

**DECISION RECORD**  
**Environmental Analysis (EA), WY-070-EA14-279**  
**Yates Petroleum Corporation, Roush Deep #1 Plan of Development (POD)**  
**Bureau of Land Management, Buffalo Field Office, Wyoming**

**DECISION:** The BLM approves the applications for permit to drill (APDs) from Yates Petroleum Corporation (Yates) to drill 4 horizontal oil and gas wells. Yates proposes to drill the wells and construct associated infrastructure, at the locations noted below.

**Compliance.** This decision complies with or supports:

- Federal Land Policy and Management Act of 1976 (FLPMA) (43 USC 1701); DOI Order 3310.
- National Environmental Policy Act of 1969 (NEPA) (42 USC 4321).
- National Historic Preservation Act of 1966 (16 USC 470).
- Endangered Species Act of 1974 (16 USC 1531).
- Buffalo, Powder River Basin (PRB) Final Environmental Impact Statement (FEIS), 1985, 2003 (2011).
- Buffalo Resource Management Plan (RMP) 1985, Amendments 2001, 2003, 2011.

**Consultation.** This decision considered:

- BLM Washington Office Instruction Memorandum No. 2009-078, Processing Oil and Gas Application for Permit to Drill for Directional Drilling into Federal Mineral Estate from Multiple-Well Pads on Non-Federal Surface and Mineral Locations, 2009.
- Wyoming BLM State Director Review, SDR No. WY-2011-010, EOG Resources, Inc. v. Pinedale Field Office, 2011.

BLM summarizes the details of the approval of Alternative B, below. The EA includes the project description, including specific changes made at the onsite, and site-specific mitigation measures.

BLM approves the following APDs and support facilities:

#	Well Name/ Well #	Qtr	Sec	Twp	Rng	Lease
1	Sunrise Federal #37H	SWSW	12	43N	74W	WYW-139670
2	Todd Com. #19H	SWSW	11	43N	74W	WYW-139671
3	Whisper Federal Com. #6H	SWSE	11	43N	74W	WYW-139671
4	Wyoma Federal Com. #1H	SESE	11	43N	74W	WYW-152619

**Limitations.** See the conditions of approval (COAs) and recommended mitigation measures (RMMs).

**THE FINDING OF NO SIGNIFICANT IMPACT (FONSI).** Analysis of Alternative B of the EA, WY-070-EA14-279, incorporated here by reference, found Yates’ proposal for 4 APDs will have no significant effects on the human environment beyond those described in the PRB FEIS. There is no requirement for an EIS.

**COMMENT OR NEW INFORMATION SUMMARY.** BLM posted the APDs for 30 days and received no public comments. Since receipt of the APDs BLM received a clarified policy: NEPA processing, WY-Instruction Memorandum-2014-027.

**DECISION RATIONALE.** The approval of this project is because:

1. Mitigation measures and conditions of approval (COAs), analyzed in the EA, in environmental impact statements or environmental analysis to which the EA tiers or incorporates by reference, will reduce environmental impacts while meeting the BLM's need.
2. The approved project conditioned by its design features and COAs, will not result in any undue or unnecessary environmental degradation.
  - A. The impact of this development cumulatively contributes to the potential for local extirpation of the greater sage grouse (GSG) yet its effect is acceptable because it is outside priority habitats and is within the parameters of the PRB FEIS/ROD and current BLM and Wyoming GSG conservation strategies.
  - B. There are no conflicts anticipated or demonstrated with current uses in the area.
3. Approval of this project conforms to the terms and the conditions of the 1985 Buffalo RMP (BLM 1985) and subsequent update (BLM 2001) and amendments (BLM 2003, 2011).
4. The selected alternative will help meet the nation's energy need, revenues, and stimulate local economies by maintaining workforces.
5. The operator, in their APDs, shall:
  - Comply with all applicable federal, state, and local laws and regulations.
  - Offer water well agreements to the owners of record for permitted water wells within 0.5 mile of a federal producing well in the APD (PRB FEIS ROD, p. 7).
6. The project is clearly lacking in wilderness characteristics as there is no federal surface.
7. Yates certified there is a surface access agreement with the landowners.
8. This approval is subject to adherence with all of the operating plans, design features, and mitigation measures contained in the master surface use plan of operations, drilling plan, water management plan, and information in the APDs.

**ADMINISTRATIVE APPEAL:** This decision is subject to administrative appeal in accord with 43 CFR 3165. Request for administrative appeal 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: \_\_\_\_\_ /s/ Duane W. Spencer \_\_\_\_\_ Date: \_\_\_\_\_ 7/10/14 \_\_\_\_\_

**FINDING OF NO SIGNIFICANT IMPACT**  
**Environmental Analysis (EA), WY-070-EA14-279**  
**Yates Petroleum Corporation, Roush Deep #1 Plan of Development (POD)**  
**Bureau of Land Management, Buffalo Field Office, Wyoming**

**FINDING OF NO SIGNIFICANT IMPACT (FONSI).** Based on the information in the EA, WY-070-EA14-279, which BLM incorporates here by reference; I find that: (1) the implementation of Alternative B will not have significant environmental impacts beyond those addressed in the Buffalo Final Environmental Impact Statement (FEIS) 1985, and the Powder River Basin (PRB) FEIS, 2003, to which the EA tiers; (2) Alternative B conforms to the Buffalo Field Office (BFO) Resource Management Plan (RMP) (1985, 2001, 2003, 2011); and (3) Alternative B does not constitute a major federal action having a significant effect on the human environment. Thus an EIS is not required. I base this finding on consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), with regard to the context and to the intensity of the impacts described in the EA, and Interior Department Order 3310.

**CONTEXT.** Mineral development is a common PRB land use, sourcing over 42% of the nation's coal. The PRB FEIS foreseeable development analyzed the development of 54,200 wells. The additional development analyzed in Alternative B is insignificant in the national, regional, and local context.

**INTENSITY.** The implementation of Alternative B will result in beneficial effects in the forms of energy and revenue production however; there will also be adverse effects to the environment. Design features and mitigation measures included in Alternative B will minimize adverse environmental effects. The preferred alternative does not pose a significant risk to public health and safety. The geographic area of project does not contain unique characteristics identified in the 1985 RMP, PRB FEIS, or other legislative or regulatory processes. BLM used relevant scientific literature and professional expertise in preparing the EA. The scientific community is reasonably consistent with their conclusions on environmental effects relative to oil and gas development. Research findings on the nature of the environmental effects have minor controversy, are not highly uncertain, or do not involve unique or proven risks. The PRB FEIS predicted and analyzed oil development of the nature proposed with this project and similar projects. The selected alternative does not establish a precedent for future actions with significant effects. The proposal may relate to the PRB greater sage-grouse and its habitat decline having cumulative significant impacts; yet the small size of this project is within the parameters of the impacts in the PRB FEIS. There are no cultural or historical resources present that will be adversely affected by the selected alternative. The project area is clearly lacking in wilderness characteristics as there is no federal surface. No species listed under the Endangered Species Act or their designated critical habitat will be adversely affected. The selected alternative will not have any anticipated effects that would threaten a violation of federal, state, or local law or requirements imposed for the protection of the environment.

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

Field Manager: \_\_\_\_\_/s/ Duane W. Spencer\_\_\_\_\_

Date: \_\_\_\_\_7/10/14\_\_\_\_\_

**Environmental Assessment (EA), WY-070-EA14-279**  
**Four Applications for Permit to Drill (APDs)**  
**Yates Petroleum Corporation, Roush Deep #1 Plan of Development (POD)**  
**Bureau of Land Management, Buffalo Field Office, Wyoming**

**1. INTRODUCTION**

Yates Petroleum Corporation (Yates) requests BLM’s approval for 4 applications for permit to drill (APDs) on 4 pads. BLM incorporates the APDs here by reference; see the administrative record (AR). Yates proposes to drill the horizontal oil and gas wells and construct associated infrastructure at the locations in Table 1.1. BLM’s jurisdiction over 2 APDs is split estate “federal lands” (fee surface over federal minerals). BLM has reduced jurisdiction over 2 APDs (fee surface overlying fee minerals, then laterally draining federal minerals). Robert Roush is the surface owner at the proposed wells. These APDs are pursuant to the Mineral Leasing Act for the purpose of exploring or developing oil or gas and do not satisfy the categorical exclusion directive of the Energy Policy Act of 2005, Section 390 because individual surface disturbances are greater than 5 acres. The Whisper Federal Com #6H and Wyoma Federal Com #1H are on private surface over non-federal minerals with the lateral bore drilled into federal mineral estate. Therefore, BLM consults Instruction Memorandum No. 2009-078 entitled *Processing Oil and Gas Applications for Permit to Drill for Directional Drilling into Federal Mineral Estate from Multiple-Well Pads on Non-Federal Surface and Mineral Estate Locations* for processing those APDs. Yates proposes an initial disturbance including pad disturbance, cuts, fills, spoil piles, top soil piles, access roads, and buried utilities, of about 38.07 acres; disturbance summaries are in Table 2.3.

**Table 1.1. Proposed Wells**

#	Well Name/ Well #	Qtr	Sec	Twp	Rng	Surface	Lease
1	Sunrise Federal #37H	SWSW	12	43N	74W	Fee	WYW-139670
2	Todd Com. #19H	SWSW	11	43N	74W	Fee	WYW-139671
3	Whisper Federal Com. #6H	SWSE	11	43N	74W	Fee	WYW-139671
4	Wyoma Federal Com. #1H	SESE	11	43N	74W	Fee	WYW-152619

**1.1. Background**

**Table 1.2. Background Submittals and Subsequent Dates**

Yates submitted the 4 APDs on February 6, 2014. BLM and Yates conducted onsite inspections on April 19, 2014. BLM to mailed APD deficiencies on May 15 and Yates replied on May 20, 2014.

**1.2. Need for the Proposed Project**

The BLM’s need for this project is to meet the management objectives of the Buffalo Resource Management Plan (RMP), 1985, 2001, 2003, and 2011 (to which this EA tiers). BLM must determine how and under what conditions to balance natural resource conservation with allowing Yates to exercise lease rights to develop fluid minerals, as described in their APDs associated plans. Conditional fluid mineral development supports the RMP, the Mineral Leasing Act of 1920, the Federal Land Policy Management Act (FLPMA), and other laws and regulations.

**1.3. Decision to be Made**

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

**1.4. Scoping and Issues**

BLM posted the proposed APDs for 30 days and will timely publish the EA, any finding, and decision on the BFO website. This project is similar in scope to other fluid mineral development the BFO analyzed.

External scoping is unlikely to identify new issues, as verified with recent fluid mineral EAs that BLM externally scoped. External scoping of the horizontal drilling in Crazy Cat East EA, WY-070-EA13-028, 2013, in the PRB area received 3 comments, revealing no new issues. The BFO interdisciplinary team (ID team) conducted internal scoping by reviewing the proposal, its location, and a resource (issue) list (see, AR), to identify potentially significantly affected resources, land uses, resource issues, regulations, and site-specific circumstances not addressed in the analyses incorporated by reference. This EA will not discuss resources and land uses that are not present, unlikely to receive significant or material affects, or that the PRB FEIS or other analyses adequately addressed. This EA addresses the project’s potentially significant site-specific impacts that were unknown and unavailable for review at the time of the PRB FEIS analysis to help the decision maker come to a reasoned decision. The project area is clearly lacking wilderness characteristics as it has no federally owned surface. Project issues include:

- Air quality
- Soils and vegetation: site stability, reclamation potential, invasive species.
- Water: ground water, quality and quantity of produced water.
- Wildlife: greater sage-grouse priority habitat, raptors, migratory birds, special status species.

BLM analyzed the following issues in the PRB FEIS and they do not present a substantial environmental question of material significance to this proposal. These issues are not present, or minimally so. BLM analyzed them in the PRB FEIS and not in this EA:

Geological resources	Recreation	Wilderness characteristics
Cave and karst resources	Heritage & Visual Resources	Livestock & grazing
Wilderness characteristics	Paleontological resources	Wetlands/Riparian Areas
Forest Products	Transportation & Access	Socio-economic resources
Lands & Realty	Tribal Treaty Rights	Environmental justice
Fire, fuels management, and rehabilitation	Areas of critical environmental concern	

The extensive development in the area was material to this scoping; see Section 3, below.

## 2. PROPOSED PROJECT AND ALTERNATIVES

### 2.1. Alternative A – No Action

The no action alternative would deny these APDs requiring the operator to resubmit APDs that comply with statutes and the reasonable measures in the PRB RMP Record of Decision (ROD) in order to lawfully exercise conditional lease rights. The PRB FEIS considered a no action alternative, pp. 2-54 to 2-62. The BLM keeps the no action alternative current using the aggregated effects analysis approach – incorporating by reference the analyses and developments approved by the subsequent NEPA analyses for overlapping and inter-mingled developments to the proposal area. See, Table 3.1.

### 2.2. Alternative B Proposed Action (Proposal)

**Overview.** Yates requests BLM’s approval for 4 APDs from 4 pads and supporting infrastructure; see Table 1.1. The wells will be drilled from a non-federal surface into underlying federal minerals on lease numbers listed in Table 1.1. The proposals are to explore for, and possibly develop oil and gas reserves in the Turner Formation at depths found in Table 2.1 and see also, Table 2.2.

**Table 2.1. Target Formations and Depths of Wells**

#	Well Name/ Well #	Target Formation	MD (feet)	TVD (feet)
1	Sunrise Federal Com. #37H	Turner	15,755	10,790
2	Todd Com. #9H		16,123	10,902
3	Whisper Federal Com. #6H		15,890	10,848
4	Wyoma Federal Com. #1H		16,107	10,882

The project area is 9 miles west of Wright, Campbell County, Wyoming. Project elevations average 5,110 feet. The topography has gently sloped draws rising to mixed sagebrush and grassland uplands. Ephemeral tributaries of the Belle Fourche River drain the area. The area climate is semi-arid, averaging 10-14 inches annual precipitation, about 60% of which occurs between April and September.

Drilling, Construction & Production design features include:

**Access**

- A road network will consist of existing improved all-weather roads and newly constructed crown and ditch template roads.
- Yates proposes 0.42 miles of new access roads with utility corridors. The running surfaces will be 18-20 feet with a disturbance width of about 65 feet. The access roads will be template crown and ditch roads.
- During interim reclamation the ditches will be seeded with a BLM approved seed mix to prevent erosion and maintain topsoil viability.
- Multiple culverts will be installed on newly constructed access roads.

**Well Locations**

- The well pad will be constructed with cuts/fills and topsoil/spoil piles surrounding the pad surface. Disturbances are outlined in Tables 2.3.
- The wells will use a semi-closed loop system. Lined pits at the pads will hold the cuttings.
- Temporary poly surface water lines, 3-4" OD x ~9,000' in total, will be run from a central fracking pit located in the SWNE of Section 11. Water will be trucked into that site from multiple sources detailed in the AR and as approved by the WY State Engineer Office (WSEO).
- No staging areas, man camps/housing facilities are anticipated to be used off-site. Working trailers and sleeping trailers will be placed on the well pad during the drilling and completion of the well.
- If the well becomes a producer, production facilities will be located at the well site and will include a pumping unit, storage tanks, buildings, oil-water separator (heater-treater). There will be no pits at these producing well locations.
- Dikes will be constructed completely around production facilities, i.e. production tanks, water tanks, and heater treater. The dikes will be constructed of corrugated steel, approximately 3 feet high, and hold capacity of the largest tank plus 10%. The load-out line will be outside of the dike area. A drip barrel or "Getty-Box" will be installed under the end of all load-out lines.

**Drilling and Completion Operations**

- Hydraulic fracturing (HF) operations are planned as a 'plug & perf' operation done in stages. All fresh water will be supplied by the temporary surface line. No additional well pad disturbance is anticipated for HF operations. Completion flowback water will be held in tanks on location and trucked to a disposal facility permitted by WY Department of Environmental Quality (WDEQ). See the AR for water sources.
- Flowback equipment and tanks are spotted 2-3 days before pumping. Sand silos are spotted and filled 2-3 days prior to pumping.
- Next pump trucks and chemical mixing equipment arrives and, when ready, operations continue for 36-48 hours or 3-5 days depending on the type of stimulation stage isolation (i.e. packers/sleeves or plug/perf respectively).
- Sand is continuously brought on site in semi-truck loads during pumping. It is necessary to have a safe turning radius available for these trucks. Pumping water may require heating in the winter months.
- A detailed completion operations plan is outlined in the surface use plan (SUP).

**Plan of Operations.**

The proposal conforms to all Bureau standards and incorporates appropriate best management practices, required and designed mitigation measures determined to reduce the effects on the environment. BLM reviewed and approved a surface use plan of operations describing all proposed surface-disturbing activities pursuant to Section 17 of the Mineral Leasing Act, as amended. This analysis also incorporates and analyzes the implementation of committed mitigation measures in the SUP, drilling plan, and the standard conditions of approval (COAs) found in the PRB FEIS ROD, Appendix A.

**Table 2.2. Anticipated Drilling and Completion Sequence and Timing (per well)**

Drilling and Completion Step	Approximate Duration
Build Location (roads, pad, and other initial infrastructure)	30 days
Mob Rig	2-5 days <sup>1</sup>
Drilling (24/7)	30 days <sup>2</sup>
Demobilize rig	2-3 days
Completion (setup, completion, demobilization)	35-40 days
<sup>1</sup> Depending on distance and needed to add supplemental drilling equipment, such as skidding plates.	
<sup>2</sup> By comparison, approximately 2 days are required to drill a CBNG well. ICF 2012	

**Table 2.3. Disturbance Summary Roush Deep #1 POD (see AR for lengths and other details):**

Activity	Length (feet)	Width (feet)	Acres of Disturbance	Interim Disturbance
<b>Four Pads (combined)</b> constructed pad with cuts/fills and topsoil/spoil disturbances.	varies	varies	28.00	~27.00
Newly Constructed Access Roads (w/ corridor utilities)	2,200	65-75	3.58	3.58
Buried Utilities (no corridor)	5,050	25-45	5.15	0.0
Buried Utilities (w/ corridor)	1,300	45	1.34	1.34
<b>Total Disturbance for this location</b>			<b>38.07</b>	<b>31.92</b>

**Reasonably Foreseeable Activity.**

The reasonably foreseeable activity (RFA) for this and adjacent areas includes oil/gas exploration on 640 acre spacing and possible 320 acre spacing for horizontal wells and 80 acre spacing for vertical wells. (This does not preclude the RFA spacing analysis in the PRB FEIS or applying to drill multiple wells from this pad further reducing the surface disturbance per well.) Potential APD submittals or reasonably foreseeable activity included in this analysis could consist of multiple wells on an existing pad or tie into existing supporting infrastructure; tank batteries, pipelines, power lines, and transportation networks.

**2.3. Conformance to the Land Use Plan and Other Environmental Assessments**

This proposal does not diverge from the goals and objectives in the Buffalo Resource Management Plan (RMP), 1985, 2001, 2003, 2011, and generally conforms to the terms and conditions of that land use plan, its amendments, supporting FEISs, 1985, 2003 (2011), and laws including the Clean Air Act, 42 USC 7401-7671q (2006), the Clean Water Act, 33 USC 1251 et seq. (1972), etc.

**3. AFFECTED ENVIRONMENT**

This section briefly describes the physical and regulatory environment that may be significantly affected by the alternatives in Section 2, or where changes in circumstances or regulations occurred since the approval of analyses to which this EA incorporates by reference; see Table 3.1. The PRB FEIS considered a no action alternative (pp. 2-54 to 2-62) in evaluating a development of up to 54,200 fluid mineral wells. Nearly 60% of the deep oil and gas wells are hydraulically fractured; BLM and Goolsby 2012. The BLM uses the aggregated effects analysis approach - incorporating by reference the circumstances and

developments approved via the subsequent NEPA analyses for overlapping and intermingled developments coincident to this proposal area to retain currency in the no action alternative. 615 F. 3d 1122 (9th Cir. 2010). The number of conventional wells in the Buffalo planning area is 1313, which includes 783 horizontal wells (federal, fee, and state) (as of April 2013). This represents 41% of the projected 3,200 in the 2003 PRB ROD. This agrees with the PRB FEIS which analyzed the reasonably foreseeable development rolling across the PRB of 51,000 CBNG and 3,200 natural gas and oil wells. BLM determined a minimum of 115 townships from the northern borders of Sheridan and Campbell Counties to the southern border of Campbell County are a developed field for fluid minerals because of the existing federal developments. These APD proposals are in the developed field. The State of Wyoming and BLM also approved approximately 108 wells within 5 miles of the project area that operators may develop in the near future. In addition, other operators are likely to continue seeking permits to develop unconnected leases in or in the affects analysis areas near the project area; decisions to approve or deny future proposals will occur following APD submittal. Development occurring on non-federal surface and non-federal mineral estate would continue.

**Table 3.1. Overlapping NEPA Analyses Which BLM Incorporates by Reference either as similar drilling analyses or as substantially similar analyses in the semi-arid sage-brush, short grass prairie**

#	POD / Well Name	NEPA Analysis #	# / Type Wells	Approved Mo/Yr/Update
1	East Litton	WY-070-EA04-237	24 CBNG	8/2004 3/2011
2	Antelope Federal	WY-070-EA04-028	31 CBNG	2/2004 2/2010
3	Rochelle Hills	WY-070-EA04-235	37 CBNG	9/2004 7/2012
4	EOG Crossbow 3 wells	WY-07-3-084, -085, -090	3 Oil	9/2008
5	EOG Crossbow 3 wells	WY-070-09-155	3 Oil	9/2009
6	EOG Arbalest-Crossbow	WY-070-EA10-238	11 Oil	7/2010 1/2011 8/2012 12/2013
7	Yates All Day POD	WY-070-EA-08-026	35 CBNG	8/2009
8	EOG Project 808	WY-070-EA11-284	44 Oil	9/2011 11/2011 12/2011 8/2012
9 <sup>a</sup>	Mufasa Fed 11-31H Well	WY-070-EA12-062	1 Oil	3/2012
10 <sup>b</sup>	APC Crazy Cat East	WY-070-EA13-028	24+/- Oil Pads	2/2013
11	Porche Wells 3H & 4H	WY-070-EA14-85	2 Oil	2/2014
12	Durham Ranches 1 POD	Wy-070-EA13-83	4 Oil	2/2013

See also: SDR WY-2013-005, particularly noting pp. 2-3, incorporating the entirety here by reference.

- While not overlapping, incorporate those sections describing and analyzing hydraulic fracturing, its supporting analysis, and the Greater Sage-grouse Section 3.7.12 and 4.8.2.
- While not overlapping, incorporate those sections describing and analyzing hydraulic fracturing and its supporting analysis to include but not limited to traffic, water, and air quality.

### 3.1. Air Quality

BLM incorporates by reference the updated air quality affected environment section from the nearby Porsche Wells EA, WY-070-EA14-85, Section 3.1.

### 3.2. Soils, Ecological Sites, and Vegetation

**Table 3.2. Dominant Soils by Map Unit Symbol (MUS) in the Proposal Area**

Well Location	MUS	Map Unit Name	Ecological Site
4374-11-9H	122	Cushman-Cambria loams, 6 to 15 % slopes	Loamy
4374-11-6H	145	Forkwood-Cambria loams, 0 to 6 % slopes	Loamy
4374-11-1H	148	Forkwood-Ulm loams, 0 to 6 % slopes	Loamy
4374-12-37H	148	Forkwood-Ulm loams, 0 to 6 % slopes	Loamy

NOTE: area of analysis includes access (proposed, new disturbance) to well location

BLM incorporates by reference the soils and vegetation sections in the All Day POD EA-WY-070-08-026, pp. 9-10, and Section 3.2, from the East Litton EA, WY-070-EA04-237. Soils, ecological sites, and vegetation found in the areas of the Antelope Federal POD are similar to those occurring in Durham Ranches 1 POD EA, WY-070-EA13-83.

### **3.3. Water Resources**

The WSEO has authority for regulating water rights issues and permitting impoundments for the containment of the State's surface waters. The WOGCC has authority for permitting and bonding off channel pits located over state and fee minerals. BLM incorporates by reference the regulatory scheme, topography and waters description from the Antelope EA, WY-070-EA04-028, p. 6, paragraphs 2 and 3, and pp. 16-17; and the Wetlands subsection 3.2.1, Waters Sections 3.5, 3.5.1, and 3.5.2, from the East Litton EA, WY-070-EA04-237. The area's historical use for groundwater was for stock or domestic water. A search of the WSEO Ground Water Rights Database showed 8 registered stock and domestic water wells within 1 mile of the proposed wells with depths ranging from 122 to 340 feet. The depth to the Fox Hills aquifer in the area ranges between 6,601' to 6,758'.

### **3.4. Minerals – Leasables; Locatables; Salables**

BLM learned that other operators are considering mining claims located in the area of this proposed POD. Although mining claimants are not required to list the minerals they are locating their claims for, given the number of uranium projects in this area, the interest in filing mining claims were likely for uranium.

### **3.5. Invasive or Noxious Species**

BLM incorporates by reference the invasive species subsections from the East Litton EA, WY-070-EA04-237, Section 3.2.2, and Antelope EA, WY-070-EA04-028, p. 8. Field conditions remain materially similar to these analyses.

### **3.6. Wildlife**

The PRB FEIS identified wildlife species occurring in the PRB on pp. 3-113 to 3-206. The subsections below provide more information on select species with potential to occur in or near the project area based on the findings of the *Sunrise Federal #37H, Todd Com. #9H, Whisper Federal Com. #6H, and Wyoming Federal Com. #1H Habitat Assessments and Biological Surveys* (ICF International 2013) and observations from the BLM during the project on-site inspection. The BLM also consulted databases compiled and managed by BLM BFO wildlife staff, the PRB FEIS, WGFD datasets, and the Wyoming Natural Diversity Database (WYNDD) to evaluate the affected environment for wildlife species that may occur in the area. This section describes the affected environment and impacts to wildlife known or likely to occur in the area of the proposed project.

#### **3.6.1 Threatened, Endangered, Candidate, Special Status (Sensitive) Species**

The Buffalo BLM receives a species list periodically from the U.S. Fish and Wildlife Service (FWS) concerning threatened, endangered, proposed, and candidate species. BLM discusses species on that list that may receive impacts from the proposed project below.

##### **3.6.1.1. Ute Ladies'-Tresses Orchid (ULT)**

The FWS lists the Ute ladies'-tresses orchid (ULT) as threatened. The PRB FEIS discussed the affected environment for ULT, p. 3-175, which BLM incorporates here by reference. The Wyoming Natural Diversity Database model predicts undocumented populations may be present in southern Campbell and northern Converse Counties. Scientists documented 4 orchid populations in Wyoming prior to 2005. Scientists found 5 additional sites in 2005 and 1 in 2006. The new locations were in the same drainages as the original populations, with 2 on the same tributary and within a few miles of an original discovery. Drainages with documented orchid populations include 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. Repeated surveys conducted for federal CBNG projects in the PRB have not identified the plant in suitable habitat. The Roush Deep 1 project is in upland terrain that is unsuitable for ULTs.

#### **3.6.1.2. Northern Long-Eared Bat (NLB)**

The FWS proposed the Northern long-eared bat (*Myotis septentrionalis*) for listing under the ESA, October 2, 2013; 78 FR 61046. FWS determined that the northern long-eared bat is in danger of extinction, predominantly due to the threat of white-nose syndrome. However, other threats (the present or threatened destruction, modification, or curtailment of its habitat or range; overutilization for commercial, recreational, scientific, or educational purposes; other natural or manmade factors affecting its continued existence) when combined with white-nose syndrome heighten the level of risk to the species (USFWS 2013c). No suitable habitat for NLBs exists in the Roush Deep 1 project area.

#### **3.6.1.3. Greater Sage-Grouse (GSG)**

While there is some suitable general GSG habitat in the project area, the Roush Deep 1 POD is not in any Wyoming Governor's core areas; or within 2 mile protection buffers of any GSG leks; nor within 4 miles of any occupied leks. In March, 2012, WY BLM released the report, "Viability analyses for conservation of sage-grouse populations: Buffalo Field Office, Wyoming," indicating that a viable population of GSG remains in the PRB, but the combined impacts of multiple stressors, including West Nile virus (WNV) and energy development, threaten that viability (Taylor et al 2012). The information in the report identified that the effects of energy development are detectable at a larger spatial scale than analyzed in the documents listed in Table 3.1, above.

### **3.6.2 Special Status (Sensitive) Species (SSS)**

The PRB FEIS discussed the affected environment for SSS, p. 3-174 to 201.

Wyoming BLM updates SSS on its website: <http://www.blm.gov/wy/st/en/programs/Wildlife.html>. BLM discusses those SSS impacted beyond the level analyzed in the PRB FEIS, below. BLM found habitat for 2 BLM sensitive species at the onsite inspection.

#### **3.6.1.1. Brewer's Sparrow**

The affected environment for Brewer's sparrow is discussed in the PRB FEIS, p. 3-200. In addition to being listed as a BLM WY SSS, Brewer's sparrows are a WY Game and Fish Department (WGFD) species of greatest conservation need (SGCN), with a rating of NSS4. The Wyoming Bird Conservation Plan rates them as a Level I species, indicating they are clearly in need of conservation action. They are also listed by FWS as a bird of conservation concern (BCC) for Region 17. Suitable nesting habitat for Brewer's sparrows exists at the Todd Com. #9H well pad location

#### **3.6.1.2. Ferruginous Hawk**

The affected environment for ferruginous hawk is discussed in the PRB FEIS, p. 3-183. In addition to being listed as a WY BLM SSS, ferruginous hawks are a WGFD SGCN, with a rating of NSS3 because the species is widely distributed, population status and trends are unknown but are suspected to be stable, they are experiencing ongoing loss of habitat, and they are sensitive to human disturbance. The Wyoming Bird Conservation Plan rates them as a Level I species, indicating they are clearly in need of conservation action. They are also listed by FWS as a BCC for Region 17. One ferruginous hawk nest exists in the project area. BLM nest #2438 is 0.13 miles to the northwest and in direct line of sight of the proposed Whisper Federal #6H well pad; and within 0.5 miles of the proposed Wyoma 1H and Sunrise 37H pads. The nest was classified as 'Remnants' and was not active in 2012, 2013 or 2014. No other nests are documented within 0.5 miles of the project area.

### 3.6.3 Big Game

The big game species occurring in the project area are mule deer and pronghorn. The PRB FEIS discussed the affected environment for pronghorn and mule deer, on pp. 3-117 to 3-122, pp and 3-127 to 3-132, 3-122 to 3-127 respectively. Table 3.3 below indicates the delineated seasonal ranges for each species that occur in the project area, the herd units affected by the project, the WGFD population objective, and the WGFD current population estimate for each species (WGFD 2011a).

**Table 3.3 Big Game Species, Seasonal Ranges, Herd Units, Population Objectives, and Population Estimates for Big Game Species Likely to Occur in the Roush Deep #1 POD Project Area**

Species	Seasonal Range in Project Area	Herd Unit	WGFD Population Objective	% Above (+) or Below (-) Objective	WGFD Report Year
Mule Deer	Yearlong	320 – Pumpkin Buttes	11,000	-12.7%	2011
Pronghorn	Winter yearlong	309 – Pumpkin Buttes	18,000	+ 46%	2011

### 3.6.4 Raptors

The PRB FEIS discussed the affected environment for raptors, pp. 3-141 to 3-148. According to the BLM raptor database, and ICF International surveys only one raptor nest site is present within 0.5 miles of the project boundary (ICF International 2013). The nest #2438 is discussed in the SSS section, above.

### 3.6.5 Migratory Birds

Migratory bird habitat is present in the proposal area. Nesting season for Brewer’s sparrows (a BLM SSS) typically occurs mid-May to mid-July. Some young fledge in late July. Sage thrashers (BLM SSS) may lay a second clutch of eggs as late as mid-July. Lark sparrows in northern latitudes lay eggs from early May to mid-July.

### 3.7. Cultural

Per Section 106 of the National Historic Preservation Act, BLM must consider impacts to historic properties (sites that are eligible for or listed on the National Register of Historic Places (NRHP)). For an overview of cultural resources found in the area, refer to the *Draft Cultural Class I Regional Overview, Buffalo Field Office* (BLM, 2010). A Class III (intensive) cultural resource inventory (BFO project no. 70140041) was performed to locate specific historic properties which may be impacted by the proposal. Previously accepted Class III inventories 70020188 and 70120036 covered the remainder of the project area. The following resources are in or near the proposal area.

Site Number	Site Type	NRHP Eligibility
48CA4253	Historic	Not Eligible

## 4. ENVIRONMENTAL EFFECTS

**No Action Alternative.** BLM analyzed the no action alternative as Alternative 3 in the PRB FEIS and it subsequently received augmentation of the effects analysis in this EA through the analysis of mineral projects, their approval, and construction; and through the analysis and approval of other projects. BLM incorporates by reference these analyses in this EA; see Table 3.1. This updated the no action alternative and cumulative effects. The project area has surface disturbance from existing roads, well pads, and oil and gas facilities. Under the no action alternative, on-going well field operations would continue as would the development of approved single and multi-well pads, consisting of horizontal wells with approved APDs and other approved APDs. The production and the drilling and completion of these new wells would result in noise and human presence that could affect resources in the project area; these effects could include the disruption of wildlife, the dispersal of noxious and invasive weed species, and dust

effects from traffic on unpaved roads. Present fluid mineral development in the PRB is under half of that envisioned and analyzed in the PRB FEIS. There is only a remote potential for significant effects above those identified in the PRB FEIS to resource issues as a result of implementing the no action alternative.

## **Alternative B, Proposed Action (Proposal)**

### **4.1. Air Quality**

BLM incorporates by reference the air quality direct, indirect, cumulative, and residual effects from the analyses in Table 3.1, above as they are materially similar to those for these proposals. BLM incorporates by reference the analysis found in the August 2012 Lease Sale EA, WY-070-EA12-44, pp. 45-51 (air quality, greenhouse gas emissions, and visibility). Air quality impacts modeled in the PRB FEIS and Cumulative Air Quality Effects, 2009 concluded that PRB projected fluid and solid development would not violate state, or federal air quality standards and this project is within the development parameters.

### **4.2. Soils, Ecological Sites, and Vegetation**

Impacts anticipated occurring and mitigation considered with this proposal will be similar to those analyzed in the following EA which has similar characteristics to the Antelope Federal POD: Durham Ranches 1 POD EA WY-070-EA13-83, Affected Environment (pp. 6-7); and Direct and Indirect, Cumulative, Residual Effects (pp. 12-14) – all incorporated here by reference. These incorporated EA sections analyze the historical values and settings for soils, ecological sites, and vegetation. Although soil types in the Roush Deep #1 POD are not identical to the soils in the Durham Ranches 1 POD, effects and mitigation are similar. This proposal clearly lacks wilderness characteristics as it has no federal surface.

### **4.3. Water Resources**

Adherence to the drilling COAs, the setting of casing at appropriate depths, following safe remedial procedures in the event of casing failure, and using proper cementing procedures should protect fresh water aquifers above the drilling target zone. The operator will run surface casing to 1,500 feet, total vertical depth to protect shallow aquifers. The top of cement for the production string will be calculated to 4,100 feet above the Fox Hills Formation. This will ensure that ground water will not be adversely impacted by well drilling and completion operations. Compliance with the drilling and completion plans and Onshore Oil and Gas Orders Nos. 2 and 7 minimize an adverse impact on ground water. The volume of water produced by this federal mineral development is unknowable at the time of permitting. BLM incorporates by reference the surface water resources direct, indirect, cumulative, and residual effects from the East Litton EA, WY-070-EA-4-237, pp. 28-33, and the surface and ground water from the Arbalest-Crossbow EA, WY-070-EA11-284, Sections 4.1.2, and 4.1.3. Yates proposes the pads and access in flat locations and there are no major drainages adjacent or overlapped in the proposed surface disturbance areas. The short, proposed roads do not cross any drainages.

At the time of permitting, the volume of water that will be produced in association with these federal minerals is unknown. Yates will have to produce a well for a time to be able to estimate the water production. In order to comply with the Onshore Oil and Gas Order #7, Disposal of Produced Water, Yates will submit a Sundry to the BLM within 90 days of first production which includes a representative water analysis as well as the proposal for water management. Historically, the quality of water produced in association with conventional oil and gas has been such that surface discharge would not be possible without treatment. Initial water production is low in most cases. There are 3 common alternatives for water management: Re-injection, deep disposal or disposal into pits. All alternatives would be protective of groundwater resources when performed in compliance with state and federal regulations.

### **4.4. Minerals – Leasables; Locatables; Salables**

#### **4.4.1. Direct and Indirect Effects**

Possible conflicts may occur between any uranium projects planned near these proposed wells. It is unlikely, however, that uranium projects will be developed for quite some time, due to recent lower

uranium price and other uranium projects in the area are already producing or in development. Uranium recovery would entail the addition of disturbance activities for construction of roads, facilities and well locations. Earth-moving activities associated with in situ (ISR) uranium recovery are nearly the same for those of CBNG projects. It involves construction of surface facilities, access roads, well fields, and pipelines and would include clearing of top soil, land grading, and interim reclamation. There is potential for timing and/or location conflicts between this proposed POD and future uranium exploration and/or mining projects. Different situations may occur that could change seek to modify the infrastructure associated with the APDs. It is important that all companies potentially affected take the initiative to keep the others informed about their status and design plans for pipelines, electrical power, roads, so they may optimize their own projects without impeding the others' projects and thus preclude the imposition of top-down federal or state solutions.

#### **4.4.2. Cumulative Effects**

Drilling of ISR wells and installation of pipelines may occur. Low levels of traffic generated by construction activities and daily operations when the project is operational would not significantly increase traffic or accidents on roads in the vicinity. However the addition of ISR uranium recovery project in the project vicinity will add to the cumulative effect of soil disturbances and may delay interim and final reclamation on some of the roads proposed for use in this POD.

#### **4.4.3. Mitigation Measures**

It is between the operators to coordinate their projects as the BLM has little jurisdiction over ISR mining on fee surface. In the event the company alters the approved locations, then it will need to apply for the changes via Sundry Notice (Form No. 3160-5) and BLM will analyze it in a separate NEPA analysis.

#### **4.4.4. Residual Effects**

Residual effects across the project area would include a relatively short-term loss of soil productivity in with the uranium project areas. This would occur due to surface disturbances for installation or uranium well fields, roads, and associated infrastructure. As these uranium ISR projects are typically relatively short-term in length (8-15 years), long-term soil productivity should not be significantly affected. The PRB FEIS identified residual effects (p. 4-408) such as the loss of vegetative cover, despite expedient reclamation, for several years until reclamation is successfully established.

#### **4.5. Invasive Species**

BLM anticipates the proposal's direct, indirect, residual, and cumulative effects to invasive species proliferation will be materially similar to those found in the Arbalest-Crossbow EA, WY-070-EA11-284, Section 4.1.5, incorporated here by reference. Yates' committed measures negate a need for additional mitigation.

#### **4.6. Wildlife**

##### **4.6.1. Wildlife Threatened, Endangered, Proposed and Candidate Species**

###### **4.6.1.1. Ute Ladies'-Tresses Orchid (ULT)**

No ULT habitat exists at the project location so there will be "*no effect*" to ULTs. No mitigation is required and there will be no residual impacts.

###### **4.6.1.2. Northern Long-eared Bat (NLB)**

No NLB habitat exists at the project location so there will be no direct, indirect, or cumulative impacts to NLBs. No mitigation is required and there will be no residual impacts.

###### **4.6.1.3. Greater Sage-Grouse (GSG)**

BLM incorporates by reference here, Section 4.8.2 of the Mufasa Fed 11-31H Well EA, WY-070-EA12-062. This proposal should result in no direct, indirect, residual, or cumulative effects to GSG. Given that

the 4 proposed well pad locations are not within 4 miles of GSG leks, the new information from the Taylor report (see Section 3.5.3 above) does not substantially change the analyses found in the Table 3.1 EAs. No mitigation is needed for GSG.

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

The proposal effects to SSS are described in Table 1 in the Appendix. Site specific effects to SSS are described below.

##### **4.6.2.1. Brewer's Sparrow**

If the Todd Com #9H well pad is constructed during the nesting season for Brewer's sparrows (May 1 – July 31), any nest present with eggs or young will be destroyed; violating the Migratory Bird Treaty Act (MBTA) and BLM sensitive species policy. The BLM will apply a stipulation to protect nesting migratory birds during the nesting season. The project will take out 38.07 acres of Brewer's sparrow nesting habitat.

##### **4.6.2.2. Ferruginous Hawk**

BLM nest # 2438 will be directly and indirectly affected by the Whisper Federal Com. #6H, Wyoma Federal Com. #1H and Sunrise Federal #37H well sites. The nest does not have a record of activity. The placing of the Whisper Federal Com. #6H well at its proposed location may preclude future use of the nest by ferruginous hawks, which are known to be sensitive to disturbances. The BLM biologist considered two alternative locations to propose to the operator. The first alternative location would put the well too close to an existing fee well. The second alternative would be to “flip” to the downhole location which would involve a significant amount of surface disturbance for the access road. This alternative would undermine Yates' proposed access plan which consolidates disturbance along an existing road.

It is possible that the nest location is already compromised by existing CBNG and conventional oil wells. The BLM biologist determined that denying the location is unwarranted due to 1) the lack of known activity at this nest location, and 2) the existing disturbance in the area. The timing limitation condition of approval would prevent the major disturbance, construction/drilling, from occurring during the nesting season should a ferruginous hawk pair occupy the nest location. The pair may tolerate the producing well.

#### **4.6.3. Big Game**

The PRB FEIS discusses impacts, including direct and indirect effects, cumulative effects, and residual effects to big game on pp. 4-181 to 4-215. Mule deer and pronghorns would be directly disturbed with the construction of wells, and associated infrastructure. Long term disturbance would be direct habitat loss. Short-term disturbances also result in direct habitat loss; however, they should provide some habitat value as these areas are reclaimed and native vegetation becomes established. In addition to the direct habitat loss, big game would likely be displaced from the project area during drilling and construction. A study in central Wyoming reported that mineral drilling activities displaced mule deer by more than 0.5 miles (Hiatt and Baker 1981). The WGFD indicates a well density of 8 wells per section creates a high level of impact for big game and that avoidance zones around mineral facilities overlap creating contiguous avoidance areas (WGFD 2004). A multi-year study on the Pinedale Anticline suggests not only do mule deer avoid mineral activities, but after 3 years of drilling activity the deer have not become accustomed to the disturbance (Madson 2005, Sawyer et al. 2006).

Big game animals are expected to return to the project area following construction; however, populations would likely be lower than prior to project implementation as the human activities associated with operation and maintenance continue to displace big game. Mule deer are more sensitive to operation and maintenance activities than pronghorn, and, as the Pinedale Anticline study suggests, mule deer do not readily habituate. A study in North Dakota stated, “although the population (mule deer) had over 7 years

to habituate to oil and gas activities, avoidance of roads and facilities was determined to be long term and chronic” (Lustig 2003). Mule deer have been shown to avoid all types of well pads but tended to select areas farther from well pads associated with higher levels of traffic (Sawyer et al. 2009). Deer have even been documented to avoid dirt roads that were used only by 4-wheel drive vehicles, trail bikes, and hikers (Jalkotzy et al. 1997).

Winter big game diets are sub-maintenance, meaning they lose weight and body condition as the winter progresses. Survival below the maintenance level requires behavior that emphasizes energy conservation. Canfield et al. (1999) pointed out that forced activity caused by human disturbance exacts an energetic disadvantage, while inactivity provides an energetic advantage for animals. Geist (1978) defined effects of human disturbance in terms of increased metabolism, which could result in illness, decreased reproduction, and even death. Energy development activities that occur in big game habitats during the spring will likely displace adult females and juveniles due to the human presence in the area. This may cause reduced survival rate of individuals that must expend increased energies to avoid such activities. The cumulative effects associated with Alternative B are within the analysis parameters and impacts described in the PRB FEIS. For details on expected cumulative impacts, refer to the PRB FEIS, p. 4-181 to 4-215. No mitigation is proposed with Alternative B and no residual impacts are anticipated.

#### **4.6.4. Raptors**

The PRB FEIS discussed direct and indirect effects to raptors, pp. 4-216 to 4-221. This project would result in disturbance in proximity of nesting raptors, including direct and indirect habitat losses associated with declines in habitat effectiveness. Human activities in close proximity to active raptor nests may interfere with nest productivity. Romin and Muck (1999) indicate that activities within 0.5 miles of a nest are prone to cause adverse impacts to nesting raptors. If mineral activities occur during nesting, they could be sufficient to cause adult birds to remain away from the nest and their chicks for the duration of the activities. This absence can lead to overheating or chilling of eggs or chicks. Prolonged disturbance can lead to the abandonment of the nest by the adults. Both actions can result in egg or chick mortality. BLM recommends the location of all infrastructures requiring human visitation be designed to provide an adequate biologic buffer for nesting raptors. A biologic buffer is a combination of distance and visual screening that provides nesting raptors with security such that routine activities preclude flushing the raptors. The one raptor nest present, ferruginous hawk nest #2438 is discussed in the SSS section, above.

#### **4.6.5. Migratory Birds**

The PRB FEIS discussed direct and indirect effects to migratory birds on pp. 4-231 to 4-235. The PRB FEIS states on p. 4-231, “Surface disturbance associated with construction, operation, and abandonment of facilities, including roads, has the potential to result in direct mortality of migratory birds. Most birds would be able to avoid construction equipment; however, nests in locations subject to disturbance would be lost, as would any eggs or nestlings.” Direct mortality of a bird or destruction of an active nest due to construction activities could result in a “take” as defined (and prohibited) by the MBTA, a nondiscretionary statute, and in turn a violation of the law. See also, FLPMA, Sec. 302(b) and Raptors – Direct and Indirect Effects (4.6.2.1.1).

Habitat disturbance and disruptive activities (i.e. drilling, construction, completion, operations, and maintenance) resulting from implementation of the project is likely to affect migratory birds in the entire area. Native habitats would be lost directly with the construction of well pads, access roads, and overhead power lines. Surface disturbing activities that occur in the nesting season may kill migratory birds. Prompt re-vegetation of short-term disturbance areas should reduce habitat loss impacts. Pad construction, drilling, and to a lesser degree production, would displace edge-sensitive migratory birds from otherwise suitable habitat adjacent to the well pad. Drilling and construction noise can be troublesome for songbirds by interfering with the males’ ability to attract mates and defend territory, and the ability to recognize calls from conspecifics (BLM 2003). Habitat fragmentation would result in more than just a quantitative

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

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

Mitigation to reduce the direct or indirect effects, the likelihood of a “take” under the MBTA, has been discussed in the section above concerning Brewer’s sparrow. BLM will apply a stipulation - that the Todd Com #9H pad construction (vegetation removal) occur outside of the breeding season for the greatest quantity of BLM SSS passerines (May 1- July 31) where suitable nesting habitat for sagebrush obligates is present. This restriction would apply to habitat removal, unless a pre-construction nest search (within approximately 10 days of construction planned May 1-July 31) is completed. If surveys will be conducted, the operator will coordinate with BLM biologists to determine protocol. The nest search will consist of in areas where vegetation will be removed or destroyed.

**4.7. Cultural Resources**

BLM policy states that a decision maker’s first choice should be avoidance of historic properties (BLM Manual 8140.06(C)). If historic properties cannot be avoided, mitigation measures must be applied to resolve the adverse effect. Non eligible site 48CA4253 will be impacted by the proposal. No historic properties will be impacted by the proposal. Following the State Protocol Between the *Wyoming Bureau of Land Management State Director and The Wyoming State Historic Preservation Officer 2006: VI(A)(1)* the BLM notified the Wyoming State Historic Preservation Officer (SHPO) on June 27, 2014 that no historic properties exist in the area of potential effect (APE). If any cultural values (sites, features or artifacts) are observed during operation, they will be left intact and the Buffalo Field Manager notified. If human remains are noted, the procedures described in Appendix L of the PRB FEIS must be followed. Further discovery procedures are explained in Standard COA (General)(A)(1).

**Summary.** BLM used the aggregate effects method to update the cumulative effects for this EA; see Table 3.1. The absence of applying the recommended mitigation measures may cause some effects such as increased erosion, yet proposal effects will not have a significant impact on the human environment.

**5. List of Preparers: Persons and Agencies Consulted (BFO unless otherwise noted)**

<b>Position/Organization</b>	<b>Name</b>	<b>Position/Organization</b>	<b>Name</b>
NRS/Team Lead	Mike Garrett	Archaeologist	Seth Lambert
Supr NRS	Casey Freise	Wildlife Biologist	Don Brewer
Petroleum Engineer	Matthew Warren	Geologist	Kerry Aggen
LIE	Sharon Soule	Supr NRS	Kathy Brus
Assistant Field Manager	Clark Bennett	Assistant Field Manager	Chris Durham
NEPA Coordinator	John Kelley	Wyoming State Historic Preservation Officer	Mary Hopkins

## **6. References and Authorities**

(BLM incorporates by reference here the references and authorities from the Porsche Wells EA, WY-070-EA14-84, pp. 29-33.)

ICF International. 2013. Sunrise Federal #37H, Todd Com. # 9H, Whisper Federal Com. #6H,ederal Com. #1H – Habitat Assessments and Biological Surveys. Gillette, WY.

**Appendix 1.**

**Table 1. Summary of the Proposal Area’s Special Status (Sensitive) Species Habitat and Project Effects.**

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
<i>Amphibians – outside of habitats, species range and/or none expected to occur</i>				
<i>Fish - outside of habitats, species range and/or none expected to occur</i>				
<i>Birds</i>				
Baird’s sparrow ( <i>Ammodramus bairdii</i> )	Shortgrass prairie and basin-prairie shrubland habitats; plowed and stubble fields; grazed pastures; dry lakebeds; and other sparse, bare, dry ground.	NS	NI	Migrants may pass through area.
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	Mature forest cover within 1 mile of large water body with reliable prey nearby.	NP	NI	Habitat not present.
Brewer’s sparrow ( <i>Spizella breweri</i> )	Sagebrush shrubland	NP	NI	A timing limitation will protect active nests from destruction during the nesting season. Nesting and foraging habitat may be impacted by dust, noise, human activities, and direct loss. Species may avoid area.
Ferruginous hawk ( <i>Buteo regalis</i> )	Basin-prairie shrub, grasslands, rock outcrops	NS	MIIH	Nesting and foraging habitat may be impacted by dust, noise, human activities, and direct loss. Species may avoid area. The one nest present is discussed in the Special Status Species section.
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	Basin-prairie shrub, mountain-foothill shrub	NS	NI	Habitat not present.
Long-billed curlew ( <i>Numenius americanus</i> )	Grasslands, plains, foothills, wet meadows	NS	MIIH	Migrants may stop over.
Mountain Plover ( <i>Charadrius montanus</i> )	Short-grass prairie with slopes < 5%	NS	NI	Habitat not present
Northern goshawk ( <i>Accipiter gentilis</i> )	Conifer and deciduous forests	NP	NI	Habitat not present.
Peregrine falcon ( <i>Falco peregrinus</i> )	Cliffs	NP	NI	Habitat not present.
Sage sparrow ( <i>Amphispiza billneata</i> )	Basin-prairie shrub, mountain-foothill shrub	NP	NI	Habitat not present.
Sage thrasher ( <i>Oreoscoptes montanus</i> )	Basin-prairie shrub, mountain-foothill shrub	NP	NI	Habitat not present.

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
Trumpeter swan ( <i>Cygnus buccinator</i> )	Lakes, ponds, rivers	NP	NI	Habitat not present.
Western Burrowing owl ( <i>Athene cunicularia</i> )	Grasslands, basin-prairie shrub	NP	NI	Habitat not present.
White-faced ibis ( <i>Plegadis chihi</i> )	Marshes, wet meadows	NP	NI	Habitat not present.
Yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	Open woodlands, streamside willow & alder	NP	NI	Habitat not present.
<i>Mammals</i>				
Black-tailed prairie dog ( <i>Cynomys ludovicianus</i> )	Prairie habitats with deep, firm soils and slopes less than 10 degrees.	NP	NI	No known colonies present.
Fringed myotis ( <i>Myotis thysanodes</i> )	Conifer forests, woodland chaparral, caves and mines	NS	NI	Habitat not present.
Long-eared myotis ( <i>Myotis evotis</i> )	Conifer and deciduous forest, caves and mines	NS	NI	Habitat not present.
Spotted Bat ( <i>Euderma maculatum</i> )	Prominent rock features in extreme, low desert habitats to high elevation forests.	NP	NI	Habitat not present.
Swift fox ( <i>Vulpes velox</i> )	Grasslands	S	MIIH	Project approximately 2.5 miles from known den. Suitable habitat is present.
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	Caves and mines.	NP	NI	Construction may impact foraging areas and alter habitat conditions.
<i>Plants - outside of habitats, species range and/or none expected to occur</i>				
<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 in the project area. <b>NP</b> - Habitat not present and species unlikely to occur within the project area.		<b>Project Effects</b> <b>NI</b> - No Impact. <b>MIIH</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 that may contribute to a trend towards federal listing or cause a loss of viability to the population or species. <b>BI</b> - Beneficial Impact		