EA NO-WY-070-EA-10-66
DECISION RECORD
FOR
WELLSTAR Corporation

DECISION: To approve Alternative B, as described in the attached Environmental Assessment (EA) and to authorize the following Application for Permit to Drill (APDs) for WELLSTAR Corp.

	Well Name	Well #	Qtr/Qtr	Section	TWP	RNG	Lease #
1	Keeline Unit	4-44	SESE	4	43N	69W	WYW148876
2	Keeline Unit	17-21	NENW	17	43N	69W	WYW148876

This approval is subject to adherence with operating plans and mitigation measures contained in the Surface Use Plan of Operations and Drilling Plans in the APD. This approval is also subject to operator compliance with all mitigation and monitoring requirements contained within the Powder River Oil and Gas Project Final Environmental Impact Statement and Resource Management Plan Amendment (PRB EIS) approved April 30, 2003 and adherence with the attached Conditions of Approval.

RATIONALE: The decision to authorize the proposed action will not result in any undue or unnecessary environmental degradation. The lessee has the right to develop their existing lease provided no significant adverse or irreversible impacts occur to critical resources. Mitigation measures from the range of alternatives were selected to best meet the purpose and need, and will be applied by the BLM to alleviate environmental impacts.

The proposed action is in conformance with the Powder River Oil and Gas Project EIS and Resource Management Plan Amendment (PRB FEIS) approved April 30, 2003 and the Approved Resource Management Plan for the Public Lands Administered by the Bureau of Land Management (BLM), Buffalo Field Office, April 2001.

ADMINISTRATIVE REVIEW AND APPEAL: Under BLM regulations, this decision is subject to administrative review in accordance with 43 CFR 3165. Any 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

3/11/10
Date

EA NO-WY-070-EA-10-66
FINDING OF NO SIGNIFICANT IMPACT
FOR
WELLSTAR Corporation

FINDING OF NO SIGNIFICANT IMPACT: Based on the analysis of the potential environmental impacts of the proposed action in the attached environmental assessment, I have determined that NO significant impacts are expected and, therefore, an environmental impact statement is not required.

Field Manager

3/11/10
Date

BUREAU OF LAND MANAGEMENT
BUFFALO FIELD OFFICE
ENVIRONMENTAL ASSESSMENT
EA # WY-070-EA-10-66

INTRODUCTION

This site-specific analysis tiers into and incorporates by reference the information and analysis contained 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 (approved April 30, 2003), and the PRB FEIS Record of Decision (ROD) pursuant to 40 CFR 1508.28 and 1502.21. This document is available for review at the BLM Buffalo Field Office (BFO). This project environmental assessment (EA) addresses site-specific resources and impacts that were not covered within the PRB FEIS.

1. PURPOSE AND NEED

The purpose and need of this EA is to determine how and under what conditions to allow the operator to exercise lease rights granted by the United States to develop the oil and gas resources on federal leaseholds as described in their proposed action.

Information contained in the APDs is considered an integral part of this environmental assessment and is, therefore, incorporated by reference (CFR 1502.21).

Development of the Keeline Unit 4-44 and 17-21 conventional oil wells would return royalties to the federal Treasury as well as stimulate local economies.

The BLM recognizes the extraction of natural 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, and the Federal Land Policy Management Act (FLPMA) of 1976. 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 BLM BFO, and the 2003 PRB FEIS. This action helps move the Project Area toward desired conditions for mineral development with appropriate mitigation consistent with the goals, objectives and decisions outlined in these two documents.

1.1. Conformance with Applicable Land Use Plan and Other Environmental Assessments:

The proposed action conforms to the terms and the conditions of the 1985 Buffalo RMP, the 2001 Approved RMP, the 2003 PRB FEIS, and the PRB FEIS ROD as required by 43 CFR 1610.5. The BFO RMP is currently under revision.

2. ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1. Alternative A - No Action

This alternative would consist of no new federal wells. The Department of Interior's authority to implement a "no action" alternative that precludes development is limited. An oil and gas lease grants the lessee the "right and privilege to drill for, mine, extract, remove, and dispose of all oil and gas deposits" in the lease lands, "subject to the terms and conditions incorporated in the lease." The No Action

Alternative is further described in the PRB FEIS, Volume 1, pages 2-54 through 2-62.

2.2. Alternative B - Proposed Action

PROJECT NAME: Keeline Unit 4-44 and 17-21.

WELL NAME/#/LEASE/LOCATION:

	Well Name	Well #	Qtr/Qtr	Section	TWP	RNG	Lease #
1	Keeline Unit	4-44	SESE	4	43N	69W	WYW148876
2	Keeline Unit	17-21	NENW	17	43N	69W	WYW148876

AFFECTED SURFACE OWNERS: Keeline Ranch Company-Candace Hardesty

COUNTY: Campbell

The proposed action is to drill and develop 2 oil wells in the Muddy formation to depths of 9000 feet, and construct associated infrastructure. The wells would be drilled in an operating oil field unit. Both wells will require engineered pads, and approximately 1 mile total of improved access roads. Total surface disturbance for the 2 wells and new improved crowned and ditched roads is approximately 14.8 acres. The access roads will be surfaced to allow year around access.

The action would be subject to the attached Conditions of Approval for drilling of an oil well on private surface/federal mineral lands within the Buffalo Field Office jurisdiction.

It will take approximately 45 days to drill the wells. Final construction and interim reclamation will take place during production and within 2 years of final abandonment. The wells would be visited daily for inspection and removal of oil and water from the location.

For a detailed description of design features and construction practices associated with the proposed action, refer to the Surface Use Plan (SUP) and Drilling Plan included with the APDs. Also, see the subject APDs for maps showing the proposed well locations and associated facilities described above.

Implementation of committed mitigation measures contained in the SUP and Drilling Plan, in addition to the Standard Conditions of Approval (COAs) contained in the PRB FEIS Record of Decision Appendix A, are incorporated and analyzed in this alternative.

Additionally, the Operator, in their APDs, has committed to:

1. Comply with all applicable Federal, State and Local laws and regulations.
2. Obtain the necessary permits from other agencies for the drilling, completion and production of these wells including water rights appropriations, and relevant air quality permits.
3. The Operator has certified that a Surface Use Agreement has been reached with the Landowner.
4. The Operator has certified that a copy of the SUPs has been provided to the relevant Landowner.

2.2.1. Changes as a result of the on-sites

No changes to the proposed project were identified at the onsite.

DESCRIPTION OF PROPOSED MITIGATION MEASURES:

Implementation of committed mitigation measures contained in the Surface Use Plan of Operations and Drilling Plan, in addition to the following Conditions-of-Approval, would ensure that no adverse environmental impacts would result from approval of the proposed action:

Conditions of Approval

2.3. Programmatic mitigation measures, Alternative B

2.3.1. Wildlife

1. For any surface-disturbing activities proposed in sagebrush shrublands, the Companies will conduct clearance surveys for sage grouse breeding activity during the sage grouse's breeding season before initiating the activities. The surveys must encompass all sagebrush shrublands within 0.5 mile of the proposed activities.

2. The Companies will locate facilities so that noise from the facilities at any nearby sage grouse or sharp-tailed grouse display grounds does not exceed 49 decibels (10 dBA above background noise) at the display ground.

3. Containment impoundments will be fenced to exclude wildlife and livestock. If they are not fenced, they will be designed and constructed to prevent entrapment and drowning.

2.3.2. Air Quality

1. During construction, emissions of particulate matter from well pad and resource road construction will be minimized by application of water, or other dust suppressants, with at least 50 percent control efficiency. Roads and well locations constructed on soils susceptible to wind erosion could be appropriately surfaced or otherwise stabilized to reduce the amount of fugitive dust generated by traffic or other activities, and dust inhibitors (surfacing materials, non-saline dust suppressants, and water) could be used as necessary on unpaved collector, local and resource roads that present a fugitive dust problem. The use of chemical dust suppressants on BLM surface will require prior approval from the BLM authorized officer.

2.3.3. Site Specific Conditions of Approval

A. Surface Use

a. Well 4-44 and 17-21

1. To minimize erosion and enhance reclamation, all drilling and construction activities will be stabilized during and within 30 days of the initiation of construction.
2. If well is a producer, all pits will be closed and production tanks will be used on the location.
3. For interim reclamation needs, all topsoil removed, will be re-spread, immediately after construction of wells and roads are done.
4. The access road, on the slope, going to the 4-44 well will be surfaced with gravel before pad construction occurs.
5. All permanent above-ground structures (e.g., production equipment, tanks, etc.) not subject to safety requirements will be painted to blend with the natural color of the landscape. The paint used will be a color which simulates "Standard Environmental Colors." The color selected for this project, is Covert Green and Munsell Soil Color Number 18-0617 TPX.
6. The operator will drill seed on the contour, to no more than 0.5 inch deep, followed by cultipaction to compact the seedbed and reduce soil and seed losses. To maintain quality and purity, the current years tested, certified seed with a minimum germination rate of 80% and a minimum purity of 90% will be used. On BLM surface or in lieu of a different specific mix desired by the surface owner, use the following:

10-14" Precipitation Zone
Shallow Clayey/Clayey Ecological Site Seed Mix for 4-44 location:

Clayey Ecological Site Seed Mix		
Species	**% in Mix**	**Lbs PLS***
Western Wheatgrass (Pascopyrum smithii)	35	4.2
Green needlegrass (Nassella viridula)	30	4.8
Slender Wheatgrass (Elymus trachycaulus ssp. trachycaulus)	20	1.2
Prairie coneflower (Ratibida columnifera)	5	0.6
White or purple prairie clover (Dalea candidum, purpureum)	5	0.6
Rocky Mountain beeplant (Cleome serrulata)	5	0.6
Totals	**100%**	**12 lbs/acre**

Sandy Ecological Site Seed Mix for the 17-21 location:

Species	**% in Mix**	**Lbs PLS***
Thickspike Wheatgrass (Elymus lanceolatus ssp. lanceolatus)	30	3.6
Prairie sandreed (Calamovilfa longifolia)	30	3.6
Indian ricegrass (Achnatherum hymenoides)	25	3.0
Prairie coneflower (Ratibida columnifera)	5	0.6
White or purple prairie clover (Dalea candidum, purpureum)	5	0.6
Scarlet Globemallow (Sphaeralcea coccinea) / or ***Blue flax***(Linum lewisii)	5	0.6
Totals	**100%**	**12 lbs/acre**

*PLS = pure live seed. Northern Plains adapted species
Double this rate if broadcast seeding

Slopes too steep for machinery may be hand broadcast and raked with twice the specified amount of seed. Seeding is authorized during spring, summer, fall and winter, as conditions permit. Operators should plan construction and seeding/reclamation activities to ensure surface disturbance is stabilized and reseeded, during and within 30 days of the end construction activities.

B. Wildlife

Big Game

No surface disturbing activity shall occur within identified elk crucial winter range from November 15 to April 30. This timing limitation will affect the Keeline 17-21 well and portion of the access road in sections 8 and 17.

Raptors

The following conditions will alleviate impacts to raptors:

1. No surface disturbing activity shall occur within 0.5 mile of all identified raptor nests from February 1 through July 31, annually, prior to a raptor nest occupancy survey for the current breeding season. This timing limitation will affect both the Keeline 17-21 and Keeline 4-44 wells.
    a. Surveys to document nest occupancy shall be conducted by a biologist following BLM protocol, between April 15 and June 30. All survey results shall be submitted in writing to a Buffalo BLM biologist and approved prior to surface disturbing activities. Surveys outside this window may not depict nesting activity. If a survey identifies active raptor nests, a 0.5 mile timing buffer will be implemented. The timing buffer restricts surface disturbing activities within 0.5 mile of occupied raptor nests from February 1 to July 31.
2. If an undocumented raptor nest is located during project construction or operation, the Buffalo Field Office (307-684-1100) shall be notified within 24 hours.
3. Well metering, maintenance and other site visits within 0.5 miles of raptor nests should be minimized as much as possible during the breeding season (February 1 – July 31).

3. AFFECTED ENVIRONMENT

The APDs were received on 7/28/2009. A field inspection of the proposed wells was conducted on 11/9/2009.

This section describes the environment that would be affected by implementation of the Alternatives described in Section 2. Aspects of the affected environment described in this section focus on the relevant major issues.

3.1. Topographic Characteristics

The project is located 14 miles east of Wright, WY, in the Belle Fourche River watershed. Topography in the area is made up of broken ridgelines and moderately incised arroyos along with ephemeral drainages. Elevations within the project area average 4650 feet. Ridge tops are gently rolling. Drainage channels are populated by cottonwoods and juniper trees. Scattered stands of Ponderosa pine are found along ridgelines. Major drainages in the area are HA and Little Thunder creeks. The area is in the 10" to 14" precipitation zone.

3.2. Vegetation & Soils

3.2.1. Vegetation

Species typical of short grass prairie comprise the project area flora. Specific species observed throughout the project area include: Ponderosa pine, cottonwoods, juniper, big sagebrush, yucca prickly pear cactus, silver sagebrush, western wheat grass, blue grama, prairie junegrass, needle & thread grass, sandberg bluegrass, cheatgrass, little bluestem, scarlet globemallow, and rabbit brush. Differences in dominant species within the project area vary with soil type, aspect and topography.

Dominate Ecological Site for the 4-44 location is Shallow Clayey and the dominate plant community identified in this project area is:

Mixed Sagebrush/Grass Plant Community
This plant community is found under moderate, season-long grazing by livestock in the absence of fire or brush management. Wyoming big sagebrush is a significant component of this plant community. Cool-season grasses make up the majority of the understory with the balance made up of short warm-season grasses, annual cool-season grasses, and miscellaneous forbs.

When compared to the Historic Climax Plant Community, sagebrush and blue grama have increased. Production of cool-season grasses, particularly green needlegrass, has been reduced. The sagebrush canopy protects the cool-season mid-grasses, but this protection makes them unavailable for grazing. Cheatgrass (downy brome) has invaded the site. The overstory of sagebrush and understory of grass and forbs provide a diverse plant community that will support domestic livestock and wildlife such as mule deer and antelope.

This plant community is resistant to change. A significant reduction of big sagebrush can only be accomplished through fire or brush management. The herbaceous species present are well adapted to grazing; however, species composition can be altered through long-term overgrazing. If the herbaceous component is intact, it tends to be resilient if the disturbance is not long-term.

Dominate Ecological Site for the 17-21 location is Sandy and the dominate plant community identified in this project area is Mixed Sagebrush/Grass Plant Community. See description above.

3.2.2. Soils
Soils within the project area were identified from the *South Campbell County Survey Area, Wyoming (WY605).* The soil survey was performed by the Natural Resource Conservation Service according to National Cooperative Soil Survey standards. Pertinent information for analysis was obtained from the published soil survey. The soils vary from sand to loams and clays throughout the project area. Soils differ with topographic location, slope and elevation. Topsoil depths to be salvaged for reclamation range from 0 to 4 inches on ridges to 8+ inches in bottomland. Erosion potential varies from moderate to severe depending on the soil type, vegetative cover and slope. Reclamation potential of soils also varies throughout the project area. Both well locations are rated as poor reclamation potential. Successful reclamation is anticipated with adequate moisture, time and use of sound Best Management Practices (BMPs). For more detail on soils, see NRCS Soil Surveys.

3.2.3. Invasive Species
No state-listed noxious weeds and invasive/exotic plant infestations were discovered by a search of inventory maps and/or databases or during subsequent field investigation by the proposed project proponent.

Cheatgrass or downy brome (Bromus tectorum) and to a lesser extent, Japanese brome (B. japonicus) are known to exist in the affected environment. These two species can be found in high densities and in numerous locations throughout NE Wyoming.

3.3. Wildlife
Wildlife species that occur in the Powder River Basin were identified in the PRB FEIS (pp. 3-113 to 3-206). A habitat assessment was performed by a BLM wildlife biologist on November 9, 2009. During that time, the biologist evaluated impacts to wildlife resources and recommended project modifications where wildlife issues arose.

In addition to the onsite evaluation, BLM wildlife biologist also consulted databases compiled and managed by BLM BFO wildlife staff, the PRB FEIS, Wyoming Game and Fish Department datasets, and

the Wyoming Natural Diversity Database (WYNDD) to evaluate the affected environment for wildlife species that may occur in the project area. Habitat assessment and wildlife inventory surveys were performed by Western Land Services (2009) for, mountain plover, sharp-tailed grouse, greater sage-grouse, raptor nests, and prairie dog colonies according to Powder River Basin Interagency Working Group (PRBIWG) accepted protocol. PRB IWG accepted protocol can be found at: www.blm.gov/style/medialib/blm/wy/field-offices/buffalo/wildlife.Par.34632.File.dat/WildlifesurveyProtocol.pdf

3.3.1. Big Game

Big game species expected to be within the project area include pronghorn antelope, mule deer, and elk. All three species were observed during the on-site visit. The WGFD has determined that the project area contains yearlong range for pronghorn antelope and mule deer. The project is in winter yearlong range for elk, and a portion of the project is in crucial elk winter range. The project area is within the Wyoming Game & Fish Department's Rochelle Hills elk management unit..

Crucial Range is any particular seasonal range or habitat component, but describes that component which has been documented as the determining factor in a population's ability to maintain and reproduce itself at a certain level. **Winter** use is when a population or portion of a population of animals uses the documented suitable habitat sites within this range annually, in substantial numbers only during the winter period. **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.

3.3.2. Migratory Birds

Migratory birds are those that migrate for the purpose of breeding and foraging at some point in the year. According to WO Instruction Memorandum No. 2008-050, BLM must include migratory birds in every NEPA analysis of actions that have the potential to affect migratory bird species of concern in order to fulfill its obligations under the Migratory Bird Treaty Act.

The WGFD Wyoming Bird Conservation Plan (Nicholoff 2003) identified three groups of high-priority bird species in Wyoming: 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 otherwise of high priority but are of local interest.

Shrub-steppe vegetation dominates the project area. Many species that are of high management concern use shrub-steppe areas for their primary breeding habitats (Saab and Rich 1997). Nationally, grassland and shrubland birds have declined more consistently in the last 30 years than any other ecological association of birds (WGFD 2009). Species that may occur in these vegetation types in northeast Wyoming, according to the Wyoming Bird Conservation Plan, are listed in the following table and are grouped by Level as identified in the Plan.

Migratory bird species that occur in shrub-steppe habitats in northeast Wyoming (Nicholoff 2003)

Level	Species	Wyoming BLM Sensitive
Level I	Brewer's sparrow	Yes
	Ferruginous hawk	Yes
	Greater sage-grouse	Yes
	McCown's longspur	
	Sage sparrow	Yes
Level II	Lark bunting	

Level	Species	Wyoming BLM Sensitive
	Lark sparrow	
	Loggerhead shrike	Yes
	Sage thrasher	Yes
	Vesper sparrow	
Level III	Common poorwill	
	Say's phoebe	

The affected environment for migratory birds is discussed in the PRB FEIS (pp. 3-150 to 3-153). The discussion includes a list of habitat requirements and foraging patterns for the species listed above, with the exception of common poorwills and Say's phoebes, which are discussed here.

Common poorwills inhabit sparse, rocky sagebrush; open prairies; mountain-foothills shrublands; juniper woodlands; brushy, rocky canyons; and ponderosa pine woodlands. They prefer clearings, such as grassy meadows, riparian zones, and forest edges for foraging. They lay eggs directly on gravelly ground, flat rock, or litter of woodland floor. Nests are often placed near logs, rocks, shrubs, or grass for some shade.

They feed exclusively on insects, catching them by leaping from the ground or a perch, or picking them up from the ground. Say's phoebes inhabit arid, open country with sparse vegetation, including shrub-steppe, grasslands, shrublands, and juniper woodlands. They nest on a variety of substrates such as cliff ledges, banks, bridges, eaves, and road culverts and often reuse nests in successive years. They eat mostly insects and berries.

3.3.3. Raptors

The affected environment for raptors is discussed in the PRB FEIS on pp. 3-141 to 3-148.

According to the BLM raptor database and Western Lands Services, raptors identified in the project area include: red-tailed hawk, turkey vulture, ferruginous hawk, prairie falcon, great-horned owl, golden eagle and American kestrel. Two raptor nests, both identified as red-tailed hawk, were identified within the project area and are listed in the table below.

Documented raptor nests within the Keeline Unit Wells project area.

BLM ID	UTMs	Legal	Substrate	Year	Status	Condition
10629	4839052N 485722E	T43N, R69W SWNW S17	Ponderosa Pine	2009	Inactive	Good
10630	4841139N 488847E	T43N, R69W NWNW S10	Cottonwood Live	2009	Inactive	Good

3.3.4. Sagebrush Obligates

Sagebrush obligates are species that depend on sagebrush for survival during some part of their life cycle. Shrubland-dependent birds are one of the fastest-declining species assemblages in North America (Paige and Ritter 1999). Sagebrush obligates that may occur in the project area and are listed as Sensitive species by BLM Wyoming include sage thrasher, Brewer's sparrow, and greater sage-grouse. Sage thrasher and Brewer's sparrow require sagebrush for nesting, with nests typically located within or under the sagebrush canopy. Sage thrashers usually nest in tall, dense clumps of sagebrush within areas having some bare ground for foraging. Brewer's sparrows are associated closely with sagebrush habitats which

are abundant in scattered shrubs and short grass (Paige and Ritter 1999). Greater sage-grouse are discussed in more detail below.

3.3.5. Plains Sharp-tailed Grouse

Plains sharp-tailed grouse are discussed in this document because specific concerns for this species were identified during the scoping process for the PRB FEIS. The affected environment for plains sharp-tailed grouse is discussed in the PRB FEIS on pp. 3-148 to 3-150.

3.3.6. Threatened and Endangered and Sensitive Species

3.3.6.1. Threatened and Endangered Species

Within the BLM Buffalo Field Office there are three species that are listed as Threatened or Endangered under the Endangered Species Act: black-footed ferret, blowout penstemon, and Ute ladies'-tresses.

3.3.6.1.1. 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.

A black-footed ferret population requires at least 1,000 acres of prairie dog colonies, separated by no more than 1.5 km, for survival (USFWS 1989). No black-tailed prairie dog colonies were identified within 0.75 miles of the project boundary, the minimum distance required to affect habitat, according to the above criterion. Black-footed ferret habitat is not present within the project area.

3.3.6.1.2. Blowout Penstemon

Blowout penstemon is listed as Endangered under the ESA. It is a regional endemic species of the Sand Hills of west-central Nebraska, and the northeastern Great Divide Basin in Carbon County, Wyoming. Suitable blowout penstemon habitat consists of sparsely vegetated, early successional stage, 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 project area does not contain areas with these characteristics, and blowout penstemon is not expected to occur.

3.3.6.1.3. 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.

The PRB FEIS reported that only four orchid populations had been documented within Wyoming, but since the writing of that document, five additional sites were located in 2005 and one in 2006 (Heidel pers. comm.). The new locations were in the same drainages as the original populations, with two on the same tributary and within a few miles of an original location. Drainages with documented orchid populations include Wind Creek and Antelope Creek in northern Converse County, Bear Creek in northern Laramie and southern Goshen Counties, Horse Creek in Laramie County, and Niobrara River in Niobrara County. No perennial or ephemeral streams or wetlands occur on the project area. Consequently, the hydrology necessary to support Ute ladies' tresses orchid does not occur and BLM has determined that the proposed activity will have no affect on the orchid.

3.3.6.2. Sensitive Species

Wyoming BLM has prepared a list of sensitive species on which management efforts should be focused towards 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 sensitive species are considered in land management decisions
- Prevent a need for species listing under the ESA

- Prioritize needed conservation work with an emphasis on habitat

Table 4.3 lists those species on the Wyoming BLM sensitive species list that, according to the PRB FEIS, may occur in the Powder River Basin Oil and Gas Project Area, which includes the project area for the 14-35 well. The table also includes a brief description of the habitat requirements for each species and whether the species is expected to occur in the project area. The affected environment for greater sage-grouse, a species that is currently being considered for listing as threatened or endangered under the Endangered Species Act, is discussed in more detail in this section. The authority for the sensitive species policy and guidance comes 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; and the Department Manual 235.1.1A.

3.3.6.2.1. Greater Sage-Grouse

The affected environment for greater sage-grouse (herein referred to as sage-grouse) is discussed in the PRB FEIS (pg. 3-194 to 3-199). In addition to being listed as a Wyoming BLM sensitive species, sage-grouse are listed as a WGFD Species of Greatest Conservation Need (SGCN), with a rating of Native Species Status 2 (NSS2 – indicates that populations are greatly restricted or declining – extirpation appears possible and habitat is restricted or vulnerable but no recent or ongoing significant loss; species may be sensitive to human disturbance (WGFD 2009), because populations are declining, and they are experiencing ongoing significant loss of habitat. 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 Bird of Conservation Concern for Region 17, which encompasses 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.

In recent years, several petitions have been submitted to USFWS to list sage-grouse as threatened or endangered under the ESA. On 12 January 2005, USFWS issued a decision that the listing of the greater sage-grouse was not warranted following a Status Review. The decision document supporting this outcome noted the need to continue or expand all conservation efforts to conserve sage-grouse. In 2007, the U.S. District Court remanded that decision, stating that USFWS's decision-making process was flawed and ordered USFWS to conduct a new Status Review (Winmill Decision Case No. CV-06-277-E-BLW, December 2007).

The BFO has taken several steps to consider the evolving information on impacts to sage-grouse which could result from development activities on federal lands. These steps can be found in the Carr Draw III East Remand EA #WY-070-09-078.

Suitable sage-grouse habitat is present in the project area. Seventy percent of the project area was classified as sagebrush-shrubland with moderate to sparse stands of Wyoming big sage and silver sage, (Western Land Services, 2009). The remainder of the project area is classified as mixed-grass prairie. Juniper and ponderosa pine stands are scattered throughout the area. The understory includes western wheatgrass, blue gramma, needle and thread grass, prickly pear cactus and scarlet globe mallow. No sage-grouse or their sign was observed during field surveys.

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 four miles of oil and gas developments. WGFD records indicate that five sage-grouse leks occur within four miles of the project area. These five lek sites are identified in the following table. The Jacobs, Keeline State Land, and Open A leks are in areas "disturbed" by coal mining. Sage-grouse that used these leks may have relocated to new areas.

Sage-grouse leks within 4 miles of the project area

Name	Location	Status in 2009	Distance from Project
Drill Hole	T43N, R69W NENW S6	Inactive	1.2 miles
HA Creek	T43N, R69W NWNE S6	Not checked	1.5 miles
Jacobs	T44N, R70W SENW S36	Destroyed	2.0 miles
Keeline State Land	T44N, R69W SENE S36	Unknown	3.1 miles
Open A	T44N, R70W NWSE S26	Destroyed	3.6 miles

3.4. Cultural Resources

Class III cultural resource inventory was performed for the Keeline Unit 4-44 conventional oil well and access road and the Keeline Unit 7-21 conventional oil well and access road prior to on-the-ground project work (BFO project nos. 70090103, 70090104). Western Archaeological Services conducted two combination linear and block class III cultural resource inventories following the Archeology and Historic Preservation, Secretary of the Interior's Standards and Guidelines (48CFR190) and the Wyoming State *Historic Preservation Office Format, Guidelines, and Standards for Class II and III Reports*. Ardeth Hahn, BLM Archaeologist, reviewed the report for technical adequacy and compliance with Bureau of Land Management (BLM) standards, and determined it to be adequate. The following resources are located in or near the project area.

Site Number	Site Type	Eligibility
48CA1413	Historic Homestead	NE

3.5. Air Quality

Existing air quality throughout most of the Powder River Basin is within ambient air quality standards. Although specific air quality monitoring is not conducted throughout most of the Powder River Basin, air quality conditions in rural areas are likely to be very good, as characterized by limited air pollution emission sources (few industrial facilities and residential emissions in the relatively small communities and isolated ranches) and good atmospheric dispersion conditions, resulting in relatively low air pollutant concentrations.

Existing air pollutant emission sources within the region include following:

- Exhaust emissions (primarily CO and nitrogen oxides [NOx]) from existing natural gas fired compressor engines used in production of natural gas and CBNG; and, gasoline and diesel vehicle tailpipe emissions of combustion pollutants;
- Dust (particulate matter) generated by vehicle travel on unpaved roads, windblown dust from neighboring areas and road sanding during the winter months;
- Transport of air pollutants from emission sources located outside the region;
- Dust (particulate matter) from coal mines;
- NOx, particulate matter, and other emissions from diesel trains and,
- SO2 and NOx from power plants.

For a complete description of the existing air quality conditions in the Powder River Basin, please refer to the PRB Final EIS Volume 1, Chapter 3, pages 3-291 through 3-299.

4. ENVIRONMENTAL CONSEQUENCES

4.1. Alternative B

4.1.1. Vegetation & Soils Direct and Indirect Effects

Table 4.1 summarizes the proposed surface disturbance.

Table 4.1 - SUMMARY OF DISTURBANCE

Facility	No. or Mileage	Factor	Disturbance (acres)	Duration
Well Pads	2 well pads at L=350' W=300' each	350'x300'/43,560'acre x 2	4.8	Long Term
Improved Roads	0.85 mi.	50' Corridor	5.2	Long Term

The designation of the duration of disturbance is defined in the PRB FEIS (pg 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".

4.1.2. Wetland/Riparian

Watershed values, including natural drainages, would not be adversely impacted by the proposal with properly applied mitigation. Other water resources will not be adversely impacted by the proposal. Possible contamination effects of fresh water aquifers will be reduced through the use of tested casing, by setting casing at appropriate depths and by following safe repair procedures in the event of casing failure. Other downhole well operations are expected to cause minimal impacts using standard engineering practices.

The cumulative impacts of the proposed action, when considered with other existing and proposed development in the project area are not expected to be significant. The application of mitigative measures will ensure that the incremental impacts of this well, when considered with any existing development, are insignificant. For more information on cumulative impacts, please refer to the PRB FEIS.

4.1.3. Invasive Species

The operator has committed to the control of noxious weeds and species of concern using the following measures identified in their Integrated Pest Management Plan (IPMP):

1. Control Methods: The operator will use an integrated approach employing chemical, physical and /or biological control. Treatments will generally be in the spring but may continue into the fall.
2. Preventive practices: The operator will educate its employees and contractors concerning weed ID and control. They will minimize surface disturbance and promptly reseed disturbed areas with certified weed free seed and mulch.
   For more information, see operators Integrated Weed & Pest Management Plan.

Cheatgrass or downy brome (*Bromus tectorum*) and to a lesser extent, Japanese brome (*B. japonicus*) are known to exist in the affected environment. These two species are found in such high densities and numerous locations throughout NE Wyoming that a control program is not considered feasible at this time.

The use of existing facilities along with the surface disturbance associated with construction of proposed access roads, pipelines, and related facilities would present opportunities for weed invasion and spread.

The activities related to 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.

However, mitigation as required by BLM applied COAs and the operators Surface Use Plan, will reduce potential impacts from noxious weeds and invasive plants.

4.2. Wildlife (Alternative B)

4.2.1. Threatened and Endangered Species

Potential project effects on Threatened and Endangered Species were analyzed and a summary is provided in Table 4.2.

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

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
Endangered				
Black-footed ferret (*Mustela nigripes*)	Black-tailed prairie dog colonies or complexes > 1,000 acres.	NP	NE	No suitable habitat present.
Blowout penstemon (*Penstemon haydenii*)	Sparsely vegetated, shifting sand dunes	NS	NE	No suitable habitat present.
Threatened				
Ute ladies'-tresses orchid (*Spiranthes diluvialis*)	Riparian areas with permanent water	NP	NE	No suitable habitat present.

Presence
K - Known, documented observation within project area.
S - Habitat suitable and species suspected, to occur within the project area.
NS - Habitat suitable but species is not suspected to occur within the project area.
NP - Habitat not present and species unlikely to occur within the project area.

Project Effects
LAA - Likely to adversely affect
NE - No Effect
NLAA - May Affect, not likely to adversely affect individuals or habitat.

4.2.1.1. Black-Footed Ferret Direct and Indirect Effects

Direct and indirect effects to black-footed ferret are discussed in the PRB FEIS (pg. 4-251).
Implementation of the proposed development will have no effect on the black-footed ferret because habitat is not present in the project area, and the species is not likely to occur.

4.2.1.2. Blowout Penstemon Direct and Indirect Effects

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

4.2.1.3. Ute Ladies'-Tresses Orchid Direct and Indirect Effects

Suitable habitat is not present within the proposed POD project area. Implementation of the proposed project will have no effect on the Ute ladies'- tresses orchid.

4.2.2. Big Game

Impacts to big game are discussed in the PRB FEIS on pp. 4-181 to 4-215. As discussed in that document, impacts to the three big game species present may occur through alterations increased vehicle collisions, harassment and displacement, increased noise, increased dust, alterations in nutritional status and reproductive success, increased fragmentation, loss or degradation of habitats, reduction in habitat

effectiveness, and declines in populations. Disturbance to elk on the identified crucial winter range is reduced by timing limitations restricting construction activities from November 15 through April 30.

4.2.3. Migratory Birds

Direct and indirect effects to migratory birds are discussed in the PRB FEIS (pp. 4-231 to 4-235). More recent research suggests that impacts will occur. Ingelfinger (2004) identified that the density of some breeding bird species declined within 100 m of dirt roads within a natural gas field. In the study, the density of Brewer's sparrows declined by 36%, and the density of breeding sage sparrows declined by 57%. Effects occurred along roads with light traffic volume (<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. Though no timing restrictions are typically applied specifically to protect migratory bird breeding or nesting, sage-grouse and raptor nesting timing limitations will also protect nesting migratory birds. 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.

4.2.4. Raptors

Direct and indirect effects to raptors are discussed in the PRB FEIS (pp. 4-216 to 4-221). Human activities in close proximity to active raptor nests may interfere with nest productivity. Romin and Muck (1999) indicate that activities within 0.5 miles of a nest are prone to cause adverse impacts to nesting raptors. If mineral activities occur during nesting, they could be sufficient to cause adult birds to remain away from the nest and their chicks for the duration of the activities. This absence can lead to overheating or chilling of eggs or chicks. Prolonged disturbance can also lead to the abandonment of the nest by the adults. Both actions can result in egg or chick mortality. In addition, routine human activities near these nests can draw increased predator activity to the area and increase nest predation.

To reduce the risk of decreased productivity or nest failure, the BLM BFO requires a 0.5 mile radius timing limitation during the breeding season around active raptor nests and recommends all infrastructure requiring human visitation be located in such a way as to provide an adequate biologic buffer for nesting raptors. A biologic buffer is a combination of distance and visual screening that provides nesting raptors with security such that they will not be flushed by routine activities. Each of the two wells in the project are approximately 0.28 miles from identified red-tailed hawk nests. In both cases, the nest is out of line of sight of the well, and will be protected during the construction phase by timing restrictions. After construction, operation of producing wells will involve disturbance in the area during nesting season.

4.2.5. Sagebrush obligates

Sagebrush dependent species are affected by habitat loss, degradation, and fragmentation as well as human-caused disturbance (e.g., vehicle access, noise, etc.) associated with oil and gas development activities.

Mitigating measures included in the design of the proposed project include siting the well pad along existing roads, and where there is either no sagebrush or very sparse sagebrush density. Sagebrush impacts due to road upgrading will be minimal due to very sparse sagebrush occurrence along the access route. Significant impacts to sagebrush obligates are not anticipated due to the small area of habitat loss, limited sagebrush occurrence within disturbed areas, limited daily disturbance, and requirement for final reclamation of disturbed area at well abandonment.

4.2.6. Plains Sharp-tailed Grouse

Sharp-tailed grouse will not be affected by the project.

4.2.6.1. Sensitive Species

Table 1 lists expected impacts for sensitive species that may occur in the project area. Impacts on the greater sage-grouse, a species that is currently being considered for listing as threatened or endangered under the Endangered Species Act, are discussed in more detail in this section.

Table 4.3 Summary of Sensitive Species Habitat and Project Effects.

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
Amphibians				
Northern leopard frog (*Rana pipiens*)	Beaver ponds and cattail marshes from plains to montane zones.	NP	NI	Habitat not present.
Columbia spotted frog (*R*anus pretiosa)	Ponds, sloughs, small streams, and cattails in foothills and montane zones. Confined to headwaters of the S Tongue R drainage and tributaries.	NP	NI	The project area is outside the species' range, and the species is not expected to occur .
Fish				
Sturgeon chub (*Macrhybopsis gelida)*	Swift, rocky riffles throughout the Powder River.	NP	NI	Habitat not present.
Yellowstone cutthroat trout (*Oncoryhynchus clarki bouvieri*)	Cold-water rivers, creeks, beaver ponds, and large lakes in the Upper Tongue sub-watershed	NP	NI	The project area is outside the species' range, and the species is not expected to occur .
Birds				
Baird's sparrow (*Ammodramus bairdii*)	Shortgrass prairie and basin-prairie shrubland habitats; plowed and stubble fields; grazed pastures; dry lakebeds; and other sparse, bare, dry ground.	S	MIIH	Sagebrush cover will be affected.
Bald eagle (*Haliaeetus leucocephalus*)	Mature forest cover often within one mile of large water body with reliable prey source nearby.	NP	NI	Habitat not present.
Brewer's sparrow (*Spizella breweri*)	Sagebrush shrubland	S	MIIH	Sagebrush cover will be affected.
Ferruginous hawk (*Buteo regalis*)	Basin-prairie shrub, grasslands, rock outcrops	S	MIIH	Nesting habitat may be impacted and human activities will increase
Greater sage-grouse (*Centrocercus urophasianus*)	Basin-prairie shrub, mountain-foothill shrub	K	WIPV	Sagebrush cover will be affected.
Loggerhead shrike (*Lanius ludovicianus*)	Basin-prairie shrub, mountain-foothill shrub	S	MIIH	Sagebrush cover will be affected.
Long-billed curlew (*Numenius americanus*)	Grasslands, plains, foothills, wet meadows	NP	NI	Suitable habitat not present.

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
Mountain plover (*Charadrius montanus*)	Short-grass prairie with slopes < 5%	NP	NI	Habitat not present.
Northern goshawk (*Accipiter gentilis*)	Conifer and deciduous forests	NP	NI	Dense forest habitat not present.
Peregrine falcon (*Falco peregrinus*)	Cliffs	NP	NI	No nesting habitat present.
Sage sparrow (*Amphispiza billneata*)	Basin-prairie shrub, mountain-foothill shrub	S	MIIH	Sagebrush cover will be affected.
Sage thrasher (*Oreoscoptes montanus*)	Basin-prairie shrub, mountain-foothill shrub	S	MIIH	Sagebrush cover will be affected.
Trumpeter swan (*Cygnus buccinator*)	Lakes, ponds, rivers	NP	NI	Habitat not present.
Western Burrowing owl (*Athene cunicularia*)	Grasslands, basin-prairie shrub	NP	NI	Habitat not present.
White-faced ibis (*Plegadis chihi*)	Marshes, wet meadows	NP	NI	Permanently wet meadows not present.
Yellow-billed cuckoo (*Coccyzus americanus*)	Open woodlands, streamside willow and alder groves	NP	NI	Streamside habitats not present.
Mammals				
Black-tailed prairie dog (*Cynomys ludovicianus*)	Prairie habitats with deep, firm soils and slopes less than 10 degrees.	NP	NI	No known colonies present.
Fringed myotis (*Myotis thysanodes*)	Conifer forests, woodland chaparral, caves and mines	S	MIIH	Construction may impact foraging areas and alter habitat conditions.
Long-eared myotis (*Myotis evotis*)	Conifer and deciduous forest, caves and mines	S	MIIH	Construction may impact foraging areas and alter habitat conditions.
Swift fox (*Vulpes velox*)	Grasslands	NP	NI	Habitat not present.
Townsend's big-eared bat (*Corynorhinus townsendii*)	Caves and mines.	S	MIIH	Construction may impact foraging areas and alter habitat conditions.
Plants				
Porter's sagebrush (*Artemisia porteri*)	Sparsely vegetated badlands of ashy or tufaceous mudstone and clay slopes 5300-6500 ft.	NP	NI	Habitat not present.

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
William's wafer parsnip (*Cymopterus williamsii*)	Open ridgetops and upper slopes with exposed limestone outcrops or rockslides, 6000-8300 ft.	NP	NI	Project area outside of species' range.

Presence
K - Known, documented observation within project area.
S - Habitat suitable and species suspected, to occur within the project area.
NS - Habitat suitable but species is not suspected to occur within the project area.
NP - Habitat not present and species unlikely to occur within the project area.

Project Effects
NI - No Impact.
MIIH - May Impact Individuals or Habitat, but will not likely contribute to a trend towards Federal listing or a loss of viability to the population or species.
WIPV - Will Impact Individuals or Habitat with a consequence that the action may contribute to a trend towards Federal listing or cause a loss of viability to the population or species.
BI - Beneficial Impact

4.2.6.2. Greater Sage-Grouse Direct and Indirect Effects

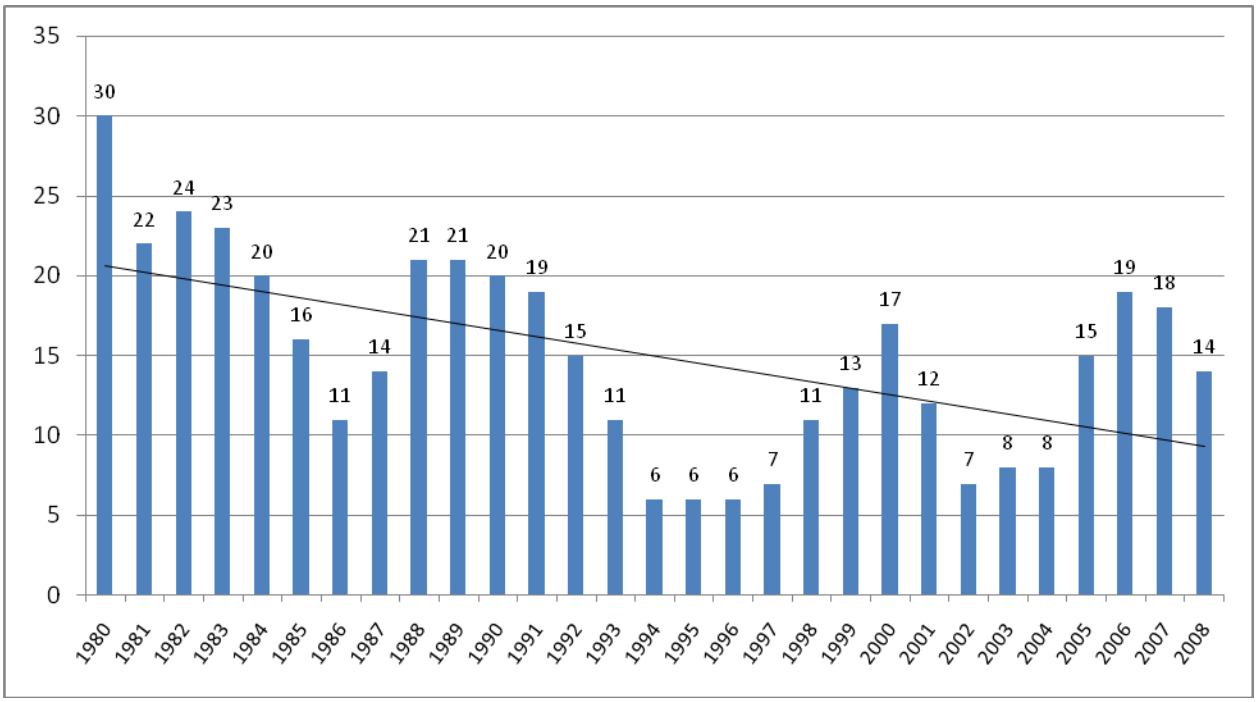
Implementation of the project will adversely impact nesting habitat, both through direct loss and avoidance of the area by sage-grouse. The impact to sage-grouse will be minimal because existing access roads will be used, and the two wells are located along existing roads in sparse sagebrush habitat. Nesting and brood rearing sage-grouse will be protected from disturbance during the construction phase of the project by timing limitations for nesting raptors and wintering elk (November 15 through June 15 on the portion of the project with the best sage habitat).

Direct and indirect impacts to sage-grouse are discussed in more detail in the PRB FEIS on pg. 4-257 to 4-273.

4.2.6.3. Cumulative Effects

The sage-grouse population within northeast Wyoming has been exhibiting a steady long term downward trend, as measured by lek attendance (WGFD 2008b). Figure 3 illustrates a ten-year cycle of periodic highs and lows. Each subsequent population peak is lower than the previous peak. The research described below suggests that these declines may be a result, in part, of CBNG development in this region of Wyoming and that the leks within the cumulative impact assessment area are experiencing similar declines.

Figure 1 Average number of male sage-grouse per active lek within the WGFD Sheridan region, 1980-2007



Research has shown that declines in lek attendance are correlated with oil and gas development. In a typical landscape in the Powder River Basin, energy development within two miles of leks is projected to reduce the average probability of lek persistence from 87% to 5% percent (Walker et al. 2007). Several studies have shown that well density can be used as a metric for evaluating impacts to sage-grouse, as measured by declines in lek attendance (Braun et al. 2002, Holloran et al. 2005, and Walker et al. 2007).

These studies indicated that oil or gas development exceeding approximately one well pad per square

mile, resulted in calculable impacts on breeding populations, as measured by the number of male sage-grouse attending leks (State Wildlife Agencies' Ad Hoc Committee for Sage-Grouse and Oil and Gas Development 2008).

In its Recommendations for Development of Oil and Gas Resources within Important Wildlife Habitats (2009), WGFD categorized levels of oil and gas development into thresholds that correspond to moderate, high, and extreme impacts to habitat effectiveness for various species of wildlife, based on well pad densities and acreages of disturbance. All three levels of impact result in a loss of habitat function by directly eliminating habitat; disrupting wildlife access to, or use of habitat; or causing avoidance and stress to wildlife. Impacts to sage-grouse are categorized by number of well pad locations per square mile within two miles of a lek and within identified nesting/brood-rearing habitats greater than two miles from a lek. Moderate impacts occur when well density is between one and two 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 two and three 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 three well pad locations per square mile or when there are greater than 60 acres of disturbance per square mile. Extreme impacts mean those where the function of an important wildlife habitat is substantially impaired or lost

The proposed project is within two miles of three sage-grouse leks. These leks have less than one well per square mile within two miles of the leks and are therefore not impacted according to the WGFD recommendations. Implementation of the proposed project will not alter those categorizations. There are no active oil or gas wells located within 0.5 miles of the proposed two wells. For this reason, significant cumulative effects associated with development of the proposed activity are not anticipated.

4.3. Cultural Resources

Non eligible site 48CA1413 will be impacted by the proposed project. 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 12/22/2009 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).

4.4. Air Quality

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 non-well production equipment, booster and pipeline compression engine exhaust). The amount of air pollutant emissions during construction would be controlled 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 & gas development would not violate any local, state, tribal or federal air quality standards.

DESCRIPTION OF PROPOSED MITIGATION MEASURES:

Implementation of committed mitigation measures contained in the Surface Use Plan of Operations and Drilling Plans, in addition to the following Conditions-of-Approval, would ensure that no adverse environmental impacts would result from approval of the proposed action:

Conditions of Approval

A. General

1. If any cultural values [sites, artifacts, human remains (Appendix L FEIS)] are observed during operation of this lease/permit/right-of-way, they will be left intact and the Buffalo Field Manager notified. The authorized officer will conduct an evaluation of the cultural values to establish appropriate mitigation, salvage or treatment. The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the authorized BLM officer (AO). Within five working days the AO will inform the operator as to:

    - whether the materials appear eligible for the National Register of Historic Places;
    - the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,
    - a time-frame for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO, that the required mitigation has been completed, the operator will then be allowed to resume construction measures.

2. If paleontological resources, either large or conspicuous, and/or a significant scientific value are discovered during construction, the find will be reported to the Authorized Officer immediately. Construction will be suspended within 250 feet of said find. An evaluation of the paleontological discovery will be made by a BLM approved professional paleontologist within five (5) working days, weather permitting, to determine the appropriate action(s) to prevent the potential loss of any significant paleontological values. Operations within 250 feet of such a discovery will not be resumed until written authorization to proceed is issued by the Authorized Officer. The applicant will bear the cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils of significant scientific interest discovered during the operation.

3. Please contact Dan Sellers, Natural Resource Specialist, at (307) 684-1132, Bureau of Land Management, Buffalo, if there are any questions concerning the following surface use COAs.

B. Construction

1. Construction and drilling activity will not be conducted using frozen or saturated soil material during periods when watershed damage or excessive rutting is likely to occur.

2. Remove all available topsoil (depths vary from 1 inch on ridges to 12+ inches in bottoms) from constructed well locations including areas of cut and fill, and stockpile at the site. Topsoil will be salvaged for use in both interim and final reclamation in all areas of surface disturbance (roads, pipelines, etc.). Clearly segregate topsoil from excess spoil material.

3. The operator will not push soil material and overburden over side slopes or into drainages. All soil material disturbed will be placed in an area where it can be retrieved without creating additional undue surface disturbance and where it does not impede watershed and drainage flows.

4. Construct the backslope no steeper than 1½:1, and construct the foreslope no steeper than 2:1, unless otherwise directed by the BLM Authorized Officer.

5. Maintain a minimum 20-foot undisturbed vegetative border between toe-of-fill of pad and/or pit areas and the edge of adjacent drainages, unless otherwise directed by the BLM Authorized Officer.

6. To minimize electrocution potential to birds of prey, all overhead electrical power lines will be constructed to standards identified by the Avian Power Line Interaction Committee (1996).

7. Reserve pit will be adequately fenced during and after drilling operations until reclaimed so as to effectively keep out wildlife and livestock. This requires that it be fenced on the three nonworking sides prior to drilling and on the remaining side immediately following rig release. Fencing will be constructed in accordance with BLM specifications. (Plastic snow fence is not acceptable fencing material for conventional wells.)

8. The reserve pit will be oriented to prevent collection of surface runoff. After the drilling rig is removed, the operator may need to construct a trench on the uphill side of the reserve pit to divert surface drainage around it. If constructed, the trench will be left intact until the pit is closed.

9. The reserve pit will be lined with an impermeable liner if permeable subsurface material is encountered. An impermeable liner is any liner having a permeability less than 10-7 cm/sec. The liner will be installed so that it will not leak and will be chemically compatible with all substances that may be put in the pit. Liners made of any man-made synthetic material will be of sufficient strength and thickness to withstand normal installation and pit use. In gravelly or rocky soils, a suitable bedding material such as sand will be used prior to installing the liner.

10. The reserve pit will be constructed so that at least half of its total volume is in solid cut material (below natural ground level).

11. Culverts will be placed on road/channel bottoms, on firm, uniform beds, which have been shaped to accept them, and aligned parallel to the channel to minimize erosion. Backfill will be thoroughly compacted.

12. The minimum diameter for culverts will be 18 inches. However, all culverts will be appropriately sized in accordance with standards in BLM Manual 9113.

13. Construction and other project-related traffic will be restricted to approved routes. Cross-country vehicle travel will not be allowed.

14. Maximum design speed on all operator constructed and maintained roads will not exceed 25 miles per hour.

15. Pipeline construction shall not block nor change the natural course of any drainage. Pipelines shall cross perpendicular to drainages. Pipelines shall not be run parallel in drainage bottoms. Suspended pipelines shall provide adequate clearance for maximum runoff.

16. Pipeline trenches shall be compacted during backfilling. Pipeline trenches shall be routinely inspected and maintained to ensure proper settling, stabilization and reclamation.

17. During construction, emissions of particulate matter from well pad and road construction would be

minimized by application of water or other non-saline dust suppressants with at least 50 percent control efficiency. Dust inhibitors (surfacing materials, non-saline dust suppressants, and water) will be used as necessary on unpaved roads that present a fugitive dust problem. The use of chemical dust suppressants on public surface will require prior approval from the BLM Authorized Officer.

18. Operators are required to obtain a National Pollution Discharge Elimination System (NPDES) Storm Water Permit from the Wyoming DEQ for any projects that disturb one acre or more. This general construction storm water permit must be obtained from WDEQ prior to any surface disturbing activities and can be obtained by following directions on the WDEQ website at http://deq.state.wy.us. Further information can be obtained by contacting Barb Sahl at (307) 777-7570.

19. The operator shall submit a Sundry Notice (Form 3160-5) to BLM for approval prior to construction of any new surface disturbing activities that are not specifically addressed in the approved APD or POD Surface Use Plan.

C. Operations/Maintenance

1. Confine all equipment and vehicles to the access roads, pads, and areas specified in the approved APD or POD.

2. All waste, other than human waste and drilling fluids, will be contained in a portable trash cage. This waste will be transported to a State approved waste disposal site immediately upon completion of drilling operations. No trash or empty barrels will be placed in the reserve pit or buried on location. All state and local laws and regulations pertaining to disposal of human and solid waste will be complied with.

3. The operator will be responsible for prevention and control of noxious weeds and weeds of concern on all areas of surface disturbance associated with this project (well locations, roads, water management facilities, etc.) Use of pesticides shall comply with the applicable Federal and State laws. Pesticides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of Interior. Prior to the use of pesticides on public land, the holder shall obtain from the BLM authorized officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the authorized officer to such use.

4. Sewage shall be placed in a self-contained, chemically treated porta-potty on location.

5. The operator and their contractors shall ensure that all use, production, storage, transport and disposal of hazardous and extremely hazardous materials associated with the drilling, completion and production of this well will be in accordance with all applicable existing or hereafter promulgated federal, state and local government rules, regulations and guidelines. All project-related activities involving hazardous materials will be conducted in a manner to minimize potential environmental impacts. In accordance with OSHA requirements, a file will be maintained onsite containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds and/or substances which are used in the course of construction, drilling, completion and production operations.

6. Produced fluids shall be put in test tanks on location during completion work. Produced water will be put in the reserve pit during completion work per Onshore Order #7.

7. The only fluids/waste materials which are authorized to go into the reserve pit are RCRA exempt exploration and production wastes. These include:
    - drilling muds & cuttings
    - rigwash
    - excess cement and certain completion & stimulation fluids defined by EPA as exempt

    It does not include drilling rig waste, such as:

    - spent hydraulic fluids
    - used engine oil
    - used oil filter
    - empty cement, drilling mud, or other product sacks
    - empty paint, pipe dope, chemical or other product containers
    - excess chemicals or chemical rinsate
8. Any evidence of non-exempt wastes being put into the reserve pit may result in the BLM Authorized Officer requiring specific testing and closure requirements.

9. Operators are advised that prior to installation of any oil and gas well production equipment which has the potential to emit air contaminants, the owner or operator of the equipment must notify the Wyoming Department of Environmental Quality, Air Quality Division (phone 307-777-7391) to determine permit requirements. Examples of pertinent well production equipment include fuel-fired equipment (e.g., diesel generators), separators, storage tanks, engines and dehydrators.

10. If this well is drilled during the fire season (June-October), the operator shall institute all necessary precautions to ensure that fire hazard is minimized, including but not limited to mowing vegetation on the access route(s) and well location(s), keeping firefighting equipment readily available while in the field.

D. Dry Hole/Reclamation

1. Disturbed lands will be recontoured back to conform with existing undisturbed topography. No depressions will be left that trap water or form ponds.

2. The fluids and mud must be dry in the reserve pit before recontouring pit area. The operator will be responsible for recontouring of any subsidence areas that develop from closing a pit before it is completely dry. The plastic pit liner (if any) will be cut off below grade and properly disposed of at a state authorized landfill before beginning to recontour the site.

3. Before the location has been reshaped and prior to redistributing the topsoil, the operator will rip or scarify the drilling platform and access road on the contour, to a depth of at least 12 inches. The rippers are to be no farther than 24 inches apart. (Note: rip the location only. Do not topsoil and subsoils).

4. Distribute the topsoil evenly over the entire location and other disturbed areas. Prepare the seedbed by disking to a depth of 4-to-6 inches following the contour.

5. Waterbars are to be constructed at least one (1) foot deep, on the contour with approximately two (2)

feet of drop per 100 feet of waterbar to ensure drainage, and extended into established vegetation. All waterbars are to be constructed with the berm on the downhill side to prevent the soft material from silting in the trench. The initial waterbar should be constructed at the top of the backslope. Subsequent waterbars should follow the following general spacing guidelines:

Slope (percent)	Spacing Interval (feet)
≤ 2	200
2 – 4	100
4 – 5	75
≥ 5	50

6. BLM will not release the performance bond until the area has been successfully revegetated (evaluation will be made after the second complete growing season) and has met all other reclamation goals of the surface owner and surface management agency.

7. A Notice of Intent to Abandon and a Subsequent Report of Abandonment must be submitted for abandonment approval.

8. For performance bond release approval, a Final Abandonment Notice (with a surface owner release letter on split-estate) must be submitted prior to a final abandonment evaluation by BLM.

9. Soil fertility testing and the addition of soil amendments may be required to stabilize some disturbed lands.

10. Any mulch utilized for reclamation needs to be certified weed free.

E. Producing Well

1. Landscape those areas not required for production to the surrounding topography as soon as possible. The fluids and mud must be dry in the reserve pit before recontouring pit area. The operator will be responsible for recontouring and reseeding of any subsidence areas that develop from closing a pit before it is completely dry.

2. Reduce the backslope to 2:1 and the foreslope to 3:1, unless otherwise directed by the BLM Authorized Officer. Reduce slopes by pulling fill material up from foreslope into the toe of cut slopes.

3. Production facilities (including dikes) must be placed on the cut portion of the location and a minimum of 15 feet from the toe of the back cut unless otherwise approved by the BLM Authorized Officer.

4. A dike will be constructed completely around the production facilities (i.e. production tanks, water tanks, and heater-treater). The dikes for the production facilities must be constructed of impermeable soil, hold 110% of the capacity of the largest tank plus 1-foot of freeboard, and be independent of the back cut.
5. Any chemicals used in treating the wells (e.g., corrosion inhibitor, emulsion breaker, etc.) will be in a secure, fenced-in area with appropriate secondary containment structure (dikes, catchment pan, etc.).

6. The load out line coming from the oil/condensate tank(s) will have a suitable containment structure to capture and recycle any oil spillage that might occur.

7. Individual production facilities (tanks, treaters, etc.) will be adequately fenced off (if entire facility not already fenced off).

8. Any spilled or leaked oil, produced water or treatment chemicals must be reported in accordance with NTL-2A and immediately cleaned up in accordance with BLM requirements. This includes clean-up and proper disposition of soils contaminated as a result of such spills/leaks.

9. Distribute stockpiled topsoil evenly over those areas not required for production and reseed as recommended.

10. Upgrade and maintain access roads and drainage control (e.g., culverts, drainage dips, ditching, crowning, surfacing, etc.) as necessary and as directed by the BLM Authorized Officer to prevent soil erosion and accommodate safe, environmentally-sound access.

11. Prior to construction of production facilities not specifically addressed in the APD/POD, the operator shall submit a Sundry Notice to the BLM Authorized Officer for approval.

12. If not already required prior to constructing and drilling the well location, the operator shall immediately upgrade the entire access road to BLM standards (including topsoiling, crowning, ditching, drainage culverts, surfacing, etc.) to ensure safe, environmentally-sound, year-round access.

13. Waterbars shall be installed on all reclaimed pipeline corridors per the guidelines in D#5.

5. CONSULTATION/COORDINATION

Contact	Title	Organization	Phone Number	Present at Onsite?
Terry Hoffman	Permit Agent	Rocky Mountain Permitting	303-250-0619	yes
Greg Tracy	Consultant	Western Land Service		yes
Greg Smith	Dirt Contractor			yes

6. OTHER PERMITS REQUIRED

A number of other permits are required from Wyoming State and other Federal agencies. These permits are identified in Table A-1 in the PRB FEIS Record of Decision.

7. 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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8. REVIEWER

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