environment for raptors, pp. 3-141 to 3-148. No known raptor nests occur within 0.5 miles of the proposed well site. Several nests occur along Fourmile Creek, approximately 2 miles to the north, next to existing roads that will be used to access the well site. The roads are currently permitted and heavily used for existing oil and gas activities in the area.

### 3.7.5. Plains Sharp-tailed Grouse

BLM discusses plains sharp-tailed grouse in this EA because commenters identified specific concerns for this species during the scoping process for the PRB FEIS. The PRB FEIS discussed the affected environment for plains sharp-tailed grouse, pp. 3-148 to 3-150. No known sharp-tailed dancing grounds occur in the project area, however suitable nesting habitat for the species is present in the project area. The Iberlin Lek, 10 miles to the northeast, is the nearest known breeding ground for sharp-tailed grouse.

### 3.8. Cultural Resources

Lance performed a Class III cultural resource inventory for the Simba project prior to on-the-ground project work (BFO project #70110091). Lance provided a class III cultural resource inventory following the Archeology and Historic Preservation, Secretary of the Interior's Standards and Guidelines (48CFR190) and the Wyoming State Historic Preservation Office (WSHPO) Format, Guidelines, and Standards for Class II and III Reports to BFO. Clint Crago, BLM Archaeologist, determined the report was technical adequate and complied with BLM standards. The project area has no cultural resources.

## 4. ENVIRONMENTAL EFFECTS

This section describes the environmental effects of Alternatives B and C. This analysis addresses the direct and indirect effects of implementing the proposed well, the cumulative effects of the proposed well, combined with reasonably foreseeable federal and non-federal actions, identifies and analyzes mitigation measures (COAs) and discloses any residual effects remaining, following mitigation.

### 4.1. Alternative A: No Action Alternative

BLM analyzed the No Action Alternative as Alternative 3 in the PRB FEIS, and incorporates it by

reference here, as are the NEPA analysis and projects built represented and inferred in Table 3.1. Information specific to resources for this alternative is in the PRB Final EIS on pages listed in Table 4.1.

**Table 4.1. Location of Discussion of the No Action Alternative in the PRB FEIS**

Resource		Type of Effect	Page(s) of PRB FEIS
Project Area Description	Geologic Features and Mineral Resources	Direct and Indirect Effects	4-164 and 4-134
		Cumulative Effects	4-164 and 4-134
Soils, Vegetation, and Ecological Sites	Soils	Direct and Indirect Effects	4-150
		Cumulative Effects	4-152
	Vegetation	Direct and Indirect Effects	4-163
		Cumulative Effects	4-164
	Wetlands/Riparian	Direct and Indirect Effects	4-178

		Cumulative Effects	4-178
Wildlife	Sensitive Species - Greater Sage-Grouse	Direct and Indirect Effects	4-271
		Cumulative Effects	4-271
	Aquatic Species	Direct and Indirect Effects	4-246
		Cumulative Effects	4-249
	Migratory Birds	Direct and Indirect Effects	4-234
		Cumulative Effects	4-235
	Waterfowl	Direct and Indirect Effects	4-230
		Cumulative Effects	4-230
	Big Game	Direct and Indirect Effects	4-186
		Cumulative Effects	4-211
	Raptors	Direct and Indirect Effects	4-224
		Cumulative Effects	4-225
Water	Ground Water	Direct and Indirect Effects	4-63
		Cumulative Effects	4-69
	Surface Water	Direct and Indirect Effects	4-77
		Cumulative Effects	4-69
Economics and Fluid Mineral Recovery		Direct and Indirect Effects	4-362
		Cumulative Effects	4-370
Cultural Resources		Direct and Indirect Effects	4-286
Air Quality		Direct and Indirect Effects	4-386
		Cumulative Effects	4-386
Visual Resources		Direct and Indirect Effects	4-313
		Cumulative Effects	4-314

#### 4.2. Alternative B

Considering the precautions described in Section 2, the drilling plan, the plan of development (see the administrative record), best management practices, and the drilling history in the area (over 305 wells), the potential for hydrocarbon communication with fresh water aquifers (surface to 1,000 feet) is remote. This analysis presumes Lance and BLM enforce the APD's drilling plan, plan of development, and Onshore Oil and Gas Order Nos. 2 and 7.

#### 4.3. Air Quality

BLM incorporates by reference here Section 4.1.10, Air Quality, Whiskey Drawn EA, WY-070-09-048. In the project area, air quality impacts would occur during construction (due to surface disturbance by earth-moving equipment, vehicle traffic fugitive dust, well testing, as well as drilling rig and vehicle engine exhaust) and production (including well production equipment, booster and pipeline compression engine exhaust). The operator will control the amount of air pollutant emissions during construction by watering disturbed soils, and by air pollutant emission limitations imposed by applicable air quality regulatory agencies. Air quality impacts modeled in the PRB FEIS concluded that projected oil and gas development would not violate any local, state, tribal, or federal air quality standards.

#### 4.4. Soils and Vegetation

##### 4.4.1. Soils

##### 4.4.1.1. Direct and Indirect Effects

Proposed pads, roads, pipelines, underground power, and culverts appear on the MSUP (see the APD). Lance will construct these structures according to approved engineering practices and BLM standards. Table 2.2 summarizes the proposed surface disturbance. Total proposed surface disturbance is 24.5 acres. The designation of the duration of disturbance is defined in the PRB FEIS (pp. 4-1 and 4-151). "For this EIS, short-term effects are defined as occurring during the construction and drilling/completion phases. Long-term effects are caused by construction and operations that would remain longer".

The effects to soils and vegetation, resulting from proposed access road, well pad construction, and existing access roads that require improvements include:

- -Mixing of horizons – occurs where construction on roads 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 re-vegetation. This drastically disturbed site may change the ecological integrity of the site and the recommended seed mix.
- -Loss of soil vegetation cover, biologic crusts, organic matter and productivity. With expedient reclamation, productivity and stability should be regained in the shortest time frame.
- -Soil erosion would also affect soil health and productivity. Erosion rates are site specific and are dependent on soil, climate, topography 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. Compaction may be remediated by plowing or ripping.
- -Modification of hill slope hydrology - 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 predominantly composed of cyanobacteria, green and brown algae, mosses and lichens. They 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. These impacts, singly or in combination, would increase the potential for valuable soil loss due to increased water and wind erosion, invasive/noxious/poisonous plant spread, invasion and establishment, and increased sedimentation and salt loads to the watershed system.

Direct effects (removal and/or compaction) to vegetation would occur from ground disturbance caused by drilling rig equipment and construction of a well pad, tank batteries, 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 well pads, compressor stations, roads, water-handling facilities or other semi-permanent facilities may result in loss of vegetation and affect reclamation success for the life of the project.

#### **4.4.1.2. Cumulative Effects**

The PRB FEIS defined the designation of the duration of disturbance, pp. 4-1 and 4-15. BLM incorporates by reference here Section 4.1.3, Cumulative Effects, Whiskey Draw Unit 1 Additions EA, WY-070-05-261.

The PRB FEIS's analysis estimate of about 5.5 acres (p. 4-316) of surface disturbance, per conventional (non-CBNG) pad, shows this project supports the parameters of the PRB FEIS under circumstances of industry standards and practices where, if Lance is successful with its project and develops a minimum of

2 more wells from the proposed pad. Lance's proposed pad and supporting access creates a total surface disturbance of 24.5 acres. Yet when Lance reduces the production pad to 2.6 acres Lance reduces the total surface disturbance to 65% of that in the construction phase, or to 15.9 acres, Table 2.2. Using industry standards and practices of multiple horizontal wells per pad, then with the addition of a minimum of 2 new wells on this pad the surface disturbance per well becomes about 5.3 acres –within the PRB FEIS parameter. There is nothing pre-decisional in this analysis, yet it is a useful metric for BLM to measure whether, or how close it is to meeting PRB FEIS analysis. Tremendous economics of modern horizontal drilling (\$7-10 million per well) drive prudent companies to confirm a producing well prior to undertaking investing and planning for others. Conversely if the well is not productive past practice shows reclamation is likely for the surface disturbance.

Second, the total surface disturbance analyzed in the PRB FEIS for all conventional (non-CBNG) drilling was 8,800 acres. Since agencies (BLM and WOGCC) approved to-date only 14% of the projected 3,200 PRB conventional wells, the surface disturbance is well within PRB FEIS parameters (pp. 2-40 to 2-42).

Most soil and vegetation 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 unchanneled portions of the landscape; and causing interactions among water, sediment, and debris at road-stream crossings.

These impacts, singly or in combination, could increase the potential for valuable soil loss due to increased water and wind erosion, invasive/noxious/poisonous plant spread, invasion and establishment, and increased sedimentation and salt loads to the watershed system, if applicable mitigation measures are not used.

#### **4.4.1.3. Mitigation Measures**

Lance will reduce impacts to vegetation and soils from surface disturbance by following its plans, using BLM applied mitigation, and the BLM Wyoming Reclamation Policy. These include measures such as, reducing the building of new access roads by placing the well location near existing oil/gas access roads, as much as possible. The operator will stabilize areas not needed for production, during and within 30 day after construction is completed. Interim reclamation will start at this time also. These practice, as well as other mitigation measures identified in the SUP and COAs, will results in less surface disturbance and overall environmental impacts.

#### **4.4.1.4. Residual Effects**

Loss of vegetative cover, accelerated soil erosion and possible weed invasion will occur, despite expedient reclamation, for several years until reclamation is successful. Operator mitigation measures and applicable COAs will minimize these potential impacts and increase reclamation success.

#### **4.5. Water Resources**

Adherence to the drilling COAs, the setting of casing at appropriate depths, following safe remedial procedures in the event of casing failure, and using proper cementing procedures should protect any fresh water aquifers above the target coal zone. This will ensure that ground water will not be adversely impacted by well drilling and completion operations. BLM notes that thousands of hydraulically fractured wells pierce the nation's largest aquifer, the Ogallala, in western Texas, Oklahoma, and Kansas with little impact to the groundwater. BLM also notes the 2004 EPA found in its 2004 study that hydraulic

fracturing of CBNG wells following industry and regulatory standards posed little threat to groundwater. The EPA has a study on-going but has yet to issue any guidance changing practices or procedures.

At the time of permitting, the volume of water that will be produced in association with these federal minerals is unknown. The operator will have to produce the well for a time to be able to estimate the water production. In order to comply with Onshore Oil and Gas Order No. 7, Disposal of Produced Water, the operator will submit a Sundry to the BLM within 90 days of first production which includes a representative water analysis as well as the proposal for water management.

Lance will use a closed loop system (see POD for more information) for drilling fluids/water for this well. Fresh water used for drilling this well will come from Lance's approved CBNG wells in the area.

Historically, the quality of water produced in association with conventional oil and gas has been such that surface discharge would not be possible without treatment. Initial water production is quite low in most cases. There are 3 common alternatives for water management: re-injection, deep disposal, or disposal into pits. All alternatives would be protective of groundwater resources when performed in compliance with state and federal regulations. Lance's plan for disposal of cuttings and produced water includes containing them in tanks on site, then trucking them to disposal sites, see APD AR.

#### **4.6. Wetlands/Riparian Areas**

BLM incorporates by reference here, Sections 4.1.2, 4.1.5.2, 4.1.5.2.1, and 4.1.5.2.2, Wetland/Riparian, Aquatics, Direct and Indirect Effects, and Cumulative Effects from the Whiskey Drawn EA, WY-070-09-048. Watershed values, including natural drainages, would not be adversely impacted by the closed loop proposal and properly applied mitigation. There is little to no evidence the proposal will adversely impact other water resources. Lance will reduce possible contamination effects of fresh water aquifers through the use of tested casing, by setting casing at appropriate depths, and by following safe repair procedures in the event of casing failure. Use of other standard engineering practices for well operations should result in minimal impacts.

The cumulative impacts of the proposed action, when considered with other existing and proposed development in the project area should not be significant. The project's use of CBNG produced water may provide a positive benefit of slowly contributing to returning the local riparian and wetland waters to their long-term, more natural state, as the CBNG produced waters likely reduce their contribution to flows. The application of mitigation measures will ensure that the incremental impacts of this well, when considered with any existing development are insignificant. Refer to the PRB FEIS for more information on cumulative impacts.

#### **4.7. Invasive Species**

##### **4.7.1. Direct and Indirect Effects**

BLM incorporates by reference Sections 4.1.1 and 4.1.3, Invasive Species, from Falxa Red Draw EA, WY-070-05-315 and Whiskey Drawn EA, WY-070-09-048, respectively. The PRB FEIS analyzed direct and indirect effects resulting from invasive and/or noxious species, pp. 4-158 to 4-162. The use of existing facilities along with the surface disturbance associated with construction of proposed access roads, utility lines, and related facilities would present opportunities for weed invasion and spread. The activities related to the performance of the proposed project would create a favorable environment for the establishment and spread of noxious weeds/invasive plants such as salt cedar, Canada thistle, and perennial pepperweed, if the operator does not take control measures.

**4.7.2. Cumulative Effects**

BLM incorporates by reference Sections 4.1.2 and 4.1.3, Invasive Species Cumulative Effects, from Falxa Red Draw EA, WY-070-05-315 and Whiskey Drawn EA, WY-070-09-048, respectively. Activities related to the development of the proposed project would create a favorable environment for the establishment and spread of noxious weeds/invasive plants, if the operator does not take control measures.

**4.7.3. Mitigation Measures**

Lance committed to the control of noxious weeds and species of concern using the following measures as appropriate, identified in their Integrated Pest Management Plan (IPMP): chemical, physical and biological control. The operator will educate their employees and contractors about weed issues and requirements and the operator will reclaim bare areas, not needed for production.

**4.7.4. Residual Effects**

Lance will limit control efforts to the surface disturbance associated with the project. Cheatgrass or downy brome (*Bromus tectorum*) and, to a lesser extent, Japanese brome (*B. japonicus*) exist in the affected environment. These species are found in such high densities and numerous locations throughout NE Wyoming that a control program is not considered feasible at this time; these annual bromes would continue to be found within the project area.

**4.8. Wildlife (Fish and Wildlife)**

BLM incorporates by reference here Sections 4.2.4, and 4.1.5.4.1 Raptors Direct and Indirect Effects, from Falxa Red Draw EA, WY-070-05-315 and Whiskey Drawn EA, WY-070-09-048, respectively as these analyses were in the area. The immediate well pad site had no raptors, yet they use the area.

**4.9. Wildlife Threatened, Endangered, Proposed and Candidate Species**

**4.9.1. Threatened and Endangered Species**

BLM summarized the effects to threatened, endangered, and candidate species in Table 4.2, below and described them in the PRB FEIS, pp. 4-250 to 4-257. BLM has more information on sage-grouse, below.

**Table 4.2. Summary of Threatened and Endangered Species Habitat and Project Effects**

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
<i>Threatened</i>				
Ute ladies'-tresses orchid	Riparian areas with permanent water	NP	NE	Habitat not present
<i>Candidate</i>				
Greater Sage-grouse	Basin-prairie shrub, mountain-foothill shrub	K	MIIH	Suitable nesting and brood rearing habitat is present and the project may negatively affect sage-grouse.
<b>Presence</b> K – Known, documented observation in project area. NP – Habitat not present and species unlikely to occur in project area.			<b>Project Effects</b> NE – No Effect MIIH – May impact individuals and habitat	

**4.9.2. Candidate Species**

**4.9.2.1. Direct and Indirect Effects**

The, “12-Month Findings for Petitions to List the Greater Sage-Grouse (*Centrocercus urophasianus*) as Threatened or Endangered,” discussed impacts to sage-grouse associated with energy development in detail in (FWS 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.

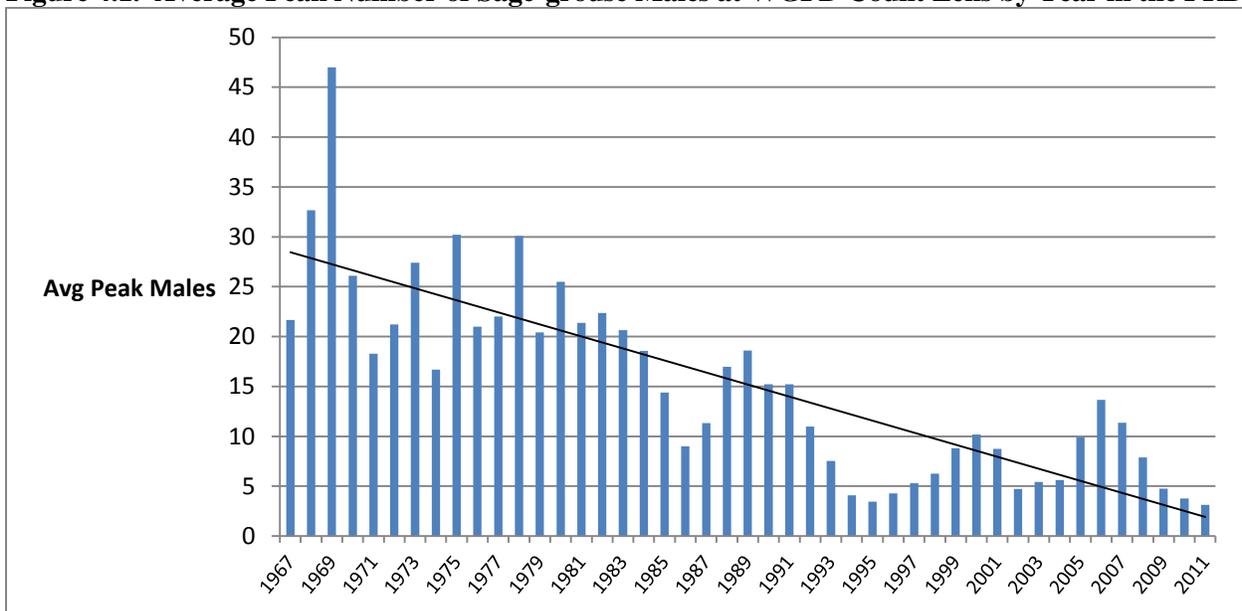
The Simba Fed 20-44H (and associated infrastructure) is located in suitable nesting habitat. Construction of the well pad, access road, utility corridor, and buried power not in a corridor will result in a direct loss of approximately 25 acres of sage-grouse habitat. See Table 2.2 for a specific breakdown of proposed disturbance per well. Alternative B. Implementation of the project will adversely impact nesting habitat, both through direct loss and avoidance of the area by sage-grouse.

#### 4.9.2.2. Cumulative Effects

BLM expects the cumulative effects to sage-grouse to be similar to those in Chapter 4 of the Whiskey Drawn EA, WY-070-09-048, incorporated here by reference (Section 4.1.5.8.3.1.1, pp. 44-48). Additional information is discussed below.

The sage-grouse population in northeast Wyoming is exhibiting a steady long term downward trend, as measured by lek attendance (WGFD 2011b). Figure 4.1 illustrates a 10-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 FWS (2010).

**Figure 4.1. Average Peak Number of Sage-grouse Males at WGFD Count Leks by Year in the PRB**



There are currently 305 wells (WOGCC, February 13, 2012) in the cumulative impact assessment area, an area of 90 square miles, which amounts to a density of approximately 3.4 wells per square mile. Currently, there are approximately 61 proposed wells (AFMSS, February 13, 2012) (including the 1 from this project) within 4 miles of the 3 leks. With the addition of the proposed wells, the well density within 4 miles of the leks increases to 4.1 wells per square mile, 4 times the 1 well per square mile recommendation made by the State Wildlife Agencies’ Ad Hoc Committee for Sage-Grouse and Oil and Gas Development.

The PRB FEIS (BLM 2003) states that “the synergistic effect of several impacts would likely result in a downward trend for the sage-grouse population, and may contribute to the array of cumulative effects that may lead to its federal listing. Local populations may be extirpated in areas of concentrated development,

but viability across the Project Area [Powder River Basin] or the entire range of the species is not likely to be compromised (pg. 4-270).” Based on the impacts described in the PRB FEIS and the findings of more recent research, the proposed action may contribute to extirpation of the local grouse population.

#### **4.9.2.3. Mitigation Measures**

In order to reduce the impacts to sage-grouse associated with noise, construction, and human disturbance resulting from implementation of the proposed project, BLM will implement a survey and a timing limitation on all surface-disturbing activities in and adjacent to identified nesting habitat across the project area per the RMP. Because nesting grouse are shown to avoid infrastructure by up to 0.6 miles, the intent of this timing restriction is to decrease the likelihood that grouse will avoid these areas and increase habitat quality by reducing noise and human activities during the breeding season.

#### **4.9.2.4. Residual Effects**

A timing limitation does nothing to mitigate loss and fragmentation of habitat or changes in disease mechanisms. Suitability of the project area for sage-grouse will be negatively affected due to habitat loss and fragmentation and proximity of human activities associated with oil and gas development.

#### **4.9.3. Special Status (Sensitive) Species (SSS)**

BLM will take actions to meet the policies set forth in sensitive species policy (BLM Manual 6840). BLM Manual 6840.22A states 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 effects to sensitive species resulting from implementation of the project are in Table 4.3 in Appendix B, and discussed in the PRB FEIS discusses impacts to sensitive species on pp. 4-257 to 4-265.

#### **4.9.4. Big Game**

##### **4.9.4.1. Direct and Indirect Effects**

The PRB FEIS discussed impacts to big game animals from CBNG and oil development on pp. 4-181 to 4-215. Big game would likely be displaced from the project area during drilling and construction. A study in central Wyoming reported that mineral drilling activities displaced mule deer by more than 0.5 miles (Hiatt and Baker 1981). The WGFD indicates a well density of 8 wells per section creates a high level of impact for big game and that avoidance zones around mineral facilities overlap creating contiguous avoidance areas (WGFD 2004). A multi-year study on the Pinedale Anticline suggests not only do mule deer avoid mineral activities, but after 3 years of drilling activity the deer have not become accustomed to the disturbance (Madson 2005).

Big game animals are expected to return to the project area following construction; however, populations will likely be lower than prior to project implementation as the human activities associated with operation and maintenance continue to displace big game. Mule deer are more sensitive to operation and maintenance activities than pronghorn, and, as the Pinedale Anticline study suggests, mule deer do not readily habituate. A study in North Dakota stated, “Although the population (mule deer) had over seven years to habituate to oil and gas activities, avoidance of roads and facilities was determined to be long term and chronic” (Lustig 2003). Deer have even been documented to avoid dirt roads that were used only by 4-wheel drive vehicles, trail bikes, and hikers (Jalkotzy et al. 1997).

Reclamation activities that occur in big game habitats during the spring will likely displace does and fawns due to the human presence in the area. This may cause reduced survival rate of does and fawns that must expend increased energies to avoid such activities.

#### **4.9.4.2. Cumulative Effects**

The cumulative effects associated with Alternative B, are within the analysis parameters and impacts described in the PRB FEIS. For details on expected cumulative impacts, refer to the PRB FEIS, pp. 4-181 to 4-215.

#### **4.9.4.3. Mitigation Measures**

BLM proposes no mitigation with Alternative B.

#### **4.9.4.4. Residual Effects**

BLM anticipates no residual effects.

### **4.9.5. Migratory Birds**

#### **4.9.5.1. Direct and Indirect Effects**

The PRB FEIS discussed direct and indirect effects to migratory birds, pp. 4-231 to 4-235. The PRB FEIS states on page 4-231, “Surface disturbance associated with construction, operation, and abandonment of facilities, including roads, has the potential to result in direct mortality of migratory birds. Most birds would be able to avoid construction equipment; however, nests in locations subject to disturbance would be lost, as would any eggs or nestlings.” Direct mortality of a bird or destruction of an active nest due to construction activities would result in a “take” as defined (and prohibited) by the MBTA, a non-discretionary statute, and in turn a violation of the law.

Disturbance of habitat in the project area is likely to impact migratory birds. Native habitats will be lost directly with the construction of the well, access road, and buried power. Surface disturbing activities that occur in the nesting season may kill migratory birds. Prompt re-vegetation of short-term disturbance areas should reduce habitat loss impacts. Pad construction, drilling, and to a lesser degree production, will displace edge sensitive migratory birds from otherwise suitable habitat adjacent to the well pad. Drilling and construction noise can be troublesome for songbirds by interfering with the males’ ability to attract mates and defend territory, and the ability to recognize calls from conspecifics (BLM 2003).

Habitat fragmentation will result in more than just a quantitative loss in the total area of habitat available; the remaining habitat area will also be qualitatively altered (Temple and Wilcox 1986). Ingelfinger (2004) identified that the density of breeding Brewer’s sparrows declined by 36% and breeding sage sparrows declined by 57% within 100 m of dirt roads in a natural gas field. Effects occurred along roads with light traffic volume (less than 12 vehicles per day). The increasing density of roads constructed in developing natural gas fields exacerbated the problem creating substantial areas of impact where indirect habitat losses through displacement were much greater than the direct physical habitat losses.

Those species that are edge-sensitive will be displaced further away from vegetative edges due to increased human activity, causing otherwise suitable habitat to be abandoned. If the interior habitat is at carrying capacity, then birds displaced from the edges will have no place to relocate. One consequence of habitat fragmentation is a geometric increase in the proportion of the remaining habitat that is near edges (Temple 1986). In severely fragmented habitats, all of the remaining habitat may be so close to edges that no interior habitat remains (Temple and Cary 1988). Over time, this leads to a loss of interior habitat species in favor of edge habitat species. Other migratory bird species that use the disturbed areas for nesting may be disrupted by the human activity, and nests may be destroyed by equipment.

Migratory bird species in the PRB nest in the spring and 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. Surface disturbing activities associated with the Simba 20-44H well will have sage-grouse timing limitations applied, thereby providing protection to migratory birds until June 30.

Lance proposes using a heater treater during the production phase of the Simba project. Heater treaters, and similar facilities, having vertical open-topped stacks or pipes can attract birds. Those facilities without exclusionary devices can pose a mortality risk. Once birds crawl into the stack, escape can become difficult and the bird may become trapped (U.S. v. Apollo Energies Inc., 611 F.3d 679 (10th Cir. 2010); see also, Colorado Oil and Gas Commission, Migratory Bird Policy, accessed February 13, 2012).

#### **4.9.5.2. Cumulative Effects**

The cumulative effects associated with Alternative B, are within the analysis parameters and impacts described in the PRB FEIS. For details on expected cumulative impacts, refer to the PRB FEIS, p. 4-235.

#### **4.9.5.3. Mitigation Measures**

No timing limitations on surface disturbing activities are proposed specifically for migratory birds.

However, Sage-grouse timing limitations on surface disturbing activities will also serve to mitigate impacts to nesting migratory birds.

Lance committed (Simba Fed 4778-20-44H, MSUP, p. 9) to install bird exclusion devices on all exhaust stacks greater than 2 inches in diameter; and, to screen or net all open-top tanks containing hydrocarbons or open pits and ponds.

#### **4.9.5.4. Residual Effects**

Sage-grouse timing limitations will apply to the entire project. Those migratory bird species and individuals that are still nesting when the sage-grouse timing limitations are over (June 30) may have nests destroyed, or be disturbed, by construction activities. Disruption from construction activities may also cause abandonment of active nests. If Lance does not properly maintain all exclusionary devices implemented for the project, birds may remain at risk of direct mortality.

### **4.9.6. Plains Sharp-tailed Grouse**

#### **4.9.6.1. Direct and Indirect Effects**

The PRB FEIS analyzed direct and indirect impacts to sharp-tailed grouse from oil and gas development, pp. 4-221 to 4-225. Sharp-tailed grouse may avoid habitats adjacent to the project area. BLM does not expect impacts to the nearest known lek

#### **4.9.6.2. Cumulative Effects**

The cumulative effects associated with Alternative B are within the analysis parameters described in the PRB FEIS. Refer to the PRB FEIS for details on expected cumulative impacts, pp. 4-225 to 4-226.

#### **4.9.6.3. Mitigation Measures**

BLM proposes no mitigation with Alternative B specifically for sharp-tailed grouse. However, where timing limitations for sage-grouse are applied, sharp-tailed grouse will also be protected.

#### **4.9.6.4. Residual Impacts**

A timing limitation does nothing to mitigate loss, habitat fragmentation, or changes in disease mechanisms. Suitability of the project area for sharp-tailed grouse will be negatively affected due to habitat loss and fragmentation and proximity of human activities associated with oil and gas development.

#### **4.10. Cultural Resources**

##### **4.10.1. Direct and Indirect Effects**

The proposed project will not impact any historic properties. Following the Wyoming State Protocol Section VI(A)(1) the BLM electronically notified the Wyoming State Historic Preservation Officer (SHPO) on January 13, 2012 that no historic properties exist in the area of potential effects. If operators observe any cultural values [sites, artifacts, human remains (Appendix L PRB FEIS and ROD)] during operation of this lease/permit/right-of-way, they will be left intact and the Buffalo Field Manager notified. Standard COA (General)(A)(1) explains further discovery procedures.

##### **4.10.2. Cumulative Effects**

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.

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.

##### **4.10.3. Mitigation Measures**

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

##### **4.10.4. 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 to damage unidentified cultural resources through construction activities. The increased human presence associated with the construction phase can also lead to unauthorized collection of artifacts or vandalism of historic properties.

#### **4.11. Alternative C – Proposed Action with Additional Mitigation**

Alternative C is the same as Alternative B, with the addition of specific mitigation to protect migratory birds. Alternative C incorporates by reference all the mitigation measures and their analysis from Alternative B, with the additional mitigation and analysis for migratory birds and socioeconomics.

## **4.12. Wildlife**

### **4.12.1. Migratory Birds**

#### **4.12.1.1. Direct and Indirect Effects**

Potential project effects to migratory birds from implementation of Alternative C are the same as those analyzed under Alternative B.

#### **4.12.1.2. Cumulative Effects**

The cumulative effects associated with Alternative C, are within the analysis parameters and impacts described in the PRB FEIS. For details on expected cumulative impacts, refer to the PRB FEIS, p. 4-235.

#### **4.12.1.3. Mitigation Measures**

The PRB FEIS states on page 4-231, “Surface disturbance associated with construction, operation, and abandonment of facilities, including roads, has the potential to result in direct mortality of migratory birds. Most birds would be able to avoid construction equipment; however, nests in locations subject to disturbance would be lost, as would any eggs or nestlings.” Direct mortality of a bird or destruction of an active nest due to construction activities would result in a “take” as defined (and prohibited) by the MBTA, a non-discretionary statute, and in turn a violation of the law.

Raptor protections are put in place to avoid potential violations of the MBTA, making the guidance for seasonal timing relevant to the migratory bird issue as well. Adequate conservation measures to protect migratory birds are not included in the current RMP, as updated and amended. Although the PRB FEIS ROD addressed the potential impacts from oil and gas development to migratory birds, it did not specifically identify timing limitations on surface disturbing activities to help mitigate those impacts. The RMP is currently under revision, and a change in management for migratory birds is being considered among the alternatives. Until the RMP revision is complete, the BFO will provide project level site-specific analysis of conservation measures implemented for migratory bird protection, and compliance with the MBTA.

BLM provided some level of protection for migratory bird nesting through timing limitations applied to plans of development for sage-grouse and raptor nesting. Many CBNG projects (consisting of multiple wells) covered large areas that either encompassed sage-grouse nesting habitat or raptor nests. Timing limitations applied as COAs for those projects were likely to also protect migratory birds during the nesting season by effectively limiting the development in a project area during grouse and raptor breeding seasons. Operators were likely to wait to construct facilities until limitations had been lifted for the entire area, in order to cut down on labor costs and difficulties from completing only small portions of the project at a time. With conventional oil projects, such as the Simba 20-44H, where only 1 well is proposed and no active raptor nests exist, operators will most likely start construction as soon as possible, which in this case is during the migratory bird nesting season. The shift in proposed projects from multi-well CBNG projects to single conventional wells, and in turn reducing secondary protections to migratory birds, constitutes a “change in circumstances” (43 CFR 1610.5-6) that should be addressed at the project level until issues can be resolved in a land use plan.

Nest initiation and egg laying in Brewer’s sparrows (BLM sensitive species) typically occurs mid-May to mid-July. Some young do not fledge until late July. Sage thrashers (BLM sensitive species) may lay a second clutch of eggs as late as mid-July. Lark sparrows in northern latitudes lay eggs from early May to mid-July (Information on breeding habits available on the Birds of North America Online website:

<http://bna.birds.cornell.edu/bna>). Sage-grouse timing limitations on surface disturbing activities will serve to mitigate impacts to nesting migratory birds from March 15 – June 30. However, several species of birds, including those listed above, are likely to still have eggs or nestlings into July. The least restrictive measures (in this case only applying sage-grouse timing limitations) are not adequate to protect all nesting migratory birds that may inhabit the project area.

To assure compliance with the MBTA, the FWS biologist recommended that pad construction occur outside of the migratory bird breeding season (February 1- August 31) (Pauline Schuette, Personal Communication, February 27, 2012). Because most early nesters are raptors, and no known raptor nests are within 0.5 miles of the project area, the BLM biologist is recommending that the timing limitation be shortened to a time frame that will encompass the breeding season for the greatest quantity of passerines (May 1 – August 1). Under this alternative, a timing limitation would apply to all surface disturbing activities, unless a pre-construction clearance survey (within approximately 1 week of construction planned May 1-August 1) is completed, to reduce the likelihood of a “take” under the MBTA.

Although Lance made specific commitments to excluded birds from exhaust stacks (with a circumference of greater than 2 inches), pits, ponds, and open-topped tanks, other facilities may pose a threat. The BLM will consider a COA to ensure that migratory birds are excluded from all facilities that pose a mortality risk, including, but not limited to, heater treaters, flare stacks, and secondary containment where escape may be difficult or hydrocarbons or toxic substances are present. Conversely BLM distinguishes this COA consideration from usual Wyoming BLM practice, thus its analysis in Alternative C.

#### **4.12.1.4. Residual Effects**

Timing limitations will apply to the entire project. It is unlikely that active nests will be destroyed by construction activities, as most nestlings will have fledged by the beginning of August. Nests initiated after the first week in July may be destroyed by construction after August 1<sup>st</sup>. Migratory birds nesting adjacent to the well pad or road may be disturbed by construction and production activities. If Lance does not properly maintain any exclusionary devices implemented for the project, birds may remain at risk of direct mortality. A timing limitation does nothing to mitigate loss and fragmentation of habitat. Suitability of the project area for migratory birds will be negatively affected due to habitat loss and fragmentation and proximity of human activities associated with oil and gas development.

### **4.13. Economics and Recovery of Resources**

#### **4.13.1. Direct and Indirect Effects**

BLM anticipates the direct and indirect effects of implementing Alternative C are nearly the same as Alternative B, with minor, additional effects to the operator balanced with the positive effects to nesting migratory birds. The seasonal timing restriction is consistent with the lease rights granted, in that the reasonable and prudent reduction in the potential for “take” under the MBTA from operations on this lease are consistent with the lease terms and conditions, and applicable BLM regulations (see 43 CFR 3101.1-2: “A lessee shall have the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove and dispose of all the leased resource in a leasehold subject to... restrictions deriving from specific, nondiscretionary statutes...”). The prohibition of the “take” of an MBTA-protected species is provided in the MTBA, a “specific, nondiscretionary statute” and from which the BLM derived the proposed COA (in consultation with the FWS). There will be no loss in revenue stream to the operator and no reduction in royalties to the federal government and the State of Wyoming.

There may be a minor increase in cost to the operator from the expense of additional surveys, modification of equipment, or design needs in order to ensure compliance with the migratory bird COAs. Also, it is possible that the construction phase of the project may be delayed. Construction may be delayed by approximately one month past sage-grouse timing limitations, if surveys are incomplete or an active nest is found. A one month delay should not substantially impact Lance, as the Buffalo BLM

routinely imposes a timing limitation of similar length for active raptor nests (February 1 – July 31). The authorized officer can require reasonable measures to minimize impacts to other resources, including timing of operations (43 CFR 3101.1-2). The recommended timing limitation is not more stringent in length, or different in nature, than those which are currently included in the RMP and routinely applied to permits for bald eagles, raptors, mountain plover, or sage-grouse.

**4.13.2. Cumulative Effects**

The cumulative effects associated with Alternative C, are within the analysis parameters and impacts described in the PRB FEIS. For details on expected cumulative impacts, refer to the PRB FEIS, p. 4-235.

**4.13.3. Mitigation Measures**

BLM proposed no additional mitigation measures.

**4.13.4. Residual Effects**

Residual effects for Alternative C are the same as those identified in Alternative B.

**5. CONSULTATION/COORDINATION:**

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**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)

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