

DECISION RECORD
Wesco Operating, Inc., Super Hornet Gov't 14-14
Environmental Assessment (EA), WY-070-EA15-305
Bureau of Land Management, Buffalo Field Office, Wyoming

DECISION. BLM approves Wesco Operating, Inc. (Wesco) Super Hornet Gov't 14-14 oil and gas well application for permit to drill (APD) described in Alternative B of the environmental assessment (EA) WY-070-EA15-305. This approval includes the well's support facilities.

Compliance. This decision complies with or supports:

- Federal Land Policy and Management Act of 1976 (FLPMA) (43 USC 1701).
- Mineral Leasing Act of 1920 (MLA) (30 U.S.C. 181); including the Onshore Oil and Gas Orders.
- National Environmental Policy Act of 1969 (NEPA) (42 USC 4321).
- National Historic Preservation Act of 1966 (NHPA) (16 USC 470).
- Powder River Basin Oil and Gas Project Final Environmental Impact Statement (FEIS) (2003).
- Buffalo Resource Management Plan (RMP) (2015).
- Greater Sage-Grouse Habitat Management Policy on Wyoming BLM Administered Public Lands (WY-IM-2012-019) and Greater Sage-Grouse Interim Management Policies and Procedures (WO-IM-2012-043).

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.

Well Site. BLM approves 1APD and support facilities at the following location:

#	Well Name & #	TwN	Rng	Sec	Qtr	Lease #	Status
1	Super Hornet Gov't 14-14	50N	71W	14	SWSW	WYW115175	APD

Limitations. There are no denials or deferrals. Also see the conditions of approval (COAs).

THE FINDING OF NO SIGNIFICANT IMPACT (FONSI). Analysis of Alternative B of the EA, WY-070-EA15-305, and the FONSI (incorporated here by reference) found Wesco's proposal for the Super Hornet Gov't 14-14 APD will have no significant impacts on the human environment, beyond those described in the PRB FEIS. There is no requirement for an EIS.

COMMENT OR NEW INFORMATION SUMMARY. BLM publically posted the APD for 30 days, received no comments, and then internally scoped them.

DECISION RATIONALE. BLM bases the decision authorizing the selected project on:

1. Approval of this project conforms to the terms and the conditions of the 2015 Buffalo RMP (BLM 2015).
2. BLM and Wesco included design features and mitigation measures (conditions of approval (COAs)) to reduce environmental impacts while meeting the BLM's need. For a complete description of all site-specific COAs, see the COAs.
 - 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 (WO-IM-2012-043) and Wyoming (WY-IM-2012-019) GSG conservation strategies.

- b. With application of Standard Operating Procedures (SOPs), applied mitigation, Required Design Features (RDFs), and COAs identified for Greater Sage-Grouse under the proposed action, impacts caused by surface-disturbing and disruptive activities would be minimized. RDFs were analyzed, even though, they are not required within general habitat. Drilling a reserve pit will not present a West Nile virus risk to Greater Sage-Grouse. The pit will have steep sides, be lined, and of a temporary nature; the pit will not provide suitable mosquito breeding habitat.
 - c. There are no conflicts anticipated or demonstrated with current uses in the area.
3. The selected alternative will help meet the nation's energy needs, and help stimulate local economies by maintaining workforce stability.
 4. The operator committed to:
 - Comply with the approved APD, applicable laws, regulations, orders, and notices to lessees.
 - Obtain necessary permits from agencies.
 - Offer water well agreements to the owners of record for permitted wells.
 - Incorporate several measures to alleviate resource impacts into their submitted surface use plan and drilling plan.
 5. The operator certified they have a surface access agreement.
 6. The project lacks wilderness characteristics. A wilderness characteristics inventory was completed in 2013; no lands with wilderness characteristics were identified outside the Big Horn Mountains. The inventory is available at: <http://www.blm.gov/wy/st/en/programs/Planning/rmps/buffalo/docs.html>.
 7. This APD is pursuant to the Mineral Leasing Act for developing oil or gas and does not satisfy the categorical exclusion directive of the Energy Policy Act of 2005, Section 390.

ADMINISTRATIVE REVIEW AND APPEAL. This decision is subject to administrative review according to 43 CFR 3165. Request for administrative review of this decision must include information required under 43 CFR 3165.3(b) (State Director Review), including all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, P.O. Box 1828, Cheyenne, Wyoming 82003, no later than 20 business days after this Decision Record is received or considered to have been received. Parties 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: October 21, 2015

FINDING OF NO SIGNIFICANT IMPACT
Wesco Operating, Inc., Super Hornet Gov't 14-14
Environmental Assessment (EA), WY-070-EA15-305
Bureau of Land Management, Buffalo Field Office, Wyoming

FINDING OF NO SIGNIFICANT IMPACT (FONSI). Based on the information in the EA, WY-070-EA15-305, 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 Powder River Basin (PRB) Oil and Gas Project Final Environmental Impact Statement (FEIS), 2003; (2) Alternative B conforms to the Buffalo Field Office (BFO) Resource Management Plan (RMP) 2015; 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 reduce adverse environmental effects. The preferred alternative does not pose a significant risk to public health and safety. The geographic area of the project does not contain unique characteristics as identified in the 2015 RMP, the 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 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 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. 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: October 21, 2015

ENVIRONMENTAL ASSESSMENT (EA), WY-070-EA15-305
Wesco Operating, Inc., Super Hornet Gov't 14-14
Bureau of Land Management, Buffalo Field Office, Wyoming

1. INTRODUCTION

BLM provides an EA for Wesco Operating, Inc.'s (Wesco) Super Hornet Gov't 14-14 oil and gas well application for permit to drill (APD). BLM's jurisdiction for this proposal is fee (non-federal) surface – overlying federal minerals “split-estate”. This site-specific analysis tiers into and incorporates by reference the information and analysis in the Powder River Basin Oil and Gas Project Final Environmental Impact Statement and Plan Amendment (PRB FEIS), WY-070-02-065, 2003, and the PRB FEIS Record of Decision (ROD) per 40 CFR 1508.28 and 1502.21. One may review these documents at the BLM Buffalo Field Office (BFO) and on our website:

http://www.blm.gov/wy/st/en/field_offices/Buffalo.html.

1.1. Background

The Super Hornet Gov't 14-14 Application to Drill (APD) was received on March 23, 2015.

The pre-approval APD onsite was conducted on April 8, 2015 by the following personnel:

NAME	TITLE	AGENCY
Andy Perez	NRS	BLM
Wyatt Wittkop	Wildlife Biologist	BLM
Ardeh Hahn	Archaeologist	BLM
Nathan Barnes	Archaeologist	BLM
Scott Kerr	HSE Coordinator	Wesco
Cole Phinney	Surveyor	Cannon Surveying
Clayton Rosanland	Surveyor	Cannon Surveying

The Post APD Deficiency Letter was sent to the operator on April 20, 2015. Wesco requested an extension for the APD deficiencies. APD deficiencies were received on June 5, 2015. On July 10, 2015 BLM sent Wesco a 2nd Post Onsite APD Deficiency letter for deficiencies not answered in the first letter. On September 1, 2015 BLM contacted Wesco, the operator had not responded to the deficiencies and was 4 days past the 45 day time frame. BLM gave the operator a one week extension to submit the required Onshore Order #1 deficiencies. BLM received Wesco deficiency response and needed material on September 8, 2015. On September 17, 2015 it was discovered that the operator had not fully answered the Legal Instrument Examiners Onshore Order #1 deficiencies and were sent to the operator. The operator answered the Legal Instrument Examiners Onshore Order #1 deficiencies on September 29 and October 20, 2015.

1.2. Need for the Proposed Project

BLM's need for this project is to determine whether, how, and under what conditions to support the Buffalo Resource Management Plan's (RMP) goals, objectives, and management actions with allowing the exercise of the operator's conditional lease rights to develop fluid minerals on federal leases. BLM incorporates by reference here, the APD information (40 CFR 1502.21). Conditional fluid mineral development supports the RMP and 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 APD 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 administrative record, AR), to identify potentially affected resources, land uses, resource issues, regulations, and site-specific circumstances not addressed in the tiered analysis or other analyses incorporated by reference. The APD and associated plans as well as the AR are available for review at the BFO. This EA will not discuss resources and land uses that are not present, unlikely to receive material affects, or that the PRB FEIS or other analyses adequately addressed. This EA addresses the project’s 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.

2. PROPOSED PROJECT AND ALTERNATIVES

2.1. Alternative A – No Action

The no action alternative would deny this APD requiring the operator to resubmit an APD that complies with statutes and the reasonable measures in the PRB FEIS Record of Decision (ROD) in order to lawfully exercise conditional lease rights. Fluid mineral development could continue on state and private leases. The PRB FEIS considered a no action alternative, pp. 2-54 to 2-62.

2.2. Alternative B Proposed Action (Proposal)

Table 2.1. Well Name#/Lease/Location:

#	Well Name & #	Tw	Rng	Sec	Qtr	Lease #
1	Super Hornet Gov’t 14-14	50N	71W	14	SWSW	WYW115175

Drilling, Construction and Production Design Features Include:

- This is a wildcat well to the Minnelusa formation to depth of 9,600 feet.
- There will be a reserve pit on location.
- This is a vertical well that has no horizontal lateral planned at this time.
- To access the Super Hornet Gov’t 14-14 well take State highway 51 east of Gillette, WY to the American/Wyodak Road. Turn north and travel 2.3 miles to Quail Meadow Street. Turn west and follow the road for 0.45 miles and veer north to Clover Avenue. Travel approximately 0.08 miles to the proposed access. The proposed well access consists of 1,200 feet to the proposed well location.
- Running surface width to be approximately 20’, total disturbed width to be no more than 50’ or as agreed upon with the private surface owner. The road will be crowned and ditched, as agreed to by the private surface owner. Plans for improvement and/or maintenance of existing roads are to maintain in as good or better conditions than at present. A regular maintenance plan will include, but not be limited to blading, ditching, surfacing, and replacing damaged culverts.
- The access road will be 1,200’ long with a total ROW width of 50’. Total disturbance of the access road will be 1.38 acres.
- No overhead power is anticipated at this time. If the well is completed as a producer Wesco will utilize natural gas that the well makes to power the well. If electrical power is deemed necessary

Wesco will coordinate with the BLM and sundry in power from the adjacent existing overhead power lines.

- The anticipated volume of water to drill the well is approximately 10,000 bbls. The water for completions operations will be approximately 400 bbls.
- A production facility will be located on the well site. The facility will consist of a wellhead, pumping unit, separator, 3 oil production tanks (400 bbl capacities) and 1 water production tank. The oil will be trucked from the location. Measurement of the oil will accomplished via daily tank gauges in strapped tanks. In the event the well produces water, the water will be hauled to a nearby approved, permitted, disposal facility. Berms will be constructed around the tanks and separator and the capacity of the berm will be 110% of the largest vessel independent of the back cut.

For a detailed description of design features and construction practices associated with the proposed project, refer to the surface use plan (SUP) and drilling plan included with the APD. Also see the APD for maps showing the proposed well location and associated facilities described above.

Additionally, the operator, in their APD, committed to:

- Comply with the approved APD, applicable laws, regulations, orders, and notices to lessees.
- Obtain necessary permits from agencies.
- Offer water well agreements to the owners of record for permitted wells.
- Incorporate measures to alleviate resource impacts in their submitted surface use and drilling plans.
- Certify it has a surface access agreement with the landowner.

Table 2.2. Drilling Disturbance Summary for Super Hornet Gov’t 14-14 well/pad/access:

Facility	Number or Miles or FT	Factor	Disturbance
Engineered Pad/ Spoils and Topsoil piles	Varies (see design)	43,560 sq ft	2.41 acres
New Proposed Roads	400	30	1.38 acres
Total Surface Disturbance			3.79 acres

Table 2.3. Interim Disturbance Summary for Super Hornet Gov’t 14-14 well/pad/access:

Facility	Number or Miles	Factor	Disturbance
Engineered Pad Interim Design	Varies (see design)	Varies (see design)	1.09 acres
New Proposed Roads	400ft	16ft	0.55 acres
Total Surface Disturbance			1.64 acres

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) (2015), and generally conforms to the terms and conditions of that land use plan, 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 affected by the alternatives in Section 2, or where changes in circumstances or regulations occurred since adoption of analyses to which the EA tiers or incorporates by reference. 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 all

of the PRB’s coalbed natural gas (CBNG) wells and over 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 adjacent and intermingled developments coincident to proposal area to retain currency in the no action alternative. 615 F. 3d 1122 (9th Cir. 2010). The total number of conventional wells in the Buffalo planning area is 2855, which includes 845 horizontal wells (federal, fee, and state) (as of December 2014). This represents 89% 41% of the projected 3,200 in the 2003 PRB ROD. This agrees with the PRB FEIS which analyzed the reasonably foreseeable development of 51,000 CBNG and 3,200 natural gas and oil wells.

Table 3.1. NEPA Analyses Which BLM Incorporates by Reference either as similar drilling analyses or as substantially similar analyses.

#	Project Name	Operator	NEPA Analysis #	# / Type Wells	Approved Mo/Yr/Update
1 ^a	Mufasa Fed 11-31H	Lance	WY-070-EA12-062	1 Oil	3/2012
2 ^b	Crazy Cat East	Anadarko	WY-070-EA13-028	24+/- Oil Pads	2/2013
3	Sahara POD	Lance	WY-070-EA13-72	21Oil	3/2013

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

- a. 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.
- b. 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

Refer to the PRB FEIS pp. 3-291 to 3-299, for a 2003-era description of the air quality conditions. BLM incorporates by reference, Update of Task 3A Report for the Powder River Basin Coal Review Cumulative Air Quality Effects for 2020, BLM (AECOM), 2009, (Cumulative Air Quality Effects, 2009) (available at http://www.blm.gov/wy/st/en/programs/energy/Coal_Resources/PRB_Coal/prbdocs.html) as it captures the cumulative air quality effects of present and projected PRB fluid and solid mineral development. Existing air quality in the PRB is “unclassified/attainment” with all ambient air quality standards. It is also in an area that is in prevention of significant deterioration zone. PRB air quality is a rising concern due to PRB-area air quality alerts issued in 2011-2014 for particulate matter (PM), attributed to coal dust.

Four sites monitor the air quality in the PRB: Cloud Peak in the Bighorn Mountains, Thunder Basin northeast of Gillette, Campbell County south of Gillette, and Gillette. In addition, the Wyoming Air Resource Monitoring System (WARMS) measures meteorological parameters from 9 sites throughout the State, and particulate concentrations from 5 of those sites, monitors speciated aerosol (3 locations), and evapotranspiration rates (1 location). The sites monitoring air quality for the Powder River Basin are located at Sheridan, South Coal Reservoir, Buffalo, Fortification Creek, and Newcastle. The northeast Wyoming visibility study is ongoing by the Wyoming Department of Environmental Quality (WDEQ). Sites adjacent to the Wyoming PRB-area are at Birney on the Tongue River 24 miles north of the Wyoming-Montana border, Broadus on the Powder River in Montana, and Devils Tower. Adgate, et al. (2014) advanced a hypothesis that air and water quality effects from HF may negatively impact human health but concluded that “major uncertainties” and a “paucity of baseline data” after drilling 153,260 wells since 2004. They called for more research funding.

Existing air pollutant emission sources in the region include:

- Exhaust emissions (primarily CO and nitrogen oxides (NOx)) from existing natural gas fired compressor engines used in production of natural gas and CBNG; and, gasoline and diesel vehicle tailpipe emissions of combustion pollutants;

- PM (dust) generated by vehicle travel on unpaved roads, windblown dust from neighboring areas, road sanding during the winter months, coal mines, and trains;
- Transport of air pollutants from emission sources located outside the region;
- NO_x, PM, and other emissions from diesel trains and,
- SO₂ and NO_x from power plants.

3.2. Soils, Ecological Sites, and Vegetation

Project area soils developed in alluvium and residuum derived mainly from the Wasatch Formation. Lithology consists of light to dark yellow and tan siltstone and sandstones with minor coal seams resulting in a wide variety of surface and subsurface textures. The project area soil depths vary from 3 - 6” on the ridge top to shallow on the steeper slopes. Reclamation potential of soils also varies in the project area. The main soil limitations include: depth to bedrock, low organic matter content, and high erosion potential especially in areas of steep slopes.

The Campbell County Survey Area, Wyoming Soil Survey Geographic (SSURGO) Database WY605, provide detailed soils identification and data. NRCS performed the soil survey according to National Cooperative Soil Survey standards. The BLM uses county soil survey information to predict soil behavior, limitations, or suitability for a given activity or action. The agency’s long term goal for soil resource management is to maintain, improve, or restore soil health and productivity, and to prevent or minimize soil erosion and compaction. Soil management objectives are to ensure that adequate soil protection is consistent with the resource capabilities. Soils and landforms of this area may present distinct challenges for development, and/or eventual site reclamation. Dominant/Important Soils/Ecological sites in the affected area are loamy soils. The major ecological site for the project is shallow loamy.

Table 3.1. Soils and Ecological Sites

Well Name & No. Pad	Map Unit Name	Ecological Site
Super Hornet Gov’t 14-14	241:Ironbutte, 6-40% slopes	10-17 NP Shallow Loamy

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

See the NRCS Soil Survey WY605, Campbell County (SSURGO) data for more detailed soil information. Ecological Site Descriptions (ESD’s) include additional site-specific soil information. The primary soil limitations in the project area are depth to bedrock, low organic matter content, low water holding capacity, and high water/erosion potential.

3.3. Ecological Sites and Vegetation

The elevations range from 4,500-4,600 feet in the project area. Livestock grazing is the predominant land use in the area as well as oil and gas development. The project area is comprised primarily of a shallow loamy ecological site and the major plant community identified in the project area is Mixed Sagebrush/Grass Plant Community. This site occurs on ridges on uplands, hills on uplands. The parent material consists of alluvium and or colluvium derived from porcellanite. Depth to bedrock is 10-20 inches. The natural drainage class is well drained. Shrink swell factor potential is low. The main soil limitations include: low organic matter (2%) content and soil droughtiness. The low annual precipitation should be considered when planning a seeding.

Mixed Sagebrush/Grass Plant Community

This mixed sagebrush/grass community is under moderate, season-long livestock grazing. Wyoming big sagebrush is a significant component of this plant community. Cool-season grasses make up the majority of the understory with the balance made up of short warm-season grasses, annual cool-season grasses, and miscellaneous forbs. Dominant grasses may include needle and thread, western wheatgrass, and green

needlegrass. Grasses of secondary importance include blue grama, and little bluestem. Forbs commonly found in this plant community include plains wallflower, hairy goldaster, slimflower scurfpea, and scarlet globemallow. Sagebrush canopy ranges from 20% to 30%. Fringed sagewort is commonly found. Plains pricklypear also occurs.

When compared to the Historic Climax Plant Community, sagebrush and blue grama have increased. Production of cool-season grasses, particularly green needlegrass, has been reduced. The sagebrush canopy protects the cool-season mid-grasses, but this protection makes them unavailable for grazing. Cheatgrass (downy brome) has invaded the site. The overstory of sagebrush and understory of grass and forbs provide a diverse plant community that will support domestic livestock and wildlife such as mule deer and antelope. This plant community is resistant to change. A significant reduction of big sagebrush can only be accomplished through fire or brush management. The herbaceous species present are well adapted to grazing; however, species composition can be altered through long-term overgrazing. If the herbaceous component is intact, it tends to be resilient if the disturbance is not long-term.

During the onsite blue bunch wheatgrass, needle and thread, phlox, and Wyoming big sagebrush were identified.

3.4. Water Resources

WDEQ regulates Wyoming's water quality with EPA oversight. The Wyoming State Engineer's Office (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.

3.4.1. Groundwater

A search of the WSEO Ground Water Rights Database showed 22 registered stock and domestic water wells within 1 mile of the proposed well. The water wells that vary in depth from 212-1,762 feet. Refer to the PRB FEIS for additional information on groundwater, pp. 3-1 to 3-36. In the PRB, the Fox Hills formation is the deepest fresh water aquifer which merits specific attention. In this area, the depth to the Fox Hills is 3,585 feet.

3.4.2. Surface Water

The project area is in the Upper Donkey Creek drainages which are tributaries to the Belle Fourche River. Most of the area drainages are ephemeral (flowing only in response to a precipitation event or snow melt) to intermittent (flowing only at certain times of the year when it receives water from alluvial groundwater, springs, or other surface source – PRB FEIS, Glossary). The channels are primarily well vegetated grassy swales, without defined bed and bank. See the PRB FEIS for a surface water quality discussion, pp. 3-48 to 3-49.

3.5. Mining

The BLM has reviewed the proposed location and determined that it falls within the lands previously identified as suitable for further coal leasing consideration in the BFO RMP 2001 update. There are neither pre-existing coal leases nor pending BLM coal-related actions (leases by application, leases by modification, emergency leases or exchanges) overlapping the location. The proposed location does not fall within any existing Wyoming Department of Environmental Quality, Land Quality Division mine permit boundaries.

3.6. Wetlands/Riparian

The Super Hornet Gov't 14-14 well is located on an upland site and access by existing roads also located in uplands. No wetland or riparian habitats are impacted by this project.

3.7. Invasive or Noxious Species

Cheatgrass (*Bromus tectorum*) and to a lesser extent, Japanese brome (*B. japonicus*) exist in the affected environment. These species are found in high densities and numerous locations throughout NE Wyoming. Balch, 2013, linked the proliferation of cheatgrass in semi-arid environments to the increased frequency and severity of wildfire.

3.8. Fish and Wildlife

A BLM biologist performed a desktop habitat analysis of the project area, which consisted of data managed by BLM BFO wildlife staff, the PRB FEIS, WY Game and Fish Department (WGFD) datasets, and the Wyoming Natural Diversity Database (WYNDD), to evaluate the affected environment for wildlife species that may occur in the area. A BLM biologist also surveyed the area on April 8, 2015. The biologist evaluated impacts to wildlife resources and recommended project modifications where wildlife issues arose. Site specific information is described below for known species suspected to occur and become impacted beyond the analysis of the PRD EIS 2003. The proposed well pad location is surrounded by pre-existing disturbance. Habitat in the area is already compromised by an active coal mine to the west with a main haul road 0.27 miles from the pad location. The access road begins adjacent to residences and the pad is located 0.18 miles from the residential development. There is also an oil/gas well pad 0.21 miles to the Northwest. Most wildlife currently utilizing the area are likely quite habituated to human activity and disturbance. Rationale for species not discussed in detail below can be referenced in the administrative record (Table W.1. Summary of Sensitive Species Habitat and Project Effects and Table W.2. Summary of Threatened and Endangered Species Habitat and Project Effects).

Land uses and other disturbances occurring within the proposed project area include, livestock grazing, coal mining, residential development, overhead power lines, conventional oil and gas, and improved and unimproved roads. Habitats within the proposal are comprised of sagebrush grassland and mixed-grass prairie. The dominant shrub is Wyoming big sagebrush and the understory is a mix of grasses. The habitat is similar in nature to the habitats discussed in the Sahara POD EA, WY-070-EA13-72, incorporated here by reference.

3.8.1. Big Game

Pronghorn antelope and mule deer inhabit the project area. No crucial winter range, parturition areas, or migration routes for these big game species overlap the project area (WGFD 2012); however, year-long range for pronghorn antelope is present at the proposed project area (WGFD 2012). The Wyoming Game and Fish Dept. classifies the habitat as “Out” for deer. Meaning, though part of a herd-unit, the area does not contain enough animals to be important habitat, or the habitats are of limited importance to the species.

3.8.2. Raptors

The BLM biologist utilized the BLM raptor database, and conducted ground surveys in the project area in order to comprehensively depict the raptor situation in the area. No nests have been documented within one mile of the proposed location, and no nests were discovered during the April survey. The area is likely used for foraging by species such as Northern Harrier, Red-tailed hawk, Great-horned owl and Swainson’s hawk that are commonly seen foraging with relatively less regard for the presence of humans and/or disruptive activities, as compared to other raptor species. The affected environment for this proposal is similar to a recent approved project (Sahara POD) BLM analyzed. Therefore, the Sahara POD EA, WY-070-EA13-72 analysis is incorporated here by reference: Affected Environment (Section 3.7.2.1, p.15-17). Effects (Direct and indirect, Cumulative, Mitigation, and Residual, Section 4.6.2.1, pp. 28-31) to raptors from surface disturbing and disruptive activities associated with development of horizontal oil wells.

3.8.3. Migratory Birds

Suitable habitat for migratory birds, including those listed as BLM sensitive species, is present throughout the proposal area. Sagebrush plants in the area are few, and do not comprise a great amount of the overage canopy. Migratory birds associated with grasslands (BLM sensitive Baird's sparrow and Long-billed curlew) will be the primary inhabitants of the area.

3.9. Threatened, Endangered, Candidate, Special Status (Sensitive) Species (SSS)

3.9.1. Candidate Species – Greater Sage-Grouse (GSG)

GSG habitat in the area would be considered marginal, though Sage-grouse have been documented in the area in the past (WYNDD) and could use the area from time to time during times of the year when they are not dependent on sagebrush. The proposal is not within Priority Habitat (Sage-grouse Core or Connectivity Area, as designated by the Wyoming Game and Fish Department). The project is not within 2 miles of any known active GSG leks. The closest known lek to the project is the Preston Draw Lek, just over 4 miles to the northeast. The affected environment for this proposal is similar to a recently approved project (Sahara POD) BLM analyzed. Therefore, the Sahara POD EA, WY-070-EA13-72 analysis is incorporated here by reference: Affected Environment (Section 3.7.4.1, p.18-19). Included in the Sahara Pod EA is more background information on the population trend of the species in recent years.

3.10. Cultural Resources

In accordance with 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 that are generally found within BFO the reader is referred to the Draft Cultural Class I Regional Overview, Buffalo Field Office (BLM, 2010). A Class III (intensive) cultural resource inventory (BFO project no. 70150059) was performed in order to locate specific historic properties which may be impacted by the proposed project. No cultural resources are located in the proposed project area.

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. This updated the no action alternative and cumulative effects. Under the no action alternative, on-going well field operations would continue as would the development of fee wells. 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

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 well production equipment, booster and pipeline compression engine exhaust). The amount of air pollutant emissions during construction would be controlled by watering disturbed soils, and by air pollutant emission limitations imposed by applicable air quality regulatory agencies. 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, tribal, or federal air quality standards and this project is well within the projected development parameters.

The PRB FEIS analyzed direct and indirect impacts to soils associated with fluid mineral development. For these affects refer to p. 4-134-149 of the PRB EIS.

4.2. Soils, Ecological Sites, and Vegetation

The greatest impacts to the soil resources associated with this project would occur with the construction of the well pad and road upgrades. Construction of these requires grading and leveling, with the greatest level of effort required on more steeply sloping areas. These impacts would begin immediately as the soils would be subjected to grading and construction activities and impacts would continue for the term of operations. The duration and intensity of these impacts would vary according to the type of construction activity to be completed and the inherent characteristics of the soils to be impacted.

The proposed APD requires 3.79 acres total disturbance to safely drill the proposed well. During the construction and drilling phase of the project, the operator plans to maintain cut and fill slopes at 1½:1(67%), 2:1(50%) slopes. These constructed slopes will be bare ground void of vegetation thus identified as highly erosive due to water erosion, and the total 3.79 acres site is classified as highly erosive for wind erosion. The predicted construction cut depth exceeds the identified soil depth, thus impacting soil horizons described as “little affected by pedogenic processes”, or unaltered parent material. The physical and chemical properties of this material may be variable and limiting in its potential to support plant growth, variable in erosion potential and suitability for construction material. The 2.41acre engineered pad area and 1.38 acres of proposed engineered access road would be defined as a Low Reclamation Potential (LRP) area per Wyoming Reclamation Policy, and p. 4-143 and 4-149 of the PRB-EIS.

The well pad will be reduced to 1.09 acres of disturbance at interim reclamation for the production phase. See Interim Exhibit in the Diagram section of the administration record for an illustration of the well pad reduction as per Onshore Oil and Gas Order Number 1 Surface Use Plan of Operations. Cut slopes and fill slopes will be maintained at 2:1 and 3:1 respectively as per standard conditions of approval. Road running surface is 20 feet with the remaining right-of-way (ROW) to be re-contoured and seeded. The operator committed measures and attached mitigation measures listed below this section reduce the potential impacts to the soil resource to levels described in the PRB-FEIS.

Changes in soil productivity would depend on the success of the stabilization and interim reclamation efforts. The replaced soil could support stable and productive vegetation adequate in quantity and kind to support the post disturbance land uses- wildlife habitat and rangeland. After reclamation (interim and final), the soils would be unlike the pre-disturbance soils in structure, horizon, bulk density, and chemical composition. The new soils would be more uniform in type, thickness and texture than the pre-disturbance soils. The soil-forming processes would be disturbed, resulting in the alteration of soil characteristics and, consequently, the taxonomic classification of the soils. Productivity capabilities, biologic activity, and nutrient content also would be affected.

4.2.1. Cumulative Effects

The PRB FEIS defined the duration of disturbance, pp. 4-1 and 4-15. The impacts to the soil resource described in the direct and indirect effects section could be minimized by reducing initial surface disturbance, successful site stabilization and maximum interim reclamation, as committed to by the operator in their POD Surface Use Plan and as required by the BLM in COAs. (Total initial and long term disturbance) PRB-FEIS 4-134. Most of the disturbance associated with the construction of well pads would be short term. See Interim Exhibit in the Diagram section of the administration record for production phase pad design (interim reclamation phase).

4.2.2. Mitigation Measures

The operator will reduce impacts to vegetation and soils from surface disturbance by following its plans (MSUP, and (design features, engineered designs), Storm Water Pollution Prevention Plan (SWPPP) requirements, reclamation plan and the BLM Wyoming Reclamation Policy). These practices, as well as other approved mitigation measures will result in less surface disturbance and environmental impacts. In addition the following site specific COAs will be added as mitigation.

1. The entire access road must be fully upgraded (including all water control structures such as wing ditches, culverts, relief ditches, turnouts, surfacing, etc.) and functional to BLM standards prior mobilizing the drilling equipment to the well location.
2. Re-contouring and interim reclamation will be initiated as soon as is practicable but not more than 6 months from the date of the well completion incorporating stored soil material into that portion of the well pad not needed for well production; exception(s) may be granted with sufficient justification.
3. Soil compaction will be remediated on all compacted surfaces and prior to the redistribution of topsoil on disturbed surfaces to the depth of compaction by methods that prevent mixing of the soil horizons. BLM's recommended methods are subsoiling, paraplowing, or ripping with a winged shank. Scarification is acceptable on areas identified as very shallow or shallow soils.

4.2.3. Residual Effects

The PRB FEIS identified residual effects (pp. 4-408). Residual effects across the project area would include a long-term loss of soil productivity associated with well pads and roads. Alteration of soils would result in the formation of new soil with different properties. Post disturbance productivity should be similar to predisturbance. In spite of the above residual effects, the BLM considers that Alternative B is within the parameters for surface disturbance and surface disturbance reclamation in PRB FEIS ROD.

4.3. Vegetation and Ecological Sites

4.3.1. Direct and Indirect Effects

The PRB FEIS discusses direct and indirect effects to ecological sites and vegetation (pp. 4-153 to 4-164). The proposed action would impact the existing plant communities, species richness, diversity, and structure that occur on the site and the transition between the communities. Other impacts anticipated to occur include those in the direct and indirect effects listed above under soils section. Direct effects to ecological sites would occur from ground disturbance caused by construction practices. Short term effects would occur where vegetated areas are disturbed but later reclaimed as soon as practical from initial disturbance. Long-term effects would occur where well pads, roads, and other semi-permanent facilities, resulting in loss of vegetation and prevent reclamation for the life of the project. Other impacts include a reduction in the utility of interim reclaimed areas because of reduced species and landscape diversity on reclaimed sites, increased soil erosion, and habitat loss for wildlife and livestock.

4.3.2. Cumulative Effects

The PRB FEIS discusses the cumulative effects to ecological sites (pp. 4-153 to 4-172). Cumulative effects to ecological sites include the further alteration of disturbance regimes from the increased disturbance, increase in noxious weeds, and alterations in vegetation community's diversity and cover.

4.3.3. Mitigation Measures

The proponents operated committed measures and design features are sufficient to not warrant the application of site specific conditions of approval (COAs).

Residual Effects.

Residual effects were also identified in the PRB FEIS, p. 4-408. Including loss of vegetative cover during construction, interim reclamation and long-term on well location and access road. The potential spread and establishment of weeds, and alteration of species biodiversity until successful final reclamation.

Successful interim reclamation should create a stable functioning ecosystem that prepares the site for eventual final reclamation, which would reduce the residual effects of the proposed action.

4.4. Water/Groundwater Resources

Wesco's drilling program provides additional protection for the Fox Hill formation. The casing design and cement program includes centralizers on every joint of casing to facilitate adequate cement covering. The volume of cement pumped is calculated to provide cement across the Fox Hill from 100 feet above to 100 feet below the aquifer. 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 set surface casing at 500 feet to provide additional protection for shallow groundwater aquifers and coal zones. 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.

4.4.1. Cumulative Effects

Wesco will have to produce the well for a time to be able to estimate the volume and quantity of water production. To comply with Onshore Order Oil and Gas Order No. 7, Disposal of Produced Water, Wesco will submit a Sundry to the BLM within 90 days of first production which includes a representative water analysis and the final proposal for water management. The quality of water produced in association with conventional oil and gas historically was such that surface discharge would not be possible without treatment. Initial water production is quite 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.

4.4.2. Mitigation Measures

The proponents operated committed measures and design features are sufficient to not warrant the application of site specific conditions of approval (COAs).

4.4.3. Residual

No residual effects are anticipated.

4.5. Mining

Effects of the proposed action to the federal coal estate will be minimal. It is unlikely the lands will be developed for coal mining in the foreseeable future. If such development occurs it would likely be after a number of years of production from this well (assuming production occurs) and the value of the well would be such that negotiations between the oil & gas and the coal operators would prevent any federal coal from being stranded or bypassed.

4.6. Invasive Species

4.6.1. Direct and Indirect Effects

The operator committed to the control of noxious weeds and species of concern using the following measures identified in their Integrated Pest Management Plan (IPMP): 1) Control Methods; 2) Preventive practices; and 3) Education. Cheatgrass (*Bromus tectorum*) and to a lesser extent, Japanese brome (*B. japonicus*) exist in the affected environment. The use of existing facilities along with the surface disturbance associated with construction of proposed access roads, pipelines, and related facilities would present opportunities for weed invasion and spread. The activities related to the performance of the proposed project would create a favorable environment for the establishment and spread of noxious weeds/invasive plants such as salt cedar, Canada thistle, and perennial pepperweed. However, applicant committed measures will reduce potential impacts from noxious weeds and invasive plants.

4.6.2. Cumulative Effects

Cumulative effects resulting from invasive species are discussed in the PRB FEIS, p. 4-171.

4.6.3. Mitigation Measures

The proponents operated committed measures and design features are sufficient to not warrant the application of site specific conditions of approval (COAs).

4.6.4. Residual Effects

Control efforts by the Operator would be limited to the surface disturbance associated the construction and operation of the project. Cheat grass and other weed species that are present within non-physically disturbed areas of the project area are anticipated to continue to spread unless control efforts are expanded.

4.7. Fish and Wildlife

4.7.1. Big Game

4.7.1.1. Direct and Indirect Effects

Impacts to big game occur at varying levels through alterations in hunting, increased vehicle collisions, harassment and displacement, increased disturbance from noise and dust, changes to forage or forage availability, alterations to reproductive success, increased habitat fragmentation or degradation, or other factors that result in population declines. The Sublette Mule Deer Study (Phase II) found that mule deer avoidance around well pads and associated facilities was found to increase commensurate with the level of human activity in the area, while unmanned well pads were avoided less by comparison (Sawyer et al. 2009). Similarly, mule deer were found to avoid roadways with high levels of traffic, and showed an increased presence along roads with low to no use. Pronghorn are likely to exhibit similar avoidance behaviors to mule deer, and reduce their use of habitats within 1/8 mile of disturbance (Rost and Bailey 1979). As stated previously, the proposed well pad location is surrounded by pre-existing disturbance. Habitat in the area is already compromised by an active coal mine to the west with a main haul road 0.27 miles from the pad location. The access road begins adjacent to residences and the pad is located 0.18 miles from the residential development. There is also an oil/gas well pad 0.21 miles to the northwest. Most wildlife currently utilizing the area are likely quite habituated to human activity and disturbance. The placement of well pads near existing disturbance limits potential impacts from development when compared to human activity in less developed areas.

4.7.1.2. Cumulative Effects

Non-federal actions, in conjunction with the federal development may compound impacts to big game. In particular, mule deer populations are depressed across the West, with severe drops in areas of high oil and gas development.

4.7.1.3. Mitigation Measures

The project is located in an area with pre-existing disturbance in all directions. It is not a crucial winter range, nor a migration route, nor a parturition area. The BLM proposes no additional mitigation.

4.7.2. Raptors

4.7.2.1. Direct and Indirect Effects

Raptor use of the area is limited, based on the fact that raptor nests are not documented in the area, nor were they found during surveys. Loss of foraging habitat will be the primary impact to raptors.

4.7.2.2. Cumulative Effects

Existing and reasonably foreseeable conventional oil development in the PBR would affect raptor populations due to increased human activity and fragmentation of foraging habitat.

4.7.2.3. Mitigation Measures

To reduce the risk of decreased productivity or nest failure, the BLM BFO will require a species specific timing limitation for surface disturbing activities during the breeding season around active/biologically important raptor nests.

4.7.2.4. Residual Impacts

Even with timing restrictions, raptors may abandon nests due to foraging habitat alteration associated with development or sensitivity to well or infrastructure placement. A decline in the breeding population of raptors within the area may occur.

4.7.3. Migratory Bird

4.7.3.1. Direct and Indirect Effects

Impacts to migratory birds will be similar to those described in the Sahara POD EA, WY-070-EA13-72, 2013, Section 4.6.2.2.1, pp. 31-33, incorporated here by reference.

4.7.3.2. Mitigation Measures

Construction of the proposal (vegetation removal) will occur outside of the breeding season (May 1- July 31) since suitable nesting habitat for sagebrush obligates is present. This restriction will apply to habitat removal, unless a pre-construction nest search (within 10 days of construction planned May 1-July 31) is completed. If surveys will be conducted, the operator will follow “2013 Sage-brush BLM Sensitive Migratory Bird Nest Search Protocol” found at the following web address:

http://www.blm.gov/wy/st/en/field_offices/Buffalo/wildlife.html.

4.7.3.3. Residual Effects

Nests initiated after the first week in July may be destroyed by construction after August 1st. Migratory birds nesting adjacent to the well pad or road may be disturbed by construction and production activities. A timing limitation does nothing to mitigate loss and fragmentation of habitat. Suitability of the project area for migratory birds will be negatively affected due to habitat loss and fragmentation and proximity of human activities associated with oil and gas development.

4.8. Threatened, Endangered, Candidate, Special Status (Sensitive) Species (SSS)

4.8.1. Greater Sage-Grouse

The project is not within a core population area or core population connectivity corridor (priority habitat), nor is it within 2 miles any lek. Greater Sage-Grouse required design features (RDF) included in the 2015 Buffalo RMP (Appendix C) were analyzed, even though, RDFs are not required within general habitat. Drilling reserve pits will not present a West Nile virus risk to Greater Sage-Grouse. The pits will have steep sides, be lined, and of a temporary nature; the pits will not provide suitable mosquito breeding habitat.

Construction of the well pad and associated infrastructure will cause fragmentation of habitat and result in the direct loss of an estimated 3.79 acres of marginal (limited sagebrush; <5% canopy cover) GSG habitat (see above, Table 2.2. Disturbance Summary). Noise and human disturbance associated with roads, construction, drilling, and completion will be disruptive to GSG if they are utilizing the area. Implementation of the project will adversely impact habitat, both through direct loss of suitable habitats and avoidance of the area by GSG due to fragmentation and anthropogenic activity.

4.8.1.1. Mitigation Measures

Sage-grouse specific mitigation is not warranted for this project location. However, with application of Standard Operating Procedures (SOP's), Best Management Practices (BMP's), applied mitigation for other wildlife species, design features and conditions of approval, impacts to Greater Sage-Grouse impacts caused by surface-disturbing and disruptive activities would be minimized.

4.9. Cultural Resources

4.9.1. Direct and Indirect Effects

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. No historic properties will be impacted by the proposed project. Following the State Protocol Between the Wyoming Bureau of Land Management State Director and The Wyoming State Historic Preservation Officer, Section V(E)(iv), the Bureau of Land Management electronically notified the Wyoming State Historic Preservation Officer (SHPO) on August 10, 2015, that no historic properties exist within 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) and in Appendix K of the Wyoming Protocol.

4.9.2. 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. Destruction of any archeological resource results in fewer opportunities to study of past human life-ways, to study changes in human behavior through time, or to interpret 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 may 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. Oil and gas development on split estate often includes construction of infrastructure that does not require permitting by BLM. Project applicants may integrate infrastructure associated with wells draining fee minerals with wells that require federal approval. BLM has no authority over fee actions, 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. Archeological inventories reveal the location of sensitive sites and although the BLM is obligated to protect site location data, information can potentially get into the wrong hands resulting in unauthorized artifact collection or vandalism. BLM authorizations that result in new access can inadvertently lead to impacts to sites from increased visitation by the public.

4.9.3. Mitigation Measures

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) and Appendix K of the Wyoming Protocol.

4.9.4. 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:

BLM Consulted or Coordinated with the Following on this Analysis; OSP (Onsite Presence):

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