

FINDING OF NO SIGNIFICANT IMPACT
Environmental Assessment (EA) WY-070-EA11-349
True Oil, LLC, High Road Federal #43-23
Buffalo Field Office, Bureau of Land Management

FINDING OF NO SIGNIFICANT IMPACT (FONSI): Based on the information in EA WY-070-EA11-349, which is incorporated 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); and (3) Alternative B does not constitute a major federal action having a significant effect on the human environment; thus there is not requirement for an EIS. I base this finding on consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), both with regard to the context and to the intensity of the impacts described in the EA, and on Interior Department Order 3310.

CONTEXT: Mineral development is a common land use in the PRB. Over 42% of the nation's coal comes from the PRB. The PRB FEIS reasonably foreseeable development predicted and analyzed the development of 51,000 gas wells and 3,200 oil wells. The additional development described 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, 2003 PRB FEIS, or other legislative or regulatory processes. BLM used relevant scientific literature and professional expertise in preparing the EA. The scientific community is reasonably consistent with their conclusions on environmental effects relative to oil and gas development. Research findings on the nature of the environmental effects are not highly controversial, highly uncertain, or involve unique or unknown risks.

The PRB FEIS predicted and analyzed oil development of the nature proposed with this project and similar projects. The selected alternative does not establish a precedent for future actions with significant effects. There are no cultural or historical resources present that will be adversely affected by the selected alternative. The project area is clearly lacking in wilderness characteristics as there is no federally owned 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. 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: _____

Cory Fleiss

Date: _____

11/22/11

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1. INTRODUCTION

This site-specific analysis tiers to the information and analysis in the Final Environmental Impact Statement and Proposed Plan Amendment for the Powder River Basin Oil and Gas Project (PRB FEIS), WY-070-02-065, 2003, and the PRB FEIS Record of Decision (ROD) pursuant to 40 CFR 1508.28 and 1502.21. One may review these documents at the BLM Buffalo Field Office (BFO) and on our website.

1.1. Background

True Oil, LLC (True) assumed the oil well, High Road Federal 43-23 (HR 43-23), notice of staking (NOS) that Double Eagle Petroleum Company (Double Eagle) submitted on March 16, 2011. Under separate cover from Double Eagle, BLM received notification of change of operator on June 3, 2011 stating that True was official operator for the HR 43-23 well. BLM and True performed the onsite on June 15 and 20, 2011 to evaluate the proposal and modify as necessary to alleviate environmental impacts. True submitted the High Road 43-23 (HR 43-23) application for permit to drill (APD) on July 18, 2011.

BLM sent a post onsite deficiency letter to True on September 14, 2011. True replied to the deficiencies on September 19 and 26, 2011. BLM followed-up on October 6, 2011 by addressing outstanding deficiencies. Multiple phone conversations and email transmissions continued between True and BLM concerning onshore order deficiencies with the surface use plan from October 6 to October 28, 2011 at which time parties resolved the deficiencies. Standard split estate jurisdictional rules apply to this APD.

1.2. Need for the Proposed Project

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

1.3. Decision to be Made

The BLM will decide whether or not to approve the proposed development, and if so, under what terms and conditions to comport with the Bureau's multiple use mandate, environmental protection, and RMP. BLM processed this APD via an EA in order to same time since the EA began prior to the August 2011 decision by the Federal District Court for the District of Wyoming.

1.4. Scoping and Issues

The BFO limited external scoping on this EA to its timely publication on the BFO website. Previously BFO conducted extensive external scoping for the PRB FEIS - discussed on p. 2-1 of the PRB FEIS and on p. 15 of the PRB ROD. This project is similar in scope to other fluid mineral development analyzed by the BFO. External scoping would be unlikely to identify new issues, as verified by the few fluid mineral EAs that were recently externally scoped such as the Clabaugh (WY-070-EA08-134) and Hollcroft/Stotts Draw (WY-070-EA07-021). Recent external scoping in 2010 and 2011 for a geographically-focused proposed RMP amendment revealed no new issues outside of the geographically-specific issues.

The BFO interdisciplinary team (ID team) conducted internal scoping by reviewing the proposed

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

Soils and vegetation (site stability and reclamation potential) Wildlife
Air Quality

These issues are not present, or minimally so, and were analyzed in the EIS and not analyzed in this EA:

Geological resources	Forest, lands, realty	Fire, fuels management, and rehabilitation
Water resources	Renewable energy	Minerals (locatable, leasable-coal, salable)
Cave and karst resources	Rights-of-way	Wilderness characteristics
Visual resources	Transportation	Areas of critical environmental concern (ACEC)
Tribal Treaty rights	Livestock grazing	Social and economic resources
Paleontology	Wild and scenic rivers	Environmental justice
Wilderness study areas	Cultural (National Register eligible sites)	

2. PROPOSED PROJECT AND ALTERNATIVES

2.1. Alternative A - No Action

The PRB FEIS considered a No Action Alternative, Volume 1, pp. 2-54 to 2-62. This alternative must also consider and combine the PRB FEIS analysis with the subsequent analysis and development from the adjacent and intermingled conventional wells: There are 12 producing oil wells (POW) per the Wyoming Oil & Gas Conservation Commission (WOGCC) November 2, 2011 within a 4 mile area of this proposed project. This comports to the PRB FEIS which analyzed the reasonably foreseeable development rolling across the PRB of over 51,000 gas and 3,200 oil wells. The no action alternative would consist of no new federal wells. This alternative would deny this APD requiring the operator to resubmit an APD that complies with statutes and the reasonable measures in the PRB RMP ROD in order to lawfully exercise conditional lease rights. This alternative could, through secretarial discretion suspend the senior leasehold, or could administratively cancel or withdraw the lease if improperly awarded, or seek to cancel the lease. It is not possible in the abstract to identify every interest and that is beyond the scope here.

2.2. Alternative B Proposed Action

Project Name: High Road Federal 43-23 (HR 43-23)

The proposed project is to drill and develop an oil well in Campbell County, Wyoming. The project would be subject to the conditions-of-approval (COAs) for drilling of a split estate oil well in the BFO jurisdiction. For a detailed description of design features and construction practices associated with the proposed project, refer to the APD's surface use plan (SUP) and drilling plan. Also see the subject APD for maps showing the proposed well location and associated facilities for the HR 43-23 well.

WELL NAME	WELL #	LEASE #	TWN	RNG	SEC	QQ	COUNTY
High Road Federal	43-23	WYW153100	48N	70W	23	NESE	Campbell

The proposed well involves the following summary of disturbance*:

FACILITY	AREA/MILEAGE	FACTOR	DISTURBANCE (DURATION
Well Pad	150'x125'	N/A	1.83 acres	Long Term

FACILITY	AREA/MILEAGE	FACTOR	DISTURBANCE (DURATION
Improved/Upgraded Roads	2.9 miles	16.5'/30' total	No new	Long Term
Pipeline	N/A	N/A	N/A	N/A

*Combined project area disturbance, including well pad, production facilities and associated roads to the site is 5.4 acres.

Operator/Applicant: True Oil, LLC (True)

Surface Owners: Pickrel Land and Cattle Co. Refer to the SUP for contact information.

The proposed well location requires the construction of 1 engineered (cut & fill) well pad. For further detail refer to the disturbance table above for specific disturbance values and the APD in the SUP for diagrams and associated maps.

The access road to the location will use an existing road network. Improvements will be made where necessary to meet the standards outlined in the BLM's Gold Book road standards section. Approximately 2.9 miles of road will be graded, crowned and ditched with a running surface of 16.5 feet for a total width of 30 feet. The road grade will not exceed 8% and no turnouts will be needed. Culverts will be installed where needed, replaced if existing and needed, and maintained to ensure adequate drainage. The locations of culverts are depicted on the map supplied with the APD. All production facilities (tank battery, treater) will be located on the well pad within a disturbance area of 1.83 acres. A production pit will not be needed, nor will one be applied for.

There are no overhead power lines in the project area or adjacent areas. Power will be supplied to the well through the use of a diesel powered generator. The capacity, noise output, and anticipated number of visits required for servicing the generator will be determined when the well is completed and proven. Oil will be trucked off the location and no pipelines are anticipated at this time.

Drilling and construction activities are anticipated to be completed within 2 years, the term of an APD. Drilling and construction occurs year-round in the PRB. Weather may cause delays lasting several days, but rarely do delays last multiple weeks. Timing limitations in the form of COAs and/or agreements with surface owners may impose longer temporal restrictions of this project.

Implementation of committed mitigation measures contained in the SUP and drilling plan, in addition to the COAs in the PRB FEIS ROD, are incorporated and analyzed in this alternative.

Additionally, the Operator, in their APD, 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 certified he has a surface use agreement with the landowner or bonded and that a copy of the surface use plan was provided to the relevant landowner(s).
4. Maintain the access road throughout the life of the project, to include but not limited to, cleaning out, installing and replacing culverts as needed.
5. Apply gravel to the access road.
6. Confine all equipment and vehicles to the access road and areas shown in the APD.
7. Reduce the size of the well pad to accommodate production facilities.
8. Reclaim disturbed areas no longer needed for operations and fence off said area to help establish a seed bed. This includes both interim and final reclamation.
9. Line the reserve pit.
10. No overhead power will be installed.
11. Conform to additional mitigations measures outlined in the HR 43-23 Surface Use Plan, Reclamation Plan and Integrated Weed and Pest Management Plan.

Description of Proposed Mitigation Measures:

Implementation of committed mitigation measures contained in the surface use plan of operations and drilling plan, in addition to the attached COAs, would ensure that no adverse environmental impacts would result from approval of the proposed action.

2.3. Alternatives Considered but Eliminated from Detailed Analysis

During the onsite it was suggested to relocate the HR 43-23 well to a large open area 1,500 feet north, where BLM identified a plugged and abandoned (P&A) well marker. True informed BLM during follow up communication that even though the location is in the same lease boundary, the area is historically known to have buried lines and related infrastructure that would likely result in additional surface disturbance and damage during construction related to HR 43-23 well infrastructure. Relocating the proposed HR 43-23 well north to the identified location would likely not result in fewer disturbances and therefore was eliminated from further detailed analysis.

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

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

3. AFFECTED ENVIRONMENT

This section briefly describes the environment affected by implementation of the alternatives in Section 2. Aspects of the affected environment here focus on the major issues. Resources unaffected, or not affected beyond the level analyzed in the PRB FEIS, are outside the scope of this EA.

Project Area Description

The project area is 15 miles southeast of Gillette, WY and 10 miles south of Rozet, WY. To access the location, drive south from Gillette on US HWY 59 for 7.8 miles and turn east on Four Corners Road for approximately 9.3 miles. Continue east past the McGee Ranch road, for another 5.3 miles and head south on the access road leading to the HR 43-23 location. The proposed project includes an area of approximately 5.4 acres. Elevations are about 4,700 to 4,800 feet above sea level. Topography ranges from rolling grass lands to heavily wooded ponderosa and juniper vegetated hills with a few scattered cottonwoods along the creek bottom. The well site is located on a flat ridge, topography slopes to the west and east on both sides of the location. Tributaries below the location drain to Cabin Canyon Creek. Cabin Canyon Creek and its tributaries flow to the Belle Fourche River, to the southeast of the project area. The project area is managed as multiple use; rangeland with livestock grazing and oil and gas development.

3.1. Soils and Vegetation

Ecological site descriptions provide soils and vegetation information needed for resource identification, management, and reclamation recommendations. 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 inches Northern Plains precipitation zone, verified through onsite field reconnaissance, the project area predominantly consists of Shallow Loamy (SwLy10-14NP) ecological sites, for the disturbed portions of the proposed well pad and along the existing access route. The side slopes adjacent to the well pad and access route, which will be avoided, were identified as Badland Complex.

Shallow Loamy (SwLy) 10-14 NP site description and plant community

The landforms of this site occur on steep slopes and ridge tops, but may occur on all slopes such as hill sides, ridges & escarpments. The soils of this site are shallow (less than 20 inches 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, low water holding capacity, and high wind erosion potential. The low annual precipitation should be considered when planning a seeding. For detailed soil information, see the NRCS Soil Survey WY605.

Plant communities found in the APD area, identified along the edges of the ridge tops and side slopes of the ridges, consisted of juniper/rhizomatous wheatgrass. Historically, this plant community evolved under grazing by bison and a high fire frequency. Currently, it is found under moderate, season-long grazing by livestock in the absence of fire or brush control. Wyoming big sagebrush, junipers, and conifers are significant components of this plant community. Cool-season grasses make up the majority of the understory with the balance made up of short warm-season grasses, annual cool-season grass, and miscellaneous forbs. Dominant grasses include rhizomatous wheatgrasses, plains muhly, and blue grama. Grasses of secondary importance include little bluestem, prairie junegrass, Sandberg bluegrass and cheatgrass. Forbs, commonly found in this plant community, include Louisiana sagewort (cudweed), plains wallflower, hairy goldaster, prairie thermopsis, and scarlet globemallow. Wyoming big sagebrush canopy ranges from 20% to 30%. Juniper and conifer canopy ranges up to 20%. Fringed sagewort is commonly found. Plains pricklypear can also occur. When compared to the Historical Climax Plant Community, Wyoming big sagebrush, junipers and conifers have increased. Bluebunch wheatgrass has decreased, often occurring only where protected from grazing by the sagebrush canopy. Production of cool-season grasses has also been reduced. Cheatgrass (downy brome) has invaded. The overstory of Wyoming big sagebrush, juniper, conifers, and understory of grass and forbs provide a diverse plant community which will support domestic livestock and wildlife such as mule deer and antelope.

Using the same NRCS dataset for the reclamation potential for the project area has a category of “fair”. Field observations of reclaimed oil/gas infrastructure and interim reclamation of active oil/gas infrastructure showed well established vegetation with stable cut/fill slopes.

3.1.1. Soils Susceptible to Erosion

Loss of productivity is likely to occur on most soils if erosion continues unchecked. Because soil formation is a very slow process, most soils cannot renew their eroded surface while erosion continues. The development of a favorable rooting zone by the weathering of parent rock is much slower than development of the surface horizon. One estimate of this renewal rate is 0.5 ton per acre per year for unconsolidated parent materials and much less for consolidated materials. These very slow renewal rates support the philosophy that any soil erosion is too much. Loss of organic matter, resulting from erosion and tillage, is one of the primary causes for reduction in production yields. When organic matter decreases, soil aggregate stability, the soil’s ability to hold moisture, and the cation exchange capacity decline. (Soil Quality-Agronomy Technical Note #7, USDA, Aug 1998).

3.2. Leasable Minerals - Fluids

The area has historic oil exploration and production. There are 12 producing oil wells (POW) in the 4 mile-consideration of cumulative affects area (WOGCC) as of (November 2, 2011), Table 3.1.

Table 3.1. Adjacent or Overlapping Oil Development

OPERATOR	WELL NAME	WELL #	TWN	RNG	SEC	Q1	Q2	LEASE #	STATUS
Marlin Oil Company LLC	Burnor	1	48N	70W	16	SE	SW	ST 09-00235	POW
Marlin Oil Company LLC	Federal	24-23	48N	70W	23	NE	SW	WYW87390	POW

Table 3.1. Adjacent or Overlapping Oil Development

Marlin Oil Company LLC	Bishop Ranch	24-23	48N	70W	23	SE	SW	WYW42347A	POW
National Pride Operating	Bishop	3-6	47N	69W	6	NW	NW	WYW61818	POW
National Pride Operating	Bishop W-461818	1-6	47N	69W	6	NE	NW	WYW61818	POW
National Pride Operating	Bishop Ranch South	4-31	48N	69W	31	SE	SW	WYW56564	POW
National Pride Operating	STATE 62-13019A	1	48N	70W	36	NW	NE	62-13019A	POW
Ranch Oil Company	Nora M. Pickrel	44-13	48N	70W	13	SE	SE	PICKREL	POW
Rim Operating Inc	Ellis	14-24	48N	70W	24	SW	SW	WYW130392	POW
Samson Oil & Gas USA Inc	Pierce W-60839	44-27	48N	70W	27	SE	SE	WYW60839	POW
Seer Operating LLC	Scott	29-1R	48N	69W	29	NW	NE		POW
Slawson Exploration Company Inc	New Orleans	1-12	48N	70W	12	NW	SW	WYW122656	POW

3.3. Wetlands/Riparian

Produced oil will be stored on location and hauled off by trucks on existing road networks. This proposal impacts no wetland or riparian areas.

3.4. Invasive Species

BLM found no state-listed noxious weeds and invasive/exotic plant infestations in a search of inventory maps and/or databases or during subsequent field investigation by the proposed project proponent. The operator in their Integrated Weed and Pest Management Plan did identify within the surveyed areas the following weeds of concern: Canada thistle, musk thistle, leafy spurge.

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

3.5. Wildlife (Fish and Wildlife)

The BFO and True Oil consulted several resources to identify wildlife species that may occur in the proposed project area. Resources included the wildlife database compiled and managed by the BFO wildlife biologists, the PRB FEIS, the Wyoming Game and Fish Department (WGFD) big game and sage-grouse maps, and the Wyoming Natural Diversity Database (WYNDD).

Taylor Environmental Consulting (Taylor) performed a habitat assessment and wildlife inventory surveys. Taylor surveyed for mountain plover, sharp-tailed grouse, greater sage-grouse, bald eagles, raptor nests, and prairie dog colonies in 2011 (Taylor 2011). Taylor conducted all surveys according to the PRB Interagency Working Group's protocols, available on the BFO internet website at: http://www.blm.gov/wy/st/en/field_offices/Bufalo/wildlife.html.

WGFD is responsible for management of wildlife populations in the state of Wyoming. WGFD developed several guidance documents that BLM BFO wildlife staff relies upon in evaluating impacts to wildlife and wildlife habitats. WGFD documents used to analyze the proposed project under the current analysis are referenced in this section. PRB FEIS identified wildlife species occurring in the PRB, pp. 3-113 to 3-206. BLM wildlife biologists performed a habitat assessment in the project area on 6/15/2011. The biologist evaluated impacts to wildlife resources and recommended project modifications where wildlife issues arose. BLM wildlife biologists also consulted databases compiled and managed by BLM BFO wildlife staff, the PRB FEIS, WGFD datasets, and WYNDD to evaluate the affected environment for

wildlife species that may occur in the project area. This section describes the affected environment and impacts to wildlife known or likely to occur in the area of the proposed project.

3.5.1. Threatened, Endangered, Proposed, and Candidate Species

3.5.1.1. Threatened and Endangered Species

3.5.1.1.1. Ute Ladies'-Tresses Orchid

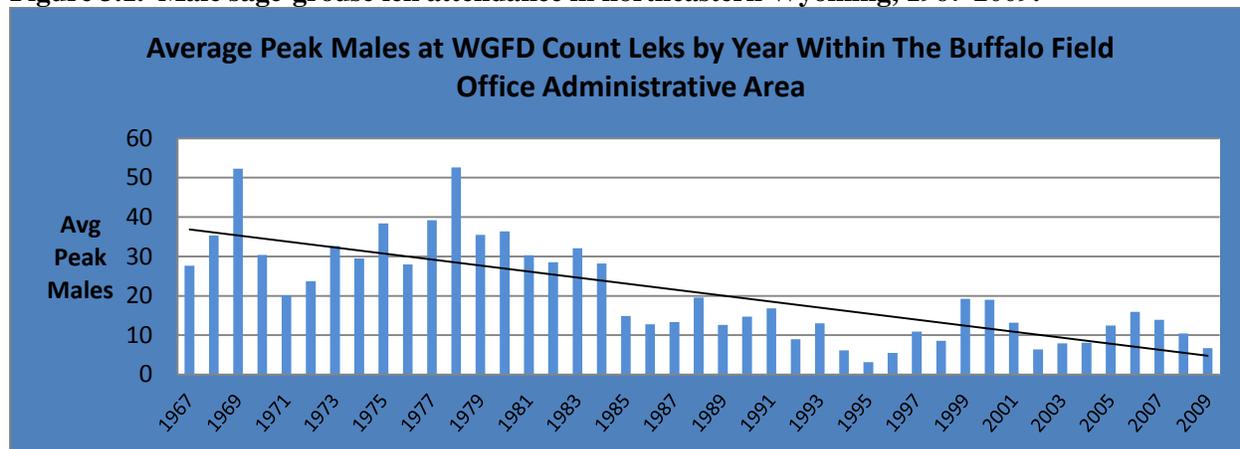
The Ute ladies'-tresses orchid (ULT) is a threatened species under the ESA. The project area is in an upland location and does not contain ULT habitat, see the PRB FEIS, p. 3-175.

3.5.1.2. Candidate Species

3.5.1.2.1. Greater Sage-Grouse

The U.S. Fish and Wildlife Service (FWS) determined that the greater sage-grouse (sage-grouse) warrants federal listing as threatened or endangered across its range, but precluded listing due to other higher priority listing actions, 75 Fed. Reg. 13910 to 14014, Mar. 23, 2010; 75 Fed. Reg. 69222 to 69294, Nov. 10, 2010. Sage-grouse are a WY BLM SSS and a WGFD species of greatest conservation need, because populations are declining and they are experiencing ongoing habitat loss. The Wyoming Bird Conservation Plan rates them as a Level I species, indicating they are clearly in need of conservation action. Sage-grouse are also a Bird of Conservation Concern BCC for FWS Region 17. The PRB FEIS addressed the affected environment for sage-grouse, pp. 3-194 to 3-199.

Figure 3.1. Male sage-grouse lek attendance in northeastern Wyoming, 1967-2009.



The State Wildlife Agencies’ Ad Hoc Committee for Consideration of Oil and Gas Development Effects to Nesting Habitat (2008) recommends that impacts to leks occur within 4 miles of oil and gas developments. WGFD records show 3 sage-grouse leks occur within 4 miles of the APD area, Table 3.2. Suitable sage-grouse habitat is not present in the disturbance area. The area consists of ponderosa and juniper vegetated ridges.

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

Lek Name	Legal Location	Distance from HR 43-23	Occupied
38-Enyard	NESE S33 T48N R70W	3.2 mile	Yes
38-Hampshire Cntrl	NWNE S15 T48N R70W	1.5 mile	Yes
38-Yellowhammer	SESW S35 T48N R70W	3.0	Yes

3.5.2. Big Game

Biologists observed both pronghorn and mule deer during field visits to the project area. WGFD data

indicate that the HR 43-23 oil well contains yearlong habitat for both species as well as winter-yearlong for mule deer. The PRB FEIS discussed the affected environment for pronghorn on pp. 3-117 to 3-122, and for mule deer on pp. 3-127 to 3-132. The project area intersects two WGFD hunt areas for pronghorn (752) and mule deer (752). Populations of pronghorn antelope and mule deer in their respective hunt areas are above WGFD objectives. Yearlong use is when a population of animals makes general use of suitable documented habitat sites within the range on a year round basis. Animals may leave the area under severe conditions. Big game range maps are available in the PRB FEIS (pp. 3-119 to 3-143), the project file, and from the WGFD. The current big game range maps are available from WGFD.

3.5.3. Migratory Birds

The PRB FEIS discussed the affected environment for migratory birds on pp. 3-150 to 3-153. Migratory birds are birds that migrate for breeding and foraging at some point in the year. The BLM-FWS MOU (2010) promotes the conservation of migratory birds, as directed through Executive Order 13186 (Federal Register V. 66, No. 11). BLM must include migratory birds in every NEPA analysis of actions that have potential to affect migratory bird species of concern to fulfill obligations under the Migratory Bird Treaty Act. The MBTA (and Bald and Golden Eagle Protection Act (BGEPA) are strict liability statutes so no intent is required to harm migratory birds through prosecuting a taking. Recent prosecutions or settlements in Wyoming or the west cost companies millions in fines and restitution (which was usually retrofitting powerlines to discourage perching to minimize electrocution or shielding ponds holding toxic substances). BLM encourages voluntary design features and conservation measures that comport with those in the programmatic mitigation in Appendix A of the PRB ROD (2003).

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

Shrub-steppe vegetation dominates portions of the access road into the project. The well pad is in an ecosystem dominated by pinion juniper and ponderosa pine trees. Nationally, grassland and shrubland birds declined more consistently in the last 30 years than any other ecological association of birds (WGFD 2009). Species that may occur in these vegetation types in northeast Wyoming, according to the Wyoming Bird Conservation Plan, appear in Table 3.3, grouped by level as identified in the plan.

Table 3.3. Migratory bird species occurring in shrub-steppe habitat, NE Wyoming (Nicholoff 2003)

Level	Species	Wyoming BLM Sensitive
Level I	Brewer's sparrow	Yes
	Ferruginous hawk	Yes
	Greater sage-grouse	Yes
	McCown's longspur	No
	Sage sparrow	Yes
Level II	Lark bunting	No
	Lark sparrow	No
	Loggerhead shrike	Yes
	Sage thrasher	Yes
	Vesper sparrow	No
Level III	Common poorwill	No
	Say's phoebe	No

The PRB FEIS discussion included habitat requirements and foraging patterns for the species listed above, with the exception of common poorwills and Say's phoebes, addressed below. Common poorwills

inhabit sparse, rocky sagebrush; open prairies; mountain-foothills shrublands; juniper woodlands; brushy, rocky canyons; and ponderosa pine woods. They prefer clearings, like grassy meadows, riparian zones, and forest edges for foraging. They lay eggs directly on gravelly ground, flat rock, or litter of woodland floor. Nests are often near logs, rocks, shrubs, or grass for some shade. They feed exclusively on insects. Say's phoebes inhabit arid, open country with sparse vegetation, including shrub-steppe, grasslands, shrublands, and juniper woodlands. They nest on cliff ledges, banks, bridges, eaves, and road culverts and often reuse nests in successive years. They eat mostly insects and berries.

The project has no anticipated effects to migratory birds.

3.5.3.1. Raptors

The PRB FEIS discussed the affected environment for raptors, pp. 3-141 to 3-148. During the 2011 survey period, Taylor documented one raven nest located about 0.5 miles from the well (Taylor 2011). The project has no anticipated effects to raptors.

3.5.3.2. 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. No known sharp-tailed leks occur within 4 miles of the project, thus no effects are anticipated to the species.

3.5.4. Special Status Species (SSS) – Plants, Fish, and Wildlife

Wyoming BLM annually updates its list of SSS to focus management to maintain habitats to preclude listing as a threatened or endangered species. The policy goals are:

- Maintaining vulnerable species and habitat components in functional BLM ecosystems
- Ensuring sensitive species are considered in land management decisions
- Preventing a need for species listing under the Endangered Species Act (ESA)
- Prioritizing needed conservation work with an emphasis on habitat

Table A.3 lists SSS that may occur in the project area. The Table also includes a brief description of the habitat requirements for each species. The authority for the SSS comes from the ESA, as amended; Title II of the Sikes Act, as amended; the FLPMA; Department Manual 235.1.1A, and BLM Manual 6840.

3.6. Cultural Resources

BLM performed a Class III cultural resource inventory for the HR 43-23 well prior to on-the-ground work (BFO project no. 70110090). BLM conducted a class III cultural resource inventory following the Archeology and Historic Preservation, Secretary of the Interior's Standards and Guidelines (48CFR190) and the Wyoming State Historic Preservation Office Format, Guidelines, and Standards for Class II and III Reports. Seth Lambert, BLM Archaeologist, reviewed the report for technical adequacy, BLM compliance, and determined it adequate. The area of project effects had no cultural resources.

3.7. Wilderness Characteristics

The proposed project area lacks wilderness characteristics as there is no federal surface.

3.8. Air Quality

Existing air quality in most of the PRB is in attainment with all ambient air quality standards. However specific air quality presents a knowledge gap as monitoring does not occur throughout most of the PRB. PRB air quality is a rising concern due to ozone in the oil and gas producing Upper Green River Basin that exceeded EPA limits for 13 days in 2011.

Existing air pollutant emission sources in the region include:

- Exhaust emissions (primarily CO and nitrogen oxides [NO_x]) 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_x, particulate matter, and other emissions from diesel trains and,
- SO₂ and NO_x from power plants.

Refer to the PRB Final EIS Vol. 1, Chap. 3, pp. 3-291 to 3-299, for a complete description of the existing air quality conditions in the PRB as of 2003.

4. ENVIRONMENTAL EFFECTS

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

4.1. Alternative B

Alternative B is the proposal for a POD with 1 APD, High Road Federal 43-23 (HR 43-23) well.

4.2. Soils & Vegetation

4.2.1. Direct and Indirect Effects

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

-Mixing of horizons – occurs where construction on roads, or other activities take place. Mixing may result in removal or relocation of organic matter and nutrients to depths where it would be unavailable for vegetative use. Soils which are more susceptible to wind and water erosion may be moved to the surface. Soil structure may be destroyed, which may impact infiltration rates. Less desirable inorganic compounds such as carbonates, salts, or weathered materials may be relocated and have a negative impact on revegetation. This drastically disturbed site may change the ecological integrity of the site and the recommended seed mix.

-Loss of soil vegetation cover, biologic crusts, organic matter and productivity. With expedient reclamation, productivity and stability should be regained in the shortest time frame.

-Soil erosion would also affect soil health and productivity. Erosion rates are site specific and are dependent on soil, climate, topography and cover.

-Soil compaction – the collapse of soil pores results in decreased infiltration and increased erosion potential. Factors affecting compaction include soil texture, moisture, organic matter, clay content and type, pressure exerted, and the number of passes by vehicle traffic or machinery. Compaction may be remediated by plowing or ripping.

-Modification of hill slope hydrology - an important component of soils in Wyoming's semiarid rangelands, especially in the Wyoming big sagebrush cover type, are biological soil crusts, or cryptogamic soils that occupy ground area not covered with vascular plants. Biological soil crusts are predominantly composed of cyanobacteria, green and brown algae, mosses and lichens. They are

important in maintaining soil stability, controlling erosion, fixing nitrogen, providing nutrients to vascular plants, increasing precipitation infiltration rates, and providing suitable seed beds (BLM 2003). They are adapted to growing in severe climates; however, they take many years to develop (20 to 100) and can be easily disturbed or destroyed by surface disturbances associated with construction activities.

These impacts, singly or in combination, would increase the potential for valuable soil loss due to increased water and wind erosion, invasive/noxious/poisonous plant spread, invasion and establishment, and increased sedimentation and salt loads to the watershed system.

Direct effects (removal and/or compaction) to vegetation would occur from ground disturbance caused by drilling rig equipment and construction of a well pads, tank batteries and roads. Short term effects would occur where vegetated areas are disturbed but later reclaimed within 1 to 3 years of the initial disturbance. Long-term effects would occur where well pads, compressor stations, roads, water-handling facilities or other semi-permanent facilities may result in loss of vegetation and affect reclamation success for the life of the project.

4.2.1.1. Soils Susceptible to Erosion

Loamy Ecological Sites Susceptible to Erosion: HR 43-23 Engineered Well Pad/access road (T48N, R70W, Sec. 23 NESE) will impact 1.83 acres during drilling and construction of shallow ecological sites and will require expedient reclamation. This shallow soil was found at the BLM/Operator onsite on portions of the proposed location and access with topsoil depths averaging 2-4 inches. The dominant vegetation included; bluebunch wheatgrass, rhizomatous wheatgrass, blue grama, and little bluestem. Other grasses occurring on the state include Cusick's and Sandberg bluegrass, and prairie junegrass. Cheatgrass has invaded the state. Other vegetative species identified at onsite include: pricklypear and fringed sagewort. Without proper and timely re-vegetation practices the shallow soils readily erode due to wind and water action. The invasion of prickly pear and cheat grass indicates some deterioration from identified transition state. Wind and water erosion could be high since there is little to no depth or organic matter in the soil. Reclamation will be difficult without extra mitigation. A COA will be applied to insure that the surface is stabilized to protect from wind/water erosion within 30 days.

4.2.1.2. Cumulative Effects

The designation of the duration of disturbance is defined in the PRB FEIS, pp. 4-1 and 4-15. Most soil disturbances would be short term impacts with expedient interim reclamation and site stabilization, as committed to by the operator in their POD Surface Use Plan and as required by the BLM in COAs.

Geomorphic effects of roads and other surface disturbance range from chronic and long-term contributions of sediment into waters of the state to catastrophic effects associated with mass failures of road fill material during large storms. Roads can affect geomorphic processes primarily by: accelerating erosion from the road surface and prism itself through mass failures and surface erosion processes; directly affecting stream channel structure and geometry; altering surface flow paths, leading to diversion or extension of channels onto previously unchannelized portions of the landscape; and causing interactions among water, sediment, and debris at road-stream crossings.

These impacts, singly or in combination, could increase the potential for valuable soil loss due to increased water and wind erosion, invasive/noxious/poisonous plant spread, invasion and establishment, and increased sedimentation and salt loads to the watershed system.

4.2.1.3. Mitigation Measures

The operator will follow the guidance provided in the Operated Committed Measures, COAs and the reclamation guidelines in Appendix B. The reclamation guidelines apply to all surface disturbing activities. Due to potential erosion from surface disturbance, stabilization must be completed within 30-

days of initiating construction of the HR 43-23 well pad location. Authorizations for surface disturbing actions are based upon the assumptions that an area can and ultimately will be successfully reclaimed. BLM reclamation goals emphasize eventual ecosystem reconstruction, which means returning the land to a condition approximate to an approved “Reference Site” or NRCS Ecological Site Transition State. Final reclamation measures are used to achieve this goal. BLM reclamation goals also include the short-term goal of quickly stabilizing disturbed areas to protect both disturbed and adjacent undisturbed areas from unnecessary degradation. Interim reclamation measures are used to achieve this short-term goal.

4.2.1.4. Residual Effects

Due to the presence of erosive soils and the topography of the project area erosion will occur. Rilling and gullyng of cut and fill slopes on, access/utility corridors, will take place. Impacts from livestock to stabilized cut and fill slopes will limit soils becoming stable and getting vegetation establish.

Residual Effects were also identified in the PRB FEIS at p. 4-408 such as the loss of vegetative cover despite expedient reclamation, for several years until reclamation is successfully established. Refer to Table 2.2 for a summary of disturbance.

The designation of the duration of disturbance is defined in the PRB FEIS (pp. 4-1 and 4-151). “For this EIS, short-term effects are defined as occurring during the construction and drilling/completion phases. Long-term effects are caused by construction and operations that would remain longer”.

Impacts to vegetation and soils from surface disturbance will be reduced, by following the operator’s plans and BLM applied mitigation. Construction of new access roads has been reduced by placing the well location such that existing oil/gas access roads are used. This practice results in less surface disturbance and overall environmental impacts.

See section 2.2 for summary of disturbance. All disturbances associated with the proposed action are long term. With the reclamation status of the project area being rated as fair and field observations showing areas of reclamation success expedient reclamation of disturbed land with stockpiled topsoil, proper seedbed preparation techniques, and appropriate seed mixes, along with utilization of erosion control measures (e.g., waterbars, water wings, culverts, rip-rap, gabions etc.) would ensure land productivity/stability is regained and maximized.

4.3. Invasive Species

4.3.1. Direct and Indirect Effects

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

4.3.2. Cumulative Effects

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.

4.3.3. Mitigation Measures

The operator committed to the control of noxious weeds and species of concern using a combination of control measures, identified in their Integrated Pest Management Plan (IPMP), as Control Methods.

4.3.4. Residual Effects

Control efforts by the operator are limited to the surface disturbance associated with the project.

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

4.4. Wildlife (Fish and Wildlife)

4.4.1. Wildlife Threatened, Endangered, Proposed and Candidate Species

4.4.1.1. Threatened and Endangered Species

4.4.1.1.1. Ute Ladies'-Tresses Orchid

The project will have “no effect” on ULT individuals or habitat.

4.4.1.2. Candidate Species

4.4.1.2.1. Greater Sage-grouse

4.4.1.2.1.1. Direct and Indirect Effects

The PRB FEIS discussed direct and indirect effects to sage-grouse (pp. 4-257 to 4-271).

4.4.1.2.1.2. Cumulative Effects

The PRB FEIS (BLM 2003) reads that “the synergistic effect of several impacts would likely result in a downward trend for the sage-grouse population, and may contribute to the array of cumulative effects that may lead to its federal listing. Local populations may be extirpated in areas of concentrated development, but viability across the PRB or the entire range of the species is not likely to be compromised” p. 4-270.

4.4.1.2.1.3. Mitigation Measures

BLM recommends no further mitigation measures.

4.4.1.2.1.4. Residual Effects

None identified.

4.4.2. Big Game

4.4.2.1. Direct and Indirect Effects

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

4.4.2.2. Cumulative Effects

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

4.4.2.3. Mitigation Measures

BLM recommends no further mitigation measures.

4.4.2.4. Residual Effects

None identified.

4.4.2.5. Air Quality

4.4.2.5.1. Direct and Indirect Effects

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-CBNG well production equipment, booster and pipeline compression engine exhaust).

4.4.2.5.2. Cumulative Effects

The PRB FEIS analyzed the cumulative effects associated with air quality, p. 4-386.

4.4.2.5.3. Mitigation Measures

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.

4.4.2.5.4. Residual Effects

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.

4.4.2.6. Cultural Resources

4.4.2.6.1. Direct and Indirect Effects

The proposed well will not impact any historic properties. Following the Wyoming State Protocol Section VI(A)(1) the BLM electronically notified the Wyoming State Historic Preservation Officer (SHPO) on August 31, 2011 that no historic properties exist in the area of project effects. If any cultural values [sites, artifacts, human remains (Appendix L PRB FEIS and ROD)] are observed during operation of this lease/permit/right-of-way, they will be left intact and the Buffalo Field Manager notified. The Standard COA (General)(A)(1) explains further discovery procedures.

4.4.2.6.2. Cumulative Effects

Construction and development of oil and gas resources impacts cultural resources through ground disturbance, unauthorized collection, and visual intrusion of the setting of historic properties. This results in fewer archaeological resources available for study of past human life-ways, changes in human behavior through time, and interpreting the past to the public. Additionally, these impacts may compromise the aspects of integrity that make a historic property eligible for the National Register of Historic Places. Recording and archiving basic information about archaeological sites and the potential for subsurface cultural materials in the proposed project area serve to partially mitigate potential cumulative effects to cultural resources.

Fee actions constructed in support of federal actions can result in impacts to historic properties. Construction of large plans of coalbed natural gas development on split estate often include associated infrastructure that is not permitted through BLM. Project applicants may connect wells draining fee minerals, or previously constructed pipelines on fee surface with a federal plan of development. BLM has no authority over such development which can impact historic properties. BLM has the authority to modify or deny approval of federal undertakings on private surface, but that authority is limited to the extent of the federal approval. Historic properties on private surface belong to the surface owner and they are not obligated to preserve or protect them. The BLM may go to great lengths to protect a site on private surface from a federal undertaking, but the same site can be legally impacted by the landowner at any time. The cumulative effect of numerous federal approvals can result in impacts to historic properties. Archeological inventories reveal the location of sites and although the BLM goes to great lengths to protect site location data, information can potentially get into the wrong hands. BLM authorizations that result in new access can inadvertently lead to impacts to sites from increased visitation by the public.

4.4.2.6.3. Mitigation Measures

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

4.4.2.6.4. Residual Effects

During the construction phase, there will be numerous crews working across the project area using heavy construction equipment without the presence of archaeological monitors. Due to the extent of work and the surface disturbance caused by large vehicles, it is possible that unidentified cultural resources can be damaged by construction activities. The increased human presence associated with the construction phase can also lead to unauthorized collection of artifacts or vandalism of historic properties.

5. CONSULTATION/COORDINATION:

Contact	Title	Organization	Onsite Presence?
Ray Stott	NRS	BLM	Yes
Scott Jawors	Biologist	BLM	Yes
Seth Lambert	Archaeologist	BLM	Yes
Pauline Schuette	Biologist	USFWS	Yes
Rev Morton	Landman	True Oil	Yes
Jay Dee Hacklin	Construction	Quality Agg & Construction, Inc.	Yes
Pickrel Land & Cattle Co.	Surface Owner	Surface Owner	No

6. REFERENCES AND AUTHORITIES:

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

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

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

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

Wyoming Game and Fish Department (WGFD). 2004. Minimum Recommendations for Development of Oil and Gas Resources within Crucial and Important Wildlife Habitats on BLM Lands. WGFD. Cheyenne, WY.

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Wyoming Game and Fish Department (WGFD). 2009. Minimum Recommendations for Development of Oil and Gas Resources within Crucial and Important Wildlife Habitats on BLM Lands. WGFD. Cheyenne, WY.

Taylor, Environmental Consulting LLC, 2011: True Oil LLC, HR 43-23

7. REVIEWERS

Ray Stott, Natural Resource Specialist and Lead
Casey Freise, Supervisory Natural Resource Specialist
Karen Klaashen, Legal Instruments Examiner
Darci Stafford, Wildlife Biologist
John Kelley, Planning & Environmental Coordinator
Chris Durham, Assistant Field Manager, Resources

Matt Warren, Petroleum Engineer
Seth Lambert, Archaeologist
Scott Jawors, Wildlife Biologist
Kerry Aggen, Geologist
Duane Spencer, Field Manager

Appendix A: RECLAMATION REQUIREMENTS, WY BLM

The following Reclamation Requirements apply to all surface disturbing activities, including BLM initiated activities, and must be addressed in each reclamation plan. These requirements also must be met prior to release of the bond and/or the reclamation liability. Where these Reclamation Requirements differ from other applicable federal, laws, rules, and regulations, those requirements supersede this policy. State and/or local statutes or regulations may also apply.

1. Manage all waste materials:

- a. Segregate, treat, and/or bio-remediate contaminated soil material.
- b. Bury only authorized waste materials on site. Buried material must be covered with a minimum of three feet of suitable material or meet other program standards.
- c. Ensure all waste materials moved off-site are transported to an authorized disposal facility.

2. Ensure subsurface integrity, and eliminate sources of ground and surface water contamination.

- a. Properly plug all drill holes and other subsurface openings (mine shafts, adits etc.).
- b. Stabilize, properly back fill, cap, and/or restrict from entry all open shafts, underground workings, and other openings.
- c. Control sources of contamination and implement best management practices to protect surface and ground water quality.

3. Re-establish slope stability, surface stability, and desired topographic diversity.

- a. Reconstruct the landscape to the approximate original contour or consistent with the land use plan.
- b. Maximize geomorphic stability and topographic diversity of the reclaimed topography.
- c. Eliminate highwalls, cut slopes, and/or topographic depressions on site, unless otherwise approved.
- d. Minimize sheet and rill erosion on/or adjacent to the reclaimed area. There shall be no evidence of mass wasting, head cutting, large rills or gullies, down cutting in drainages, or overall slope instability on/or adjacent to the reclaimed area.

4. Reconstruct and stabilize water courses and drainage features.

- a. Reconstruct drainage basins and reclaim impoundments to maintain the drainage pattern, profile, and dimension to approximate the natural features found in nearby naturally functioning basins.
- b. Reconstruct and stabilize stream channels, drainages, and impoundments to exhibit similar hydrologic characteristics found in stable naturally functioning systems.

5. Maintain the biological, chemical, and physical integrity of the topsoil and subsoil (where appropriate).

- a. Identify, delineate, and segregate all salvaged topsoil and subsoil based on a site specific soil evaluation, including depth, chemical, and physical characteristics.
- b. Protect all stored soil material from erosion, degradation, and contamination.
- c. Incorporate stored soil material into the disturbed landscape.
- d. Seed soils to be stored beyond one growing season, with desired vegetation.
- e. Identify stockpiles with appropriate signage.

6. Prepare site for revegetation.

- a. Redistribute soil materials in a manner similar to the original vertical profile.
- b. Reduce compaction to an appropriate depth (generally below the root zone) prior to redistribution of topsoil, to accommodate desired plant species.
- c. Provide suitable surface and subsurface physical, chemical, and biological properties to support the long term establishment and viability of the desired plant community.

- d. Protect seed and seedling establishment (e.g. erosion control matting, mulching, hydro-seeding, surface roughening, fencing, etc.)

7. Prepare site for revegetation.

- e. Redistribute soil materials in a manner similar to the original vertical profile.
- f. Reduce compaction to an appropriate depth (generally below the root zone) prior to redistribution of topsoil, to accommodate desired plant species.
- g. Provide suitable surface and subsurface physical, chemical, and biological properties to support the long term establishment and viability of the desired plant community.
- h. Protect seed and seedling establishment (e.g. erosion control matting, mulching, hydro-seeding, surface roughening, fencing, etc.)

8. Establish a desired self-perpetuating native plant community.

- a. Establish species composition, diversity, structure, and total ground cover appropriate for the desired plant community.
- b. Enhance critical resource values (e.g. wildlife, range, recreation, etc.), where appropriate, by augmenting plant community composition, diversity, and/or structure.
- c. Select genetically appropriate and locally adapted native plant materials based on the site characteristics and ecological setting.
- d. Select non-native plants only as an approved short term and non-persistent alternative to native plant materials. Ensure the non-natives will not hybridize, displace, or offer long-term competition to the endemic plants, and are designed to aid in the re-establishment of native plant communities.

9. Reestablish complementary visual composition

- a. Ensure the reclaimed landscape features blend into the adjacent area and conform to the land use plan decisions.
- b. Ensure the reclaimed landscape does not result in a long term change to the scenic quality of the area.

10. Manage Invasive Plants

- a. Assess for invasive plants before initiating surface disturbing activities.
- b. Develop an invasive plant management plan.
- c. Control invasive plants utilizing an integrated pest management approach.
- d. Monitor invasive plant treatments.

11. Develop and implement a reclamation monitoring and reporting strategy.

- a. Conduct compliance and effectiveness monitoring in accordance with a BLM (or other surface management agency) approved monitoring protocol.
- b. Evaluate monitoring data for compliance with the reclamation plan.
- c. Document and report monitoring data and recommend revised reclamation strategies.
- d. Implement revised reclamation strategies as needed.
- e. Repeat the process of monitoring, evaluating, documenting/reporting, and implementing, until reclamation goals are achieved.

Table A.3 Sensitive Species Worksheet

Common Name	Habitat	Habitat Present?	Individual Presence	Project Effects	Direct, Indirect, and/or Cumulative Impacts Anticipated Beyond the Level Analyzed within the PRB FEIS?
Amphibians					4-258
Northern leopard frog	Beaver ponds and cattail marshes from plains to montane zones.	No	NP	NI	No
Columbia spotted frog	Ponds, sloughs, small streams, and cattails in foothills and montane zones. Confined to headwaters of the S Tongue R drainage and tributaries.	No	NP	NI	No
Fish					4-259 & 4-260
Yellowstone cutthroat trout	Cold-water rivers, creeks, beaver ponds, and large lakes in the Upper Tongue sub-watershed	No	NP	NI	No
Birds					4-260 to 4-264
Baird's sparrow	Shortgrass prairie and basin-prairie shrubland habitats; plowed and stubble fields; grazed pastures; dry lakebeds; and other sparse, bare, dry ground.	No	NP	NI	No
Bald eagle	Mature forest cover often within one mile of large water body with reliable prey source nearby.	No	NP	NI	No 4-251 to 4-253 & BA
Brewer's sparrow	Sagebrush shrubland	Yes	NS	MIH	No
Ferruginous hawk	Basin-prairie shrub, grasslands, rock outcrops	No	NP	NI	No

Table A.3 Sensitive Species Worksheet

Common Name	Habitat	Habitat Present?	Individual Presence	Project Effects	Direct, Indirect, and/or Cumulative Impacts Anticipated Beyond the Level Analyzed within the PRB FEIS?
Loggerhead shrike	Basin-prairie shrub, mountain-foothill shrub	Yes	NS	MIIH	No
Long-billed curlew	Grasslands, plains, foothills, wet meadows	No	NP	NI	No
Mountain plover	Short-grass prairie with slopes < 5 percent	No	NP	NI	4-254, 4-255
Northern goshawk	Conifer and deciduous forests	No	NP	NI	No
Peregrine falcon	Cliffs	No	NP	NI	No
Sage sparrow	Basin-prairie shrub, mountain-foothill shrub	No	NP	NI	No
Sage thrasher	Basin-prairie shrub, mountain-foothill shrub	No	NP	NI	No
Trumpeter swan	Lakes, ponds, rivers	No	NP	NI	No
Western Burrowing owl	Grasslands, basin-prairie shrub	No	NP	NI	No
White-faced ibis	Marshes, wet meadows	No	NP	NI	No
Yellow-billed cuckoo	Open woodlands, streamside willow and alder groves	No	NP	NI	No
Mammals					4-264 &4-265
Black-tailed prairie dog	Prairie habitats with deep, firm soils and slopes less than 10 degrees.	No	NP	NI	4-255, 4-256;
Fringed myotis	Conifer forests, woodland chaparral, caves and mines	No	NP	NI	No
Long-eared myotis	Conifer and deciduous forest, caves and mines	No	NP	NI	No

Table A.3 Sensitive Species Worksheet

Common Name	Habitat	Habitat Present?	Individual Presence	Project Effects	Direct, Indirect, and/or Cumulative Impacts Anticipated Beyond the Level Analyzed within the PRB FEIS?
Spotted bat	Cliffs over perennial water.	No	NP	NI	No
Swift fox	Grasslands	No	NP	NI	No
Townsend's big-eared bat	Caves and mines.	No	NP	NI	No
Plants					4-258
Limber pine	Mountains, associated with high elevation conifer species	No	NP	NI	No
Porter's sagebrush	Sparsely vegetated badlands of ashy or tufaceous mudstone and clay slopes 5,300-6,500 ft.	No	NP	NI	No
William's wafer parsnip	Open ridgetops and upper slopes with exposed limestone outcrops or rockslides, 6,000-8,300 feet.	No	NP	NI	No

Presence

K Known, documented observation within project area.

S Habitat suitable and species suspected, to occur within the project area.

NS Habitat suitable but species is not suspected to occur within the project area.

NP Habitat not present and species unlikely to occur within the project area.

Effect Determinations

Sensitive Species

NI - No Impact.

MIIH - May Impact Individuals or Habitat, but will not likely contribute to a trend towards Federal listing or a loss of viability to the population or species.

WIPV - Will Impact Individuals or Habitat with a consequence that the action may contribute to a trend towards Federal listing or cause a loss of viability to the population or species.

BI - Beneficial Impact