EA NO-WY-070-EA10-387
DECISION RECORD
FOR
Pathfinder Energy, Inc.

DECISION: Is to approve Alternative B as described in the attached Environmental Assessment (EA) and to authorize the following Application for Permit to Drill (APD) for Pathfinder Energy, Inc.:

	Well Name	Well #	Qtr/Qtr	Section	TWP	RNG	Lease #
1	Lois Fed	43-33A	NESE	33	51N	70W	WYW79720

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.

for Paul Beels
Field Manager

11/1/10
Date

EA NO-WY-070- EA10-387
FINDING OF NO SIGNIFICANT IMPACT
FOR
Pathfinder Energy, Inc.

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

9/30/10
Date

BUREAU OF LAND MANAGEMENT
BUFFALO FIELD OFFICE
ENVIRONMENTAL ASSESSMENT
EA # WY-070- EA10-387

1. 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.

1.1. 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 APD is considered an integral part of this environmental assessment and is, therefore, incorporated by reference (CFR 1502.21).

Development of the Lois Fed 43-33A well would return royalties to the federal Treasury as well as stimulate local economies.

The BLM recognizes the extraction of fluid minerals 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.

1.2. 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: Lois Fed 43-44A

WELL NAME/#/LEASE/LOCATION: Lois Fed 43-44A WYW79720 NESE, Sec. 33 T51 R70

OPERATOR/APPLICANT: Pathfinder Energy, Inc.

AFFECTED SURFACE OWNERS: Marlon & Lois Schlup

COUNTY: Campbell

The proposed action is to drill and develop an oil/gas well. The action would be subject to the attached Conditions-of-Approval, for drilling of an oil/gas well on (private surface/federal mineral lands) within the Buffalo Field Office jurisdiction.

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 APD. Also see the subject APD for maps showing the proposed well location 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 APD, 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(s).
4. The Operator has certified that a copy of the SUP has been provided to the relevant Landowner(s).

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**.**

Site specific mitigation measures

1. All pit spoil must be stockpiled within the existing disturbance of the pad.
2. Interim reclamation must be completed within 6 months of drilling the well.
3. 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 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 wells locations constructed on soils susceptible to wind erosion

could be appropriately surfaced or otherwise stabilized to reduce the amount of fugitive dust 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.

3. AFFECTED ENVIRONMENT

The APD was received on (7/26/10). A field inspection of the proposed well was conducted on 8/9/2010. 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 well is located approximately 12 miles NE of Gillette, WY between the East Prong of Deer Creek and the West Fork of Cottonwood Creek. The well is located in an existing oil and gas field that has been in production for over 40 years. The well is located at the base of a north/south trending ridge consisting of steep buttes and finger ridges that are vegetated on top, but have limited to no vegetation on the side slopes. The project area is dissected by deeply incised ephemeral drainages that have developed numerous headcuts and are in a constant cycle of down cutting and deposition.

3.2. Vegetation & Soils

The project is located at the transition point between gently sloping loamy ecological sites to very erosive badlands ecological sites. The surrounding badlands sites have little to no topsoil. Vegetation is sparse with wheat grasses and juniper and ponderosa pine trees located on the ridge tops and some side slopes. The access road and well location are existing and surfaced. The disturbed areas have been revegetated with crested and intermediate wheat grasses, sweet clover, and patches of curley cup gumweed.

The soils vary throughout the project area. Soils differ with topographic location, slope and elevation. Topsoil depths to be salvaged for reclamation range from 1 inch on ridges to 6 inches in bottomland. Erosion potential varies from to depending on the soil type, vegetative cover and slope. Reclamation potential of soils also varies throughout the project area.

3.3. Wetlands/Riparian

The existing access road is located on top of an embankment that is located in an ephemeral drainage directly below the proposed location. The impoundment is ½ full of water and has riparian vegetation located around the perimeter

3.4. Invasive Species

Canada thistle was discovered along the existing access road and in the reservoir during the onsite.

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 high densities and numerous locations throughout NE Wyoming.

3.4.1. 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 August 19, 2010. 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 biologists 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. This section describes the affected environment and impacts to wildlife that are known or likely to occur in the area of the proposed action.

3.4.2. Big Game

According to WGFD data, the big game species expected to occur within the project area are mule deer, white tail deer and pronghorn antelope. The affected environment for these species is discussed in the PRB FEIS on pp. 4-181 to 4-215. The WGFD has not identified any crucial ranges for big game species in the project area.

3.4.3. 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. Bare ground, ponderosa pine, cliff faces and existing oil & gas infrastructure are the dominant surface characteristics in the project area. Though no studies identify specific migratory bird species that utilize these habitats in northeast Wyoming, it is possible that species of concern would utilize these substrates for nesting. Additional description of the affected environment for migratory birds is discussed in the PRB FEIS (pp. 3-150 to 3-153).

3.4.4. Raptors

Bare ground, ponderosa pine, cliff faces and existing oil & gas infrastructure are the dominant surface characteristics in the project area. Though the BFO raptor database does not indicate the presence of raptor nests in the project area, and no nests were observed during the biologist's field visit to the location, many raptor species commonly utilize these substrates for nesting. Three large snags with apparent cavities were observed within ½ mile of the project location. Additional description of the affected environment for raptors is discussed in the PRB FEIS on pp. 3-141 to 3-148.

3.4.5. Threatened and Endangered and Sensitive Species

3.4.5.1. 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 1 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. 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.

3.4.5.1.1. 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).

Though the project is located within 1.8 miles of the Preston Draw lek, suitable (as defined in Soehn et al. 2001) sage-grouse habitat is not present in the project area, nor is suitable habitat present with 0.6 miles of any proposed project components.

3.3.3.1.2 Fringed Myotis

The affected environment for fringed myotis is discussed in the PRB FEIS on pg. 3-188 to 3-189. In addition to being listed as a BLM WY sensitive species, the fringed myotis is a WGFD SGCN, with a rating of NSS2, because populations are restricted in distribution, they are experiencing ongoing substantial loss of habitat, and they are sensitive to human disturbance.

3.4.5.1.2. Long-eared Myotis

The affected environment for long-eared myotis is discussed in the PRB FEIS on pg. 3-201. In addition to being listed as a BLM WY sensitive species, the long-eared myotis is a WGFD SGCN, with a rating of NSS2, because populations are restricted in distribution, they are experiencing ongoing substantial loss of habitat, and they are sensitive to human disturbance.

3.5. Cultural Resources

A previously reviewed and accepted Class III cultural resource inventory (BFO # 61890022) adequately covered the proposed project area. No cultural resources are in the area of potential effect. On 09/01/2010, Seth Lambert, BLM Archaeologist, electronically notified the Wyoming State Historic Preservation Office (SHPO) following section VI(A)(1) of the Wyoming State Protocol, of a finding of no effect for the proposed project.

3.6. Air Quality

Existing air quality throughout most of the Powder River Basin is in attainment with all 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

The changes to the proposed action (Alternative B) resulted in development of Alternative C as the preferred alternative. The changes have reduced impacts to the environment which will result from this action therefore only the environmental consequences of Alternative C are described below.

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 Pad(s)	Existing	W*L/43560 acre	N/A	Long Term
Improved Roads	Existing	50' Corridor	N/A	Long Term
Pipelines	Existing	30’ Corridor	N/A	Short 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, including frequency
2. Preventive practices
3. Education

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 may 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. However, mitigation as required by BLM applied COAs will reduce potential impacts from noxious weeds and invasive plants.

4.2. Wildlife (Alternative B – Environmentally Preferred)

EFFECTS ANALYSIS

4.2.1. 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 mule deer may occur through alterations in hunting and/or poaching, 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.

4.2.2. 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 from typical oil & gas development activities. 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, the commitment by the operator to restrict construction, drilling, and completion activities between February 1 and July 31 should mitigate potential impacts to nesting migratory birds.

4.2.3. 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. Though no raptor nests are documented near the project area, the commitment by the operator to restrict construction, drilling, and completion activities between February 1 and July 31 should mitigate potential impacts to nesting raptors. The operator has also committed to work with Powder River Energy Corporation to modify existing power infrastructure to standards established by the Avian Power Line Interaction Committee (APLIC) (2006).

4.2.4. Threatened, Endangered, Proposed, and Candidate Species

Potential project effects on Threatened and Endangered Species were analyzed and a summary is provided in 4.1.

Table 4.1 Summary of Threatened and Endangered Species Habitat and Project Effects

Common Name (scientific name)	Habitat	Project Effects	Rationale
Endangered			
Black-footed ferret	Black-tailed prairie dog colonies or complexes > 1,000 acres.	NE	No known colonies present.
Blowout penstemon	Sparsely vegetated, shifting sand dunes	NE	Habitat not present
Threatened			
Ute ladies'-tresses orchid	Riparian areas with permanent water	NE	Habitat not present
Proposed			
Mountain Plover	Short-grass prairie with slopes < 5%	NLJ	Habitat not present
Candidate			
Greater Sage-grouse	Basin-prairie shrub, mountain-foothill shrub	NP	Habitat not present

Project Effects
LAA - Likely to adversely affect
NE - No Effect
NLAA - May Affect, not likely to adversely affect individuals or habitat.
NLJ – Not likely to jeopardize the continued existence of the species
MIIH – May impact individuals and habitat
NP - Habitat not present and species unlikely to occur within the project area.

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 1. 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.

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
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.	NP	NI	Habitat not present.
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	NP	NI	Habitat not present.
Ferruginous hawk (*Buteo regalis*)	Basin-prairie shrub, grasslands, rock outcrops	NS	MIIH	Nesting habitat may be impacted and human activities will increase
Loggerhead shrike (*Lanius ludovicianus*)	Basin-prairie shrub, mountain-foothill shrub	NS	MIIH	Some mountain-foothill shrub adjacent to project location.
Long-billed curlew (*Numenius americanus*)	Grasslands, plains, foothills, wet meadows	NP	NI	Habitat not present.
Northern goshawk (*Accipiter gentilis*)	Conifer and deciduous forests	NP	NI	Habitat not present.
Peregrine falcon (*Falco peregrinus*)	Cliffs	NP	NI	Habitat not present.
Sage sparrow (*Amphispiza billneata*)	Basin-prairie shrub, mountain-foothill shrub	NP	NI	Habitat not present.

Common Name (scientific name)	**Habitat**	**Presence**	**Project Effects**	**Rationale**
Sage thrasher (*Oreoscoptes montanus*)	Basin-prairie shrub, mountain-foothill shrub	NP	NI	Habitat not present.
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	Habitat not present.
Yellow-billed cuckoo (*Coccyzus americanus*)	Open woodlands, streamside willow and alder groves	NP	NI	Habitat 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.	NP	NI	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.
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.

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale

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

4.2.4.1. Greater Sage-Grouse Direct and Indirect Effects

No direct or indirect effects are anticipated. Though the proposed action is within 1.8 miles of the occupied Preston Draw lek, the project location is not within, nor adjacent to suitable sage-grouse habitat.

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

4.3. Cultural Resources

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 09/01/10 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-CBM 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 (Casey Freise), Natural Resource Specialist, at (307) 684-1100, 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 4 inches on ridges to 12+ inches in bottoms) from constructed well locations including areas of cut and fill, and stockpile at the site. Topsoil will also be salvaged for use in reclamation on all other 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 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 five or more acres (changing to one acre in March 2005). 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 road(s), pad(s), and area(s) 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. 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 (site, project), is (name and Munsell Soil Color Number).

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

6. 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.

7. Rat and mouse holes shall be filled and compacted from the bottom to the top immediately upon release of the drilling rig from the location.

8. 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.

9. 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

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.

10. 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.

11. 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 fire fighting equipment readily available when drilling, etc.

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.

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. The operator will drill seed on the contour to a depth of 0.5 inch, followed by cultipaction to compact the seedbed, preventing 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:

Species		%/Mix	Lbs PLS*
Western Wheatgrass(Pascopyrum smithii)/		30	4.8
Bluebunch Wheatgrass (Pseudoroegneria spicata ssp. Spicata)		15	1.8
Green needlegrass (Nassella viridula)		25	3.0
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
Totals		**100%**	**12 lbs/acre**

Slopes too steep for machinery may be hand broadcast and raked with twice the specified amount of seed. 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.

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

2. 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.

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

4. 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 E #6.

5. Consultation/Coordination:

Contact	Title	Organization	Phone Number	Present at Onsite?
Ron Wagner	Petroleum Engineer	Pathfinder	(307) 686-5716	Yes
Marlon Schulup	Surface Owner		(307)358-6460	No

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:

Avian Power Line Interaction Committee (APLIC) 2006. R. Harness, contributing author to: Suggested Practices for Avian Protection on Power Lines: State of the Art in 2006. 207pp.

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.

U.S. Department of the Interior, Bureau of Land Management and Office of the Solicitor (editors). 2001. The Federal Land Policy and Management Act, as amended. Public Law 94-579.

Approved Resource Management Plan for Public Lands Administered by the Bureau of Land Management Buffalo Field Office. Prepared by the United States Department of the Interior, Bureau of Land Management, Buffalo Field Office, April 2001.

Powder River Oil and Gas Project Environmental Impact Statement and Resource Management Plan Amendment. Prepared by the Department of the Interior, Bureau of Land Management, Wyoming State Office in Campbell, Converse, Johnson and Sheridan Counties, Wyoming. Approved April 30, 2003.

8. REVIEWER

Casey Freise, Supervisory Natural Resource Specialist
Matthew Warren, Petroleum Engineer
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Seth Lambert, Archaeologist
Chris Durham, Wildlife Biologist
Kerry Aggen, Geologist
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