

**EA NO-WY-070-EA10-45  
DECISION RECORD  
FOR  
Yates Petroleum Corporation  
Boris Federal Com. #5**

**DECISION:** Is to approve Alternative C as described in the attached Environmental Assessment (EA) and to authorize the following Application for Permit to Drill (APD) for Yates Petroleum Corporation:

	<b>Well Name</b>	<b>Well #</b>	<b>Qtr/Qtr</b>	<b>Section</b>	<b>TWP</b>	<b>RNG</b>	<b>Lease #</b>
1	Boris Fed. Communitized #5	#5	SWSE	9	43	73	WYW-133594

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.

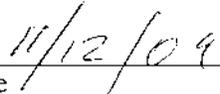
**RATIONALE:** The decision to authorize Alternative C, as described in the attached Environmental Assessment (EA), is based on the following:

1. The Operator, in their APD, has committed to:
  - Comply with all applicable Federal, State and Local laws and regulations.
  - 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.
2. The Operator has certified that a Surface Use Agreement has been reached with the Landowner: James E. and Edra J. Drake as Trustees and Their Successors in Trust of the Drake Family Revocable Land Trust. Surface Use Contact – Urban Groves, Sunburst Ranch.
3. Alternative C will not result in any undue or unnecessary environmental degradation.
4. It is in the public interest to approve these wells as this development will help meet the nation’s future needs for energy reserves, and will help to stimulate local economies by maintaining stability for the workforce.
5. 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.
6. Alternative C is the environmentally-preferred Alternative.
7. Approval of this alternative is in conformance with the Final Powder River Basin Oil and Gas Project Environmental Impact Statement and Proposed Plan Amendment (PRB FEIS), Record of Decision and Resource Management Plan Amendments for the Powder River Basin Oil and Gas Project (PRB FEIS ROD), (refer to Appendix E of PRB FEIS ROD page E-1), and the Approved Resource Management Plan (RMP) for the Public Lands Administered by the Bureau of Land Management (BLM), Buffalo Field Office (BFO), 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

  
\_\_\_\_\_  
Date

EA NO-WY-070-EA10-45  
FINDING OF NO SIGNIFICANT IMPACT  
FOR  
Yates Petroleum Corporation  
Boris Federal Com. #5

**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.

*for* Paul Beels  
Field Manager

Date 11/12/09

**BUREAU OF LAND MANAGEMENT  
BUFFALO FIELD OFFICE  
ENVIRONMENTAL ASSESSMENT  
EA # WY-070-EA10-45  
Boris Federal Com. #5**

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

Development of the Boris Federal Com. #5 oil well 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:** Boris Federal Com. #5 oil well

**OPERATOR/APPLICANT:** Yates Petroleum Corporation.

**WELL NAME/#!/LEASE/LOCATION:**

	Well Name	Well #	Qtr/Qtr	Section	TWP	RNG	Lease #
1	Boris Federal Com. #5	#5	SWSE	9	43	73	WYW-133594

**AFFECTED SURFACE OWNERS:**

James E. and Edra J. Drake as Trustees and Their Successors in Trust of the Drake Family Revocable Land Trust. Surface Use Contact – Urban Groves, Sunburst Ranch.

**COUNTY:** Campbell County, WY

The Boris Federal Com. #5 oil well is proposed to be drilled to a depth of 10,790 feet and targets the Turner formation. 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 in 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 Program, in addition to the Standard 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 Landowners.
4. The Operator has certified that a copy of the SUP has been provided to the affected Landowners.

**2.3. Alternative C – Environmentally Preferred**

Alternative C represents a modification of Alternative B based on the operator and BLM working cooperatively to reduce environmental impacts. The description of Alternative C is the same as Alternative B with the addition of the project modifications identified by BLM and the operator following the initial project proposal (Alternative B). At the on-sites, all areas of proposed surface disturbance were inspected to insure that the project would meet BLM multiple use objectives to conserve natural resources while allowing for the extraction of Federal minerals. Alternatives to the different aspects of the proposed action are always considered and applied as pre-approval changes, site specific mitigation and/or Conditions of Approval (COAs), if they would alleviate environmental effects of the operator’s proposal. No specific changes had been identified for the Boris Federal Com. #5 oil well, as the Operator made diligent efforts to place the well in the most environmentally appropriate location.

The operator is responsible for the COAs attached to this EA and will be issued an Incident of Non-Compliance if found to be in violation of any COA.

### **2.3.1. Programmatic mitigation measures identified in the PRB FEIS ROD**

Programmatic mitigation measures are those, determined through analysis, which may be appropriate to apply at the time of APD approval if site specific conditions warrant. These mitigation measures can be applied by BLM, as determined necessary at the site-specific NEPA APD stage, as COAs and will be in addition to stipulations applied at the time of lease issuance and any standard COA.

#### **2.3.1.1. Surface Water**

##### **1. Channel Crossings:**

- a) Minimize channel disturbance as much as possible by limiting pipeline and road crossings.
- b) Avoid running pipelines and access roads within floodplains or parallel to a stream channel.
- c) Channel crossings by road and pipelines will be constructed perpendicular to flow. Culverts will be installed at appropriate locations for streams and channels crossed by roads as specified in the BLM Manual 9112-Bridges and Major Culverts and Manual 9113-Roads. Streams will be crossed perpendicular to flow, where possible, and all stream crossing structures will be designed to carry the 25-year discharge event or other capacities as directed by the BLM.
- d) Channel crossings by pipelines will be constructed so that the pipe is buried at least four feet below the channel bottom.

#### **2.3.1.2. Noise**

1. Noise mufflers will be installed on the exhaust of compressor engines to reduce the exhaust noise.

#### **2.3.1.3. 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.

### **2.3.2. Site specific mitigation measures**

#### **Wildlife**

1. The operator has agreed to apply APLIC (2006) standards to the segment of reconstructed overhead power line to prevent avian electrocutions. Further, the operator has agreed to install anti-perch measures along the entire length of the proposed power line reconstruction to reduce perching potential for raptors that may prey on sage grouse.

#### **Alternatives Considered but Eliminated from Detailed Study**

One alternative would be to move the location of the drill site. Based on the onsite inspection, there are no significant environmental reasons for doing this. The proposed location is located on the access road, just off the shoulder of the highest point of the hilltop. Moving the well site would place the well in steeper topography which would be more difficult to reclaim. The operator also made an effort to site the proposed Boris Federal Com. #5 oil well away from documented raptor nests (Yates Petroleum Corporation letter dated October 19, 2009). Consequently there are no identified raptor nests within 0.5 mile of the proposed project activities.

### **3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION & ALTERNATIVES:**

The APD was received on 11/26/08. A field inspection of the proposed well was conducted on 08/05/09.

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 proposed oil well location is approximately 38 miles south of Gillette, WY and 8.5 miles southwest of Wright, WY. The proposed drill site and infrastructure are located within sections 9 and 16-T43N R73W, just north of US Highway 387 and approximately 1.25 miles east of the Belle Fourche River. The Belle Fourche River is an intermittent to ephemeral drainage highly dependent upon local weather conditions for flow. The area is described as rolling sagebrush-grass covered hills. The elevations in the area range from 4,900 to 5,100 feet. The climate can be characterized as semi-arid with an average precipitation amount of 16.2 inches. The 30-year mean minimum temperature in January is 9.8 degrees F and the mean maximum temperature in July is 85.0 degrees F. The area drains northwest down Tree Draw and other small tributaries into the Belle Fourche River.

### **3.2. Vegetation & Soils**

Species typical of short grass prairie comprise the project area flora. Specific species observed throughout the project area are big sagebrush (*Artemisia tridentata*) intermixed with native grasses and shrubs. Several types of native grasses can be found in the sagebrush-grassland area including blue grama (*Bouteloua gracilis*), needle and thread (*Stipa comata*), wild oat (*Avena fatua*), western wheatgrass (*Agropyron smithii*) and crested wheatgrass (*Aropyron cristatum*). The sagebrush-grass area also contains several shrub and forb species, including rabbitbrush (*Chrysothamnus nauseosus*) and western yarrow (*Achillea millefolium*). Differences in dominant species within the project area vary with soil type, aspect and topography.

Using the Natural Resource Conservation Service, (NRCS, USDA), Technical Guides for the Major Land Resource Area 58B Northern Rolling High Plains, in the 10-14" Northern Plains precipitation zone, the landforms and the soils of this site are shallow (less than 20" to bedrock) well-drained soils formed in alluvium over residuum or residuum. These soils have moderate permeability and may occur on all slopes. The bedrock may be any kind which is virtually impenetrable to plant roots, except igneous. The surface soil will have one or more of the following textures: very fine sandy loam, loam, silt loam, sandy clay loam, silty clay loam, and clay loam. Thin ineffectual layers of other textures are disregarded. Layers of the soil most influential to the plant community vary from 3 to 6 inches thick.

The main soil limitations include: depth to bedrock, low organic matter content, and soil droughtiness. The low annual precipitation should be considered when planning a seeding. The predominant ecological sites occurring within the proposed POD are found to be Shallow Loamy.

#### **3.2.1. 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 are found in such high densities and numerous locations throughout NE Wyoming that a control program is not considered feasible at this time.

### 3.3. Wildlife

Wildlife evaluations were conducted to assess the occurrence potential for selected wildlife species and their habitats, as well as to evaluate the effects associated with the Boris Federal Com. #5 oil well project. The evaluation included selected taxonomic- and habitat-based species assemblages, and individual species that are considered ecologically, economically, or socially valuable. Evaluations included raptor nest surveys (Wylie 2008), and an onsite visit conducted by Yates Petroleum Corporation and BLM personnel on August 8, 2009. Additionally, wildlife spatial databases (available at the Buffalo BLM Field Office) were reviewed for occurrences of big game, raptors, bald eagles, sage-grouse, sharp-tailed grouse, mountain plover, and black-tailed prairie dogs in the proposed project area. Following are brief descriptions of wildlife use of the proposed project area.

#### 3.3.1. Big Game

Big game species expected to occur in the proposed project area include pronghorn antelope and mule deer. The project area occurs within identified yearlong habitat for mule deer and pronghorn antelope. Yearlong use occurs when a population of animals makes general use of suitable habitat on a year round basis. Animals may leave the area under severe conditions.

#### 3.3.2. Migratory Birds

A wide variety of migratory birds may be found in the proposed project area at some point throughout the year. Migratory birds are those that migrate for the purpose of breeding and foraging at some point in the calendar year. Many species that are of high management concern use shrub-steppe and shortgrass prairie areas for their primary breeding habitats (Saab and Rich 1997). Migratory bird species of management concern that may occur in the project area are listed in the Powder River Basin Final Environmental Impact Statement (BLM, 2003, page 3-151).

#### **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	
	Lark sparrow	
	Loggerhead shrike	Yes
	Sage thrasher	Yes
	Vesper sparrow	
Level III	Common poorwill	
	Say's phoebe	

#### 3.3.3. Raptors

The operator made an effort to site the proposed Boris Federal Com. #5 oil well away from documented raptor nests (Yates Petroleum Corporation letter dated October 19, 2009). Consequently, there are no identified raptor nests within 0.5 mile of the proposed project activities. A golden eagle nest (#2401) was documented to occur just over 0.5 mile from the proposed Boris Federal Com #5 oil well. The ground nest was found to be in fair condition by Tim Wylie on October 31, 2008, but the nest could not be located during site inspection conducted by a BLM biologist on August 8, 2009. Further, habitat in the area consisted of rolling hills that would be atypical for nesting golden eagles. Because there are no known raptor nests within 0.5 miles of the proposed activity, there will be no further treatment of raptors

in this document.

### **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.

Habitat within the project area has limited potential to support sharp-tailed grouse.

### **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 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, shifting sand dunes and blowout depressions created by wind (BLM 2005). 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 2 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 Boris Fed Comm. #5 oil 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 Boris Federal Com. #5 proposed project location occurs outside of modeled high sage-grouse population density. Site inspection conducted on August 5, 2009 revealed low Wyoming big sagebrush plants occurring at low density (estimated to be <10% canopy coverage) within herbaceous vegetation composed of a high percentage of annual bromes. Although Bernice and Urban Groves noted that they'd seen sage-grouse at their nearby residence, they characterized occurrence of sage-grouse as rare in the vicinity. The project is 2.7 and 3.9 miles from known sage grouse leks.

**Table 1 Sage-grouse Leks within 4 Miles of the Boris Federal Com. #5 Project Area**

<b>Lek Name</b>	<b>Legal Location</b>	<b>Distance from Project Area (mi)</b>	<b>Occupied?</b>
Porcupine Creek	T43N R73W Section 23	2.7	Occupied
Windland	T44N R74W Section 36	3.9	Unoccupied

**3.4. Cultural Resources**

Class III inventory has been conducted for the Boris Federal Com. #5 project prior to on-the-ground project work. The project area has been previously block inventoried twice: #61810060, Metcalf-Zier for Louisiana LLE, Fed. #34-9 well and access; #70030020, Greens for Yates: Bonita POD, submitted to SHPO on 2/21/2003. No cultural sites were located in the project area. Per Section VI (A)(1) of the Wyoming State Protocol, the Bureau of Land Management has determined that no cultural properties will be affected by this undertaking, and is so notifying SHPO.

### 3.5. 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 [NO<sub>x</sub>]) 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;
- NO<sub>x</sub>, particulate matter, and other emissions from diesel trains and,
- SO<sub>2</sub> and NO<sub>x</sub> 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 would result from this action therefore only the environmental consequences of Alternative C are described below.

### 4.1. Alternative C –Environmentally Preferred

Proposed stream crossings, include two (2) twenty-four inch (24”) culverts and are shown on the MSUP and associated maps (see the POD). These structures would be constructed in accordance with sound engineering practices and BLM standards.

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)-topsoil, spoil piles, fill slope area.	1	W*L/43560 acre	3.75	Long Term
Improved Roads/ Including corridor	.53	50' Corridor	3.21	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”.

#### 4.1.1. Wetland/Riparian

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 would help to reduce the cumulative effect of the incremental impacts associated with this well. For more information on cumulative impacts, please refer to the PRB FEIS.

#### **4.1.2. 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. Weeds will be treated with a suitable herbicide selected by the surface owner. If there is no preference by the surface owner, weeds will be treated according to the recommended treatments in the Weed Management Handbook, distributed by the Campbell County Weed and Pest Office, which is submitted with the Boris #5 POD book.
2. Proposed disturbances will be inspected during all phases of the development. If any weeds are encountered, Yates may consider an optional pre-treatment suggested by the Campbell County Weed and Pest Office. Contractors will be encouraged to clean equipment between job locations, to help prevent the transport of noxious weed seeds. Disturbed locations will be seeded promptly, season permitting, with certified weed free seeds.
3. Applicable personnel have been trained on noxious weed identification and prevention. Information will also be given at pre-construction meetings and/or onsite inspections. Yates will conduct ongoing dialogue with private surface owners within the POD to address any concerns they have about weed problems.

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 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 would reduce potential impacts from noxious weeds and invasive plants.

## **4.2. Wildlife (Alternative C – Environmentally Preferred) EFFECTS ANALYSIS**

### **4.2.1. Big Game**

Direct habitat disturbance associated with the proposed project includes upgrade of 2,700 feet of access road (approximately 3.21 acres) and 3.75 acres of disturbance at the well pad for a total disturbance area equaling roughly seven acres. In addition to direct disturbance, big game would likely be temporarily displaced during construction and drilling work but is expected to re-occupy the site following those activities. Of greater concern are on-going daily disturbances associated with “pumper” access, though the site is located on private land, and unauthorized vehicle access to the site is rare. No other active oil or gas wells occur within 0.5 miles of the proposed Boris Federal Com. # 5 oil well.

Due to the relatively small area of habitat loss, limited daily disturbance, minimal existing oil and gas infrastructure, and requirement for final reclamation of disturbed area, significant impacts to big game are not anticipated to occur due to the proposed activity (BLM, 2003, page 4-181-201).

### **4.2.2. 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. No timing restrictions are typically

applied specifically to protect migratory bird breeding or nesting. Consequently, migratory birds nesting in the area are vulnerable to disturbance and nest destruction associated with project-related activities. However, potential for these effects is considered to be low due to the relatively small area of disturbance. Additional direct and indirect effects to migratory birds are discussed in the Powder River Basin Final Environmental Impact Statement (BLM, 2003, pp. 4-231-235).

#### **4.2.3. Sensitive Species**

Table 1 lists expected impacts for sensitive species that may occur in the project area. Impacts to 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 4.2 Summary of Sensitive Species Habitat and Project Effects.**

<b>Common Name (scientific name)</b>	<b>Habitat</b>	<b>Presence</b>	<b>Project Effects</b>	<b>Rationale</b>
<b>Amphibians</b>				
Northern leopard frog ( <i>Rana pipiens</i> )	Beaver ponds, permanent water in plains and foothills	NP	NI	No wetlands affected.
Spotted frog ( <i>Rana pretiosa</i> )	Ponds, sloughs, small streams	NP	NI	No wetlands affected
<b>Birds</b>				
Baird's sparrow ( <i>Ammodramus bairdii</i> )	Grasslands, weedy fields	S	MIH	Sagebrush cover will be affected but effects will be minimized.
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	Mature forest cover often within one mile of large water body.	S	NI	Project includes overhead power with APLIC standards applied.
Brewer's sparrow ( <i>Spizella breweri</i> )	Basin-prairie shrub	S	MIH	Sagebrush cover will be affected but effects will be minimized.
Burrowing owl ( <i>Athene cunicularia</i> )	Grasslands, basin-prairie shrub	S	NI	No prairie dog colony present.
Ferruginous hawk ( <i>Buteo regalis</i> )	Basin-prairie shrub, grasslands, rock outcrops	S	NI	No nest present within 0.5 miles.
Greater sage-grouse ( <i>Centrocercus urophasianus</i> )	Basin-prairie shrub, mountain-foothill shrub	S	MIH	Sagebrush cover will be affected but effects will be minimized.
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	Basin-prairie shrub, mountain-foothill shrub	S	MIH	Sagebrush cover will be affected but effects will be minimized
Long-billed curlew ( <i>Numenius americanus</i> )	Grasslands, plains, foothills, wet meadows	NP	NI	Habitat not present.
Mountain plover ( <i>Charadrius montanus</i> )	Short-grass prairie with slopes < 5%	NP	NI	Habitat not present.
Northern goshawk ( <i>Accipiter gentilis</i> )	Conifer and deciduous forests	NP	NI	No forest habitat present.
Peregrine falcon ( <i>Falco peregrinus</i> )	cliffs	NP	NI	No nesting habitat present.
Sage sparrow ( <i>Amphispiza billneata</i> )	Basin-prairie shrub, mountain-foothill shrub	S	MIH	Sagebrush cover will be affected but effects will be minimized.

<b>Common Name (scientific name)</b>	<b>Habitat</b>	<b>Presence</b>	<b>Project Effects</b>	<b>Rationale</b>
Sage thrasher ( <i>Oreoscoptes montanus</i> )	Basin-prairie shrub, mountain-foothill shrub	S	MIIH	Sagebrush cover will be affected but effects will be minimized
Trumpeter swan ( <i>Cygnus buccinator</i> )	Lakes, ponds, rivers	NP	NI	No surface water affected.
White-faced ibis ( <i>Plegadis chihi</i> )	Marshes, wet meadows	NP	NI	Permanently wet meadows not present.
Yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	Open woodlands, streamside willow and alder groves	NP	NI	Streamside habitats not present
Fish				
Yellowstone cutthroat trout ( <i>Oncorhynchus clarki bouvieri</i> )	Mountain streams and rivers in Tongue River drainage	NP	NI	Outside species range.
Mammals				
Black-tailed prairie dog ( <i>Cynomys ludovicianus</i> )	Prairie habitats with deep, firm soils and slopes less than 10 degrees.	NP	NI	No prairie dog colonies present.
Fringed myotis ( <i>Myotis thysanodes</i> )	Conifer forests, woodland chaparral, caves and mines	NP	NI	
Long-eared myotis ( <i>Myotis evotis</i> )	Conifer and deciduous forest, caves and mines	NP	NI	
Spotted bat ( <i>Euderma maculatum</i> )	Cliffs over perennial water.	NP	NI	Cliffs & perennial water not present.
Swift fox ( <i>Vulpes velox</i> )	Grasslands	NS	NI	
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	Caves and mines.	NP	NI	Habitat not present.
Plants				Plants
Porter's sagebrush ( <i>Artemisia porteri</i> )	Sparsely vegetated badlands of ashy or tuffaceous mudstone and clay slopes 5300-6500 ft.	NP	NI	Porter's sagebrush ( <i>Artemisia porteri</i> )

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
<p><b>Presence</b>  <b>K</b> - Known, documented observation within project area.  <b>S</b> - Habitat suitable and species suspected to occur within the project area.  <b>NS</b> - Habitat suitable but species is not suspected to occur within the project area.  <b>NP</b> - Habitat not present and species unlikely to occur within the project area.</p> <p><b>Project Effects</b>  <b>NI</b> - No Impact.  <b>MIH</b> - 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.  <b>WIPV</b> - 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.  <b>BI</b> - Beneficial Impact</p>				

#### **4.2.4. 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 an existing two-track road, and where there is either no sagebrush or very sparse sagebrush density (Yates Petroleum Corporation letter dated October 19, 2009). 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.

#### **4.2.5. Greater Sage-Grouse Direct and Indirect Effects**

The effects of energy development on sage grouse include human-caused disturbances, direct mortality, and reduced habitat effectiveness. Human disturbance may displace sage-grouse from otherwise suitable habitat. For example, yearling female greater sage-grouse avoided nesting in areas within 0.6 miles of producing well pads in southwestern Wyoming (Holloran et al. 2007), and brood-rearing females avoided areas within 0.6 miles of producing wells in southern Alberta (Aldridge and Boyce 2007). Disturbance associated with the proposed activity is likely to be most intense during road and well pad construction. The nearest sage-grouse lek occurs 2.7 miles away and the proposed project location supports only low, sparse sagebrush.

Energy development may increase the frequency and intensity of human disturbance to wildlife, including sage grouse. The proposed activity includes daily visits by “pumpers”, but this frequency of disturbance is mitigated by the fact that the project site lies on private surface where unauthorized access is likely to be rare.

Direct sage grouse mortality may result from energy development infrastructure (e.g., powerline strikes) and from vehicle collisions. The potential for the current proposal to contribute to direct mortality is limited by the fact that unauthorized access to the proposed project location is anticipated to be rare.

Habitat effectiveness can be reduced by direct loss, degradation, and fragmentation of sagebrush ecosystems. The proposed project’s direct impacts to sagebrush habitat are limited due to the relatively limited disturbance footprint (i.e., roughly seven acres) and the lack of sagebrush habitat within the disturbance footprint. However, habitat disturbances may also facilitate the establishment and subsequent spread of invasive species with severe ecological implications (i.e., cheat grass invasion). A well developed and vigilantly implemented integrated pest management plan would effectively prevent habitat degradation associated with invasive plant invasion.

Habitat fragmentation includes the progressive isolation of sagebrush patches and facilitated predation associated with roads, ponds, overhead power lines, and well-site facilities. Roads provide easy hunting routes for red fox, ponds provide water subsidies for nest-destroying ravens, overhead power lines increase vulnerability of foraging sage grouse broods to perched raptors, and well-site facilities can provide denning sites for skunks and/or raccoons. Energy production infrastructure can facilitate change in abundance, composition, and effectiveness of local predator populations with negative implications for sage grouse. The proposed project is anticipated to add incrementally to fragmentation due to upgrading of 2,700 feet of access road, re-installation of 3,700 feet of overhead power line, and construction of a single well pad. However, these proposed project-related features are not planned within high quality

sagebrush habitat, and the effects of these features can be reduced by minimizing the extent of road or well pad disturbance footprint. Further, the Yates Petroleum Corporation has committed to applying perch deterrents and electrocution prevention features (APLIC 2006) along the entire length of re-established overhead power. This length of power line is termed “re-established” because it had previously occurred at the site to service coalbed methane wells on adjacent State land. When those wells were plugged and abandoned, the power line was removed.

There are no active oil or gas wells located within 0.5 miles of the proposed Boris Federal Com. #5 well. For this reason, significant cumulative effects associated with development of the proposed activity are not anticipated.

#### **4.3. Cultural Resources**

Class III inventory ( BFO No. #61810060, Metcalf-Zier for Louisiana LLE, Fed. #34-9 well and access; #70030020, Greers for Yates: Bonita POD, submitted to SHPO on 2/21/2003) has been conducted for cultural resources. No cultural sites were located in the project area. This undertaking will not affect any National Register eligible cultural resources. Unanticipated discoveries are addressed below.

#### **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 Operation 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**

##### **Site Specific Conditions of Approval**

###### **A. Surface Use**

1. Please contact Ray Stott, Natural Resource Specialist, @ (307) 684-1179, Bureau of Land Management, Buffalo, if there are any questions concerning the above surface use stipulations.
2. 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 the Boris Federal Com. #5 is Carlsbad Canyon.
3. 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:

**Shallow Loamy Ecological Site, 10-14" Precipitation Zone.**

<b>Species</b>	<b>% in Mix</b>	<b>Lbs PLS*</b>
<b><i>Thickspike Wheatgrass</i></b> ( <i>Elymus lanceolatus</i> ssp. <i>lanceolatus</i> )	50	6.0
<b><i>Bluebunch wheatgrass</i></b> ( <i>Pseudoroegneria spicata</i> ssp. <i>Spicata</i> )	35	4.2
<b><i>Prairie coneflower</i></b> ( <i>Ratibida columnifera</i> )	5	0.6
<b><i>White or purple prairie clover</i></b> ( <i>Dalea candidum</i> , <i>purpureum</i> )	5	0.6
<b><i>Rocky Mountain beeplant</i></b> ( <i>Cleome serrulata</i> ) /or <b><i>American vetch</i></b> ( <i>Vicia americana</i> )	5	0.6
<b>Totals</b>	<b>100%</b>	<b>12 lbs/acre</b>

\*PLS = pure live seed

\*Northern Plains adapted species

\*Double this rate if broadcast seeding

This is a recommended seed mix based on the native plant species listed in the NRCS Ecological Site descriptions, U.W. College of Ag., and seed market availability. A site-specific inventory will allow the resource specialist to suggest the most appropriate species, percent composition, and seeding rate for reclamation purposes.

Slopes too steep for machinery may be hand broadcast and raked with twice the specified amount of seed. Complete fall seeding after September 15 and prior to prolonged ground frost. To be effective, complete spring seeding after the frost has left the ground and prior to May 15.

**Wildlife**

1. The operator has agreed to apply APLIC (2006) standards to the segment of reconstructed overhead power line to prevent avian electrocutions. Further, the operator has agreed to install anti-perch measures along the entire length of the proposed power line reconstruction to reduce perching potential for raptors that may prey on sage grouse.

**5. CONSULTATION/COORDINATION**

<b>Contact</b>	<b>Title</b>	<b>Organization</b>	<b>Present at Onsite?</b>
Tim Barber	Environmental/ Federal Regulatory Supervisor	Yates Petroleum	Yes
Ray McConnel	Drilling Superintendent	Yates Petroleum	Yes
Terry Matchin	Production Superintendent	Yates Petroleum	Yes
Paul Clifford	Production Foreman	Yates Petroleum	Yes
Trent Knez	Federal Permitting Agent	Yates Petroleum	Yes

Contact	Title	Organization	Present at Onsite?
Bernice & Urban Groves	Landowner	Sunburst Ranch Inc.	Yes
Travis Kern	Natural Resource Specialist	BLM	Yes
Ray Stott	Natural Resource Specialist	BLM	Yes
Pat Cole	Wildlife Biologist	BLM	Yes
Kristine Phillips	Legal Instruments Examiner	BLM	No
Matt Warren	Petroleum Engineer	BLM	No
BJ Earle	Archaeologist	BLM	No
Kerry Aggen	Geologist	BLM	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:

Aldridge, C. L., and M. S. Boyce. 2007. Linking occurrence and fitness to persistence: a habitat-based approach for endangered greater sage-grouse. Ecological Applications 17:508-526.

APLIC. 2006. Suggested practices for avian protection on power lines: the state of the art in 2006. Edison Electric Institute, Avian Power Line Interaction Committee, and the California Energy Commission. Washington, D.C. and Sacramento, CA. 207 pp.

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.

BLM. 2003. Final environmental impact statement and proposed plan amendment for the Powder River Basin Oil and Gas Project. U. S. Department of the Interior, Bureau of Land Management, Buffalo, WY. January 2003. (WY-070-02-065).

### 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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Holloran, M. J., R. C. Kaiser, and W. A. Hubert. 2007. Population Response of yearling greater sage-grouse to the infrastructure of natural gas fields in southwestern Wyoming. Completion report. Wyoming Cooperative Fish and Wildlife Research Unit, Laramie, WY, USA. 34pp.

Knick S. T., D. S. Dobkin, J. T. Rotenberry, M. A. Schroeder, W. M. Vander Haegen, and C. van Riper III. 2003. Teetering on the edge or too late? Conservation and research issues for avifauna of sagebrush habitats. Condor. 105:611–634.

Paige, C., and S. A. Ritter. 1999. Birds in a sagebrush sea: managing sagebrush habitats for bird communities. Partners in Western Flight working group, Boise, ID.

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.

Saab, V., and T. Rich. 1997. Large-scale conservation assessment for neotropical migratory landbirds in the Interior Columbia River Basin. USDA Forest Service General Technical Report PNW-GTR-399, Portland, Oregon, USA.

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

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.

Wylie, T. 2008. Bureau of Land Management wildlife survey Yates Petroleum Corporation Boris #5 Oil Well habitat assessment and raptor survey report. Unpublished report. Yates Petroleum corporation, Gillette, WY. 5. pp.

## **8. LIST OF INTERDISCIPLINARY TEAM REVIEWERS**

Ray Stott, Natural Resource Specialist  
Casey Freise, Supervisory Natural Resource Specialist  
Matt Warren, Petroleum Engineer  
Kristine Phillips, Legal Instruments Examiner  
BJ Earle, Archaeologist  
Pat Cole, Wildlife Biologist  
Kerry Aggen, Geologist  
Duane Spencer, Field Manager

Lead Preparer: Ray Stott