

DECISION RECORD

**Devon Energy Production Company, Ponderosa 215-1NH Application for Permit to Drill (APD)
Environmental Assessment (EA), WY-070-EA11-291
Buffalo Field Office, Bureau of Land Management**

DECISION.

The BLM approves Devon Energy Production Company (Devon), Ponderosa 215-1NH oil/natural gas APD as described in Alternative B of the EA, WY-070-EA11-291, including the APD's infrastructure.

Compliance. This decision complies with:

- Federal Land Policy and Management Act of 1976 (FLPMA) (43 USC 1701) / DOI Order 3310.
- Mineral Leasing Act of 1920 (MLA) (30 USC 181); to include On Shore Order No. 1.
- National Environmental Policy Act of 1969 (NEPA) (42 USC 4321).
- Buffalo Resource Management Plan (RMP) 1985, Amendments 2001, 2003, 2011.

Details of the approval of Alternative B are summarized below. The project description, specific changes made at the onsites, and site-specific mitigation measures, are in the EA and administrative record.

Well Site: BLM approves the following APD and associated infrastructure:

	Well Name	Well #	Qtr/Qtr	Section	TWP	RNG	Lease #
1	Ponderosa 215-1NH	215-1NH	NWNW	2	41	75	WYW0275169

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

THE FINDING OF NO SIGNIFICANT IMPACT (FONSI). Alternative B in EA, WY-070-EA11-291, and the FONSI found DEP's proposal for Ponderosa 215-1NH well will have no significant impacts on the human environment, beyond those described in the PRB FEIS, thus an EIS is not required.

DECISION RATIONALE. BLM bases the decision authorizing the alternative, summarized above, on:

1. BLM included mitigation measures in Alternative B to reduce environmental impacts while meeting the project's need. For a complete description of all site-specific COAs, see the project COAs.
2. The selected alternative will not result in any undue or unnecessary environmental degradation.
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 all applicable federal, state, and local laws and regulations; and incorporate measures to alleviate resource impacts into their surface use and drilling plans.
5. The Operator certified it has a surface use agreement with the landowner.
6. The project is clearly lacking in wilderness characteristics as there is no federal surface.

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. Any party who is adversely affected by the State Director's decision may appeal that decision to the Interior Board of Land Appeals, as provided in 43 CFR 3165.4.

Field Manager: _____



Date: _____

11/4/11

FINDING OF NO SIGNIFICANT IMPACT
Devon Energy Production Company, Ponderosa 215-1NH Application for Permit to Drill (APD)
Environmental Assessment (EA), WY-070-11-291
Buffalo Field Office, Bureau of Land Management

FINDING OF NO SIGNIFICANT IMPACT (FONSI): Based on the information in the EA, WY-070-EA11-291, which is incorporated here by reference; I find that: (1) the implementation of Alternative B will not have significant environmental impacts beyond those already addressed in the Buffalo Final Environmental Impact Statement (FEIS) 1985, and the Powder River Basin (PRB) FEIS, 2003, to which the EA tiers; (2) Alternative B conforms to the Buffalo Field Office (BFO) Resource Management Plan (RMP) (1985, 2001, 2003, 2011); and (3) Alternative B does not constitute a major federal action having a significant effect on the human environment so there is no requirement for an EIS. I base this finding on my 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 Interior Department Order 3310.

CONTEXT: Mineral development is a long-standing 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 CBNG wells and 3,200 oil wells. The additional oil 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 within 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 is clearly lacking in wilderness characteristics as there is no federal surface. No species listed under the Endangered Species Act or their designated critical habitat will be adversely affected. The selected alternative will not have any anticipated effects that would threaten a violation of federal, state, or local law or requirements imposed for the protection of the environment.

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

(C. [unclear])

Date: _____

11/4/11

ENVIRONMENTAL ASSESSMENT (EA), WY-070-EA11-291
Devon Energy Production Company, Ponderosa 215-1NH Application for Permit to Drill (APD)
Buffalo Field Office, Bureau of Land Management

1. INTRODUCTION

This site-specific analysis tiers into and incorporates by reference 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), 2003, The Buffalo Resource Management Plan (RMP), and the PRB 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

Devon Energy Production Company (DEP or Operator) submitted the Ponderosa 215-1NH proposal on October 14, 2008 to the BFO to produce oil and natural gas from federally managed fluid mineral bearing formations of the PRB, covered by privately owned terrain with relatively steep slopes.

- April 4, 2011: BLM received the Ponderosa 215-1NH Notice of Staking (NOS).
- April 6, 2011: BLM posted the Ponderosa 215-1NH NOS.
- April 15, 2011: BFO assigned the Ponderosa 215-1NH Notice of Staking (NOS).
- April 21, 2011: BLM conducted onsite visits to evaluate the proposal and modify it as necessary to alleviate environmental impacts.
- May 13, 2011: NOS Post Onsite resource concern letter for the 1 Ponderosa 215-1NH proposal.
- June 17, 2011: DEP submitted Ponderosa 215-1NH APD to the BFO.
- June 27–Sept. 27, 2011: BFO and DEP resolved surface use agreement and engineering issues (see administrative record).
- Sept. 28, 2011: BLM shared the proposed conditions of approval (COAs) with DEP.
- Oct. 11, 2011: DEP updated and re-submitted engineered designs due to a change in rig.
- Oct. 31, 2011: BLM identified and shared deficiencies in regards to inconsistencies found within the acreage of disturbance in the MSUP, Pre-Disturbance Reclamation Assessment, engineered pad design, and SUDS form.
- November 1, 2011: BLM received corrected acreages for the above mentioned documents.
- November 3, 2011: BLM shared the proposed conditions of approval (COAs) (updated with new operator's information) with DEP.

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 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. Fluid mineral leasing is 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. 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. Project issues include:

- Soils and vegetation: site stability, reclamation potential
- Wildlife: raptor productivity
- Cultural: National Register eligible sites
- Air quality
- Invasive species

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
Vegetation	Transportation	Areas of critical environmental concern (ACEC)
Cultural resources	Livestock grazing	Social and economic resources
Paleontology	Wild and scenic rivers	Environmental justice
Visual resources	Tribal Treaty rights	Wilderness study areas

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 136 coal bed natural gas wells (CBNG) and 31 producing oil wells (POW) per the Wyoming Oil & Gas Conservation Commission (WOGCC) October 27, 2011 within a 4 mile area of this proposed project (See Table 3.2 and 3.3.) This comports to the PRB FEIS which analyzed the reasonably foreseeable development rolling across the PRB of over 51,000 CBNG 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: Ponderosa 215-1NH

The proposed project is to drill and develop a horizontal oil/gas well. The project would be subject to the conditions-of-approval (COAs) for drilling of an oil/gas well on in the BFO jurisdiction. 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 subject APD for maps showing the proposed well location and associated facilities for the Ponderosa 215-1NH well.

	Well Name	Well #	Qtr/Qtr	Section	TWP	RNG	Lease #
1	Ponderosa 215-1NH	215-1NH	SESW	2	41	75	WYW0275169

Operator/Applicant: Devon Energy Production Company (DEP)

Surface Owners: Andy Moore (Walker Creek Livestock Company)

The proposed action involves the following:

Table 2.1 Construction and Interim Disturbance Associated with Ponderosa 215-1NH Well

Facility	Construction Disturbance (Short Term)	Interim Disturbance (Long Term)
Number of Horizontal Wells	1	1
Engineered Pads	1 (6.13 acres)	1 (3.1 acres)
Template Roads	0.03 miles (0.3 acres)	0.03 miles (0.1 acres)
Power Drops	1 (0.4 acres)	1 (0.4 acres)
Overhead Power	Minimal, alternatively see sundry	Minimal, alternatively, see sundry
Total Acre Disturbance	6.83 Acres	3.6 Acres

The proposed well location requires the construction of 1 engineered (cut & fill) well pad. For further detail refer to the disturbance tables above for specifics regarding disturbance values.

The access roads will be constructed to meet the standards of the anticipated traffic flow and all-weather requirements. Road construction will include ditching, draining, graveling, and crowning of the roadbed. The access roads will be improved template with about 18 feet of running surface and will comprise of a total of 0.3 acres of disturbance during construction. The proposed action will require minimal disturbance for overhead power (OHP), alternatively, see sundry. The total acres of disturbance during construction and drilling of the project will consist of approximately 6.83 acres in total short term disturbance (construction) and 3.6 acres of disturbance in long term (interim).

DEP anticipates completing drilling and construction activities 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 on portions of this project.

Implementation of committed mitigation measures contained in the SUP and drilling plan, in addition to the COAs in the PRB ROD, are incorporated and analyzed in this alternative. Additionally, the Operator, in their APD, committed to: comply with all applicable federal, state, and local laws and regulations; obtain the necessary permits from other agencies for the drilling, completion and production of these wells including water rights appropriations, and relevant air quality permits; certify he has a surface use agreement with the landowner; and certify that a copy of the SUP was provided to the relevant landowner.

2.3. 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, 2011 and generally conforms to the terms and conditions of that land use plan, its amendments, and supporting FEISs, 1985, 2003, 2011. BLM did not use the rebuttable presumption in the 2005 Energy Policy Act to process this APD via a categorical exclusion to save time; since this EA initiation pre-dated the 12 August 2011 decision by the Federal District Court of Wyoming.

3. AFFECTED ENVIRONMENT

This section briefly describes the physical and regulatory environment affected by implementation of the alternatives in Section 2. Aspects of the affected environment here focus on the major issues. Find a screening of all resources and land uses potentially affected in Appendix B. Resources unaffected, or not affected beyond the level analyzed in the PRB FEIS, are outside the scope of this EA.

BLM received the APD on June 17, 2011. Specialists conducted field inspections of the proposed Ponderosa 215-1NH well (NOS) project on April 21, 2011. Personnel attending the field inspections are in Table 3.1 below.

Table 3.1. Personnel Attending the Field Inspections

Date	Name	Title	Company
4/21/2011	Andy Perez	NRS	BLM
4/21/2011	Don Brewer	Wildlife Biologist	BLM
4/21/2011	Brad Rogers	Fish and Wildlife Biologist	USFWS
4/21/2011	Rick Taylor	Foreman	Devon
4/21/2011	Rebecca Byram	Regulatory Specialist	Devon

Project Area Description

The proposed Ponderosa 215-1NH well is in southwestern Campbell County, 25 miles southwest from Wright, WY. From the intersection of WY Highways 387 and 59 in Wright go west 23.1 miles, turn left onto an existing lease road, and travel about 1.5 miles to the well location. Elevations in the area range from 5,260-5356 feet above sea level. The topography throughout the area consists of semi flat ridges and rolling hills. The climate in the area is semi-arid, averaging 13.5 inches of precipitation annually, more that 60% of which occurs between May and September. Existing conventional oil well development exists throughout the project area. The project is clearly lacking wilderness characteristics as there is no federal surface. The primary target of the Ponderosa 215-1NH POD is the Niobrara formation at about 15,500 feet. The entire surface ownership for the project area is private (split estate). Livestock grazing as the other land use in the area. Currently, the area is experiencing active oil field development of federal and fee minerals. It is reasonable foreseeable that oil, natural gas, and coalbed natural gas (CBNG) development will fill in the overlapping, contiguous, or adjacent leases in manners appropriate with technology to drain the fluid mineral resources.

There are 34 existing water wells in the 1 mile effects analysis area: 32 for livestock and 2 permitted for both domestic and livestock use.

The area has historic conventional oil and gas exploration and production. There are 136 CBNG and 31 oil wells within the 4 mile-consideration of cumulative effects area for this proposal (WOGCC) as of October 27, 2011. See Tables 3.2 and 3.3, below.

Table 3.2. Adjacent / Overlapping CBNG Development within 4 miles of Ponderosa 215-1NH APD

	NAME	EA #	Approval Date	# of Wells
1	Brook Trout	WY-070-EA08-129	9/17/2008	51
2	Grayling	WY-070-10-332	3/1/2011	85

Table 3.3. Adjacent or Overlapping Oil Development within 4 miles of Ponderosa 215-1NH APD

	Company	TWP	RNG	Sec	Well #	Lease #	Year Well Completed	10/27/2011 STATUS
1	DEVON ENERGY PRODUCTION CO. LP (DEP)	41N	75W	4	4-40	WYW0271122	1982	POW
2	DEP	41N	75W	4	4-53	WYW0271122	1982	POW
3	DEP	41N	75W	5	5-31	WYW0314361	1982	POW
4	DEP	041N	75W	5	5-56	WYW0314361	1982	POW
5	DEP	41N	75W	8	8-58	WYW0275169	1982	POW
6	DEP	41N	75W	9	9-41	WYW0271123	1982	POW
7	DEP	41N	75W	9	9-62	FEE	1983	POW
8	DEP	41N	75W	9	9-61	FEE	1982	POW
9	DEP	41N	75W	9	9-42	WYW0271123	1982	POW
10	DNR OIL & GAS INC	41N	75W	13	1	WYW62365	1981	POW
11	DEP	41N	75W	16	16-44		1982	POW
12	DEP	41N	75W	16	16-43		1982	POW
13	DEP	41N	75W	21	21-21	WYW31705	1980	POW
14	DEP	42N	75W	20	20-46	FEE	1998	POW
15	DEP	42N	75W	20	20-34	FEE	1993	POW
16	DEP	42N	75W	20	20-47	WYW0263740	1982	POW
17	DEP	42N	75W	20	20-33	WYW0258523	1982	POW
18	DEP	42N	75W	28	28-66		1999	POW
19	DEP	42N	75W	28	28-59		1983	POW
20	DEP	42N	75W	28	28-60	WYW52503	1983	POW
21	DEP	42N	75W	29	29-38	WYW0258523	1982	POW
22	DEP	42N	75W	29	29-51	WYW0258523	1982	POW
23	DEP	42N	75W	29	29-35	WYW0258523	1993	POW
24	DEP	42N	75W	29	29-50	WYW0258523	1982	POW
25	DEP	42N	75W	30	30-11	WYW0297109	1983	POW
26	DEP	42N	75W	30	30-15	WYW0311966	1983	POW
27	DEP	42N	75W	32	32-23		1998	POW
28	DEP	42N	75W	32	32-52	WYW0258523	1982	POW
29	DEP	42N	75W	32	32-39	WYW0258523	1982	POW
30	DEP	42N	75W	32	32-45		1993	POW
31	DEP	42N	75W	33	33-54	WYW0311966	1982	POW

3.1. 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 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, and from coal mines;
- Transport of air pollutants from emission sources located outside the region;
- 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 in 2003.

3.2. Soils & 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 inch Northern Plains precipitation zone, verified through onsite field reconnaissance, the project area primarily consists of one ecological site being Loamy. Dominant or important ecological site and plant communities identified in the project area are loamy (10-14NP). Refer to ecological site narrative sections below for description of vegetation species observed during onsite field visits. Table 3.4. summarizes the project area's ecological sites.

Dominant ecological sites and plant communities identified in this POD and its infrastructure are predominately loamy sites, see Figures 1, below.

Loamy Site description and Plant community:

Loamy Sites occur on gently undulating to rolling land on landforms which include hill sides, alluvial fans, ridges and stream terraces, in the 10-14 inch precipitation zone. These soils are moderately deep to very deep (greater than 20 inches to bedrock), well drained soils that formed in alluvium and residuum derived from sandstone and shale. These soils have moderate permeability. The present plant community is a Mixed Sagebrush/Grass. Wyoming big sagebrush is a major component of this Mixed Sagebrush/Grass plant community.

Cool-season mid-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: 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.

Using the same NRCS dataset the reclamation potential for the project area has 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.

Figure 1. Soil Map Unit Symbol (MUSYM) Near and at Proposed Ponderosa 215-1NH Well

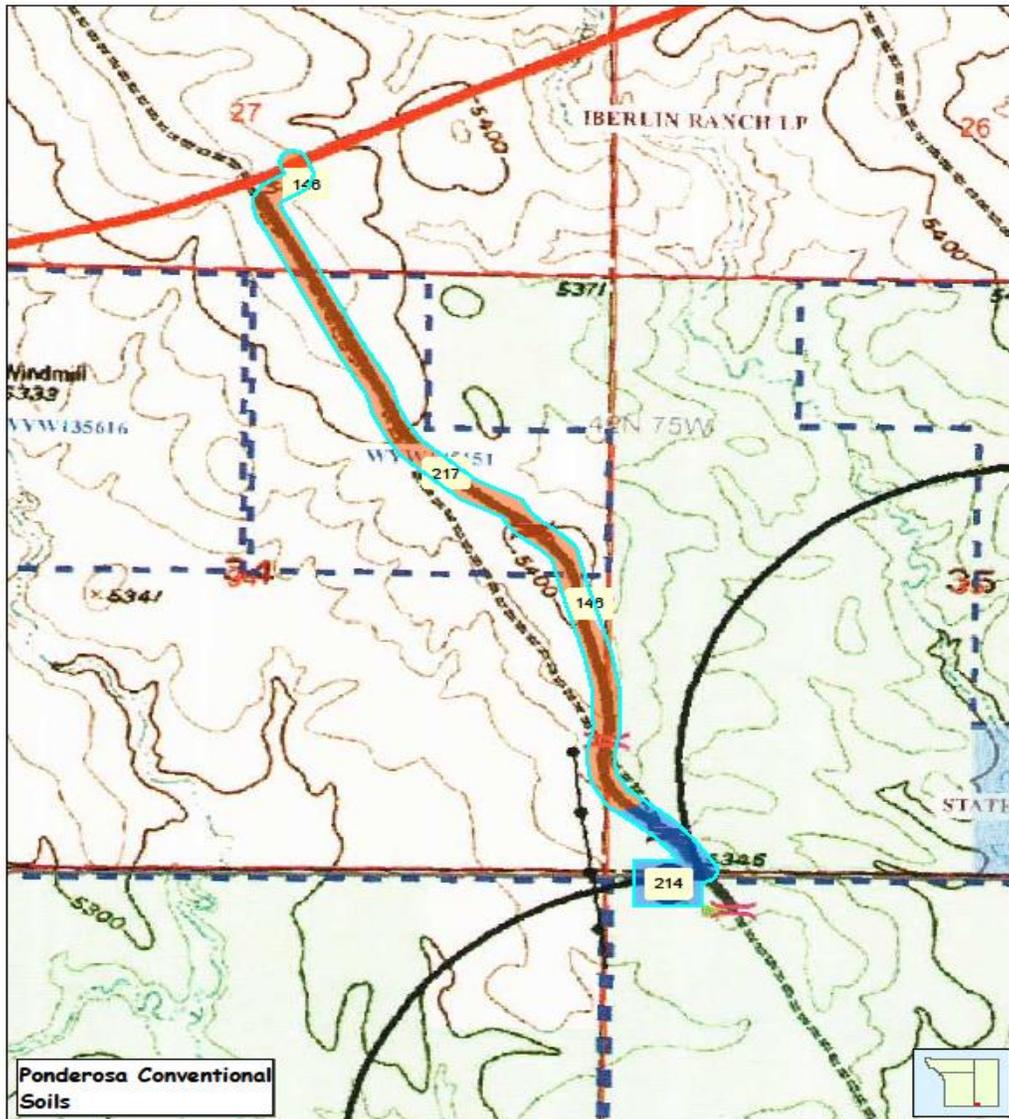


Table 3.4. Map Unit Symbol % (MUSYM) in the Area of the Proposed Ponderosa 215-1NH Well

MUSYM	Map Unit Name	Percent
146	Forkwood-Cushman loams, 0 to 6 percent slopes	2%
214	Theedle-Kishona loams, 0 to 6 percent slopes	21%
217	Theedle-Shingle loams, 3 to 30 percent slopes	78%
		100%

3.2.1. Vegetation

3.2.1.1. Wetlands/Riparian

The affected environment contains no wetlands/riparian areas.

3.2.1.2. Invasive Species

No state-listed noxious weeds and invasive/exotic plant infestations were discovered by a search of inventory maps and/or databases or during subsequent field investigation by the proposed project

proponent. Cheatgrass or downy brome (*Bromus tectorum*) and to a lesser extent, Japanese brome (*B. japonicus*) are known to exist in the affected environment. These 2 species are found in high densities and numerous locations throughout NE Wyoming.

3.3. Wildlife (Fish and Wildlife)

The PRB FEIS identified wildlife species occurring in the PRB, pp. 3-113 to 3-206. Wildlife biologists from BLM and the U.S. Fish & Wildlife Service (FWS) performed a habitat assessment in the project area on April 21, 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, Wyoming 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 project area. This section describes the affected environment and impacts to wildlife known or likely to occur in the area of the proposed project.

3.3.1. Threatened, Endangered, and Candidate Species

3.3.1.1. Threatened and Endangered Species

3.3.1.1.1. Ute Ladies'-Tresses Orchid (ULT)

A May 2011 survey By ICF International found no suitable habitat for ULT in the Ponderosa 215-1NH project area (ICF International 2011).

3.3.1.2. Candidate Species

3.3.1.2.1. Greater Sage-Grouse

The FWS warranted the greater sage-grouse (sage-grouse) for listing as threatened or endangered across its range, but precluded the listing for higher priority 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 special status species (SSS or sensitive species) 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 USFWS's Region 17. The PRB FEIS addressed the affected environment for sage-grouse, pp. 3-194 to 3-199.

In its Recommendations for Development of Oil and Gas Resources within Important Wildlife Habitats (2009), WGFD categorized impacts to sage-grouse by number of well pad locations per square mile within 2 miles of a lek and within identified nesting/brood-rearing habitats greater than 2 miles from a lek. Moderate impacts occur when well density is between 1 and 2 well pad locations per square mile or where there is less than 20 acres of disturbance per square mile. High impacts occur when well density is between 2 and 3 well pad locations per square mile or when there are between 20 and 60 acres of disturbance per square mile. Extreme impacts occur when well density exceeds 3 well pad locations per square mile or when there are greater than 60 acres of disturbance per square mile. 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 indicate that no sage-grouse leks occur within 4 miles of the project area.

Suitable sage-grouse habitat (as defined in Soehn, et al., 2001), is not present in the disturbance area. The area has primarily short grass prairie type cover with a minimal amount of sage present. No sage-grouse or their sign were observed during field surveys by ICF International (ICF International 2011) or during the on-site visit to the proposed well and access road location.

3.3.2. Sensitive Species – Plants, Fish, and Wildlife

Wyoming BLM annually updates its list of sensitive species 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

The Sensitive Species Worksheet in Appendix B lists those sensitive species that may occur in the project area. The worksheet 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.

3.3.3. Big Game

Big game species expected to occur in the project area are pronghorn and mule deer. According to the WGFD the area is yearlong range for both species. 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. The PRB FEIS discussed the affected environment for the above species on pp. 3-115 through 3-144.

3.3.4. 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-USFWS 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 MBTA. The MBTA (and BGEPA) are strict liability statutes so no intent is required to protect 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.

Shortgrass prairie vegetation dominates the project area with some sparsely scattered sagebrush. 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 this vegetation type in northeast Wyoming, according to the Wyoming Bird Conservation Plan, appear Table 3.5 grouped by level as identified in the plan. Horned larks were observed during the on-site visit.

Table 3.5. Priority Bird Species in Shortgrass Prairie Habitat in Wyoming (Nicholoff 2003)

Level	Species	Wyoming BLM Sensitive Species
Level I	Mountain Plover	Yes
	Ferruginous hawk	Yes
	Greater Sage-grouse	Yes
	McCown’s longspur	No
	Baird’s Sparrow	Yes
	Upland Sandpiper	No
	Long-billed Curlew	Yes

Level	Species	Wyoming BLM Sensitive Species
	Burrowing Owl	Yes
	Short-eared Owl	No
Level II	Lark bunting	No
	Grasshopper Sparrow	No
	Chestnut-collared Longspur	Yes
	Dickcissel	Yes
	Bobolink	No

3.3.5. Raptors

The PRB FEIS discussed the affected environment for raptors, pp. 3-141 to 3-148. According to the BLM raptor database, two raptor nests are within 0.5 miles of the project area. These are in the table, below. Both nests are ferruginous hawk nests and #3858 nest is no longer present. In addition ICF International observed an adult golden eagle and an adult ferruginous hawk during the May 3, 2011 wildlife survey (ICF International 2011). Two additional ferruginous hawk nests were in the BLM raptor database are within 1 mile of the project area. One mile is the FWS recommended protection buffer for ferruginous hawks. Nest #3859 was inactive in 2010 and nest #3855 was gone. The rolling hill, open country in the project vicinity is ideal habitat for ferruginous hawks to nest and forage.

Table 3.6. Raptor Nests within 0.5 miles of the Ponderosa 215-1NH Project Area

BLM ID #	UTMs	Legal	Substrate	Year	Condition	Status	Species
3856	432621E 4823752N	S35 T42N R75W	Ground/ Hillside	2011	Poor	INAC	n/a
				2007	Fair	INAC	n/a
				2006	Good	INAC	n/a
				2005	Good	UNK	n/a
				2004	Nest Gone	INAC	n/a
3858	431864E 4822655N	S2 T41N R75W	Ground/ Hillside	2011	Nest Gone	DNLO	n/a
				2010	Nest Gone	INAC	n/a
				2009	Nest Gone	INAC	n/a
				2007	Remnants	INAC	n/a
				2006	Remnants	INAC	n/a
				2005	Remnants	UNK	n/a
				2004	Nest Gone	INAC	n/a

3.3.5.1. 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 sharp-tailed grouse or their sign were documented during wildlife surveys in May 2011 (ICF International 2011). Habitat in the project area is of limited quality for sharp-tailed grouse.

3.4. Cultural Resources

DEP performed a class III cultural resource inventory for the Ponderosa 215-1NH conventional oil well prior to on-the-ground project work (BFO project #70110045). DEP provided 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 (SHPO) Format, Guidelines,

and Standards for Class II and III Reports to BFO. Ardeth Hahn, BLM Archaeologist, reviewed the report for technical adequacy and compliance with BLM standards, and determined it adequate. No cultural resources are in or near the project area.

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 action; the cumulative effect of the proposed action 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 A

BLM analyzed the No Action Alternative as Alternative 3 in the PRB FEIS, and it is incorporated by reference into this EA, as are the NEPA analysis represented and inferred in Tables 3.2 and 3.3. Information specific to resources for this alternative is in the PRB Final EIS on pages listed in Table 4.1.

Table 4.1. Location of Discussion of the No Action Alternative in the PRB FEIS

Resource		Type of Effect	Page(s) of PRB FEIS
Project Area Description	Geologic Features and Mineral Resources	Direct and Indirect Effects	4-164 and 4-134
		Cumulative Effects	4-164 and 4-134
Soils, Vegetation, and Ecological Sites	Soils	Direct and Indirect Effects	4-150
		Cumulative Effects	4-152
	Vegetation	Direct and Indirect Effects	4-163
		Cumulative Effects	4-164
	Wetlands/Riparian	Direct and Indirect Effects	4-178
		Cumulative Effects	4-178
Wildlife	Sensitive Species - Greater Sage-Grouse	Direct and Indirect Effects	4-271
		Cumulative Effects	4-271
	Aquatic Species	Direct and Indirect Effects	4-246
		Cumulative Effects	4-249
	Migratory Birds	Direct and Indirect Effects	4-234
		Cumulative Effects	4-235
	Waterfowl	Direct and Indirect Effects	4-230
		Cumulative Effects	4-230
	Big Game	Direct and Indirect Effects	4-186
		Cumulative Effects	4-211
	Raptors	Direct and Indirect Effects	4-224
		Cumulative Effects	4-225
Water	Ground Water	Direct and Indirect Effects	4-63
		Cumulative Effects	4-69
	Surface Water	Direct and Indirect Effects	4-77
		Cumulative Effects	4-69
Economics and Recovery of CBNG Resources	Direct and Indirect Effects	4-362	
	Cumulative Effects	4-370	
Cultural Resources	Direct and Indirect Effects	4-286	
Air Quality	Direct and Indirect Effects	4-386	
	Cumulative Effects	4-386	

Resource	Type of Effect	Page(s) of PRB FEIS
Visual Resources	Direct and Indirect Effects	4-313
	Cumulative Effects	4-314

4.2. Alternative B

Alternative B is the proposal for a POD with 1 APD (Ponderosa -215NH well). Considering the precautions described in Section 2, the drilling plan (see the administrative record), best management practices, and the drilling history in the area (136 CBNG and 31 oil wells (Tables 3.2 and 3.3)) the potential for hydrocarbon communication with fresh water aquifers (surface to 1,000 feet) is remote.

4.2.1. 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 non-CBM well production equipment, booster and pipeline compression engine exhaust). The amount of air pollutant emissions during construction would be controlled by watering disturbed soils, and by air pollutant emission limitations imposed by applicable air quality regulatory agencies. Air quality impacts modeled in the PRB FEIS concluded that projected oil & gas development would not violate any local, state, tribal or federal air quality standards.

4.2.2. Soils & Vegetation

4.2.2.1. Soils

4.2.2.1.1. Direct and Indirect Effects

The effects to soils resulting from well pad and access road construction 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.

4.2.2.1.2. Cumulative Effects

The designation of the duration of disturbance is defined in the PRB FEIS, p. 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.

4.2.2.1.3. Mitigation Measures

No further mitigation needed due to the proponent planning their project to maximize the fluid mineral drainage while avoiding areas with soil limitation where possible. The proponent also designed the infrastructure such that no engineering roads will be required and minimized the running surface to 18 feet. The proponent also placed the well as close as possible (within 178 feet) to the existing crown and ditch resource road, so that only a short spur of new template design road will be needed approximately 0.03 of a mile. The constructed well pad was placed and designed to minimize cut and fill slopes. The operator has committed within their Master Surface Use Plan (MSUP) to initiate stabilization measures within 30 days of construction of the access road and well pad; as well as reclaiming the location its interim/production condition no later than 180 days following completion of the well.

The operator will follow the guidance provided in Appendix A of this EA, the Wyoming Policy on Reclamation. The Wyoming Reclamation Policy applies to all surface disturbing activities. 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. The operator will stabilize the well location and access road within 30 days of initiating construction.

4.2.2.1.4. 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 2.1 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.

4.2.2.2. Wetland/Riparian

4.2.2.2.1. Cumulative Effects

Cumulative effects are discussed in the PRB FEIS on p. 4-151 and this proposal has no wetland or riparian areas and reasonably anticipates no effects to such areas.

4.2.2.3. Invasive Species

4.2.2.3.1. Direct and Indirect Effects

The use of existing facilities along with the surface disturbance associated with construction of proposed access roads, pipelines, water management infrastructure, produced water discharge points and related facilities would present opportunities for weed invasion and spread.

4.2.2.3.2. Cumulative Effects

Produced CBNG water would likely continue to modify existing soil moisture and soil chemistry regimes in the areas of water release and storage. 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.

4.2.2.3.3. Mitigation Measures

No further mitigation needed due to the proponent committing to the control of noxious weeds and species of concern using the following measures identified in their Integrated Pest Management Plan (IPMP):

- Control Methods include physical, biological, and chemical methods: Physical methods include mowing during the first season of establishment, prior to seed formation, and hand pulling of weeds (for small or new infestations). Biological methods include the use of domestic animals, or approved biological agents. Chemical methods include the use of herbicides, done in accordance with the existing Surface Use Agreement with the private surface owner.
- Preventive practices: Certified weed-free seed mixtures will be used for re-seeding, and vehicles and equipment will be washed before leaving areas of known noxious weed infestations.

-Education: The company will provide periodic weed education and awareness programs for its employees and contractors through the county weed districts and federal agencies. Field employees and contractors will be notified of known noxious weeds or weeds of concern in the project area.

4.2.2.3.4. Residual Effects

Control efforts by the operator are limited to the surface disturbance associated the implementation of the project. Cheat grass and other invasive species that are present within non-physically disturbed areas of the project area are anticipated to continue to spread unless control efforts are expanded. Cheatgrass and to a lesser extent, Japanese brome (*B. japonicus*) 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.

4.3. Wildlife (Fish and Wildlife) (Alternative B – Environmentally Preferred)

4.3.1. Wildlife, Threatened, Endangered, Proposed and Candidate Species

4.3.1.1. Threatened and Endangered Species

4.3.1.1.1. Ute Ladies'-Tresses Orchid

4.3.1.1.1.1. Direct, Indirect, Cumulative and Residual Effects

The Ponderosa 215-1NH well and access road will have “*no effect*” on Ute ladies’-tresses orchid.

4.3.2. Candidate Species

4.3.2.1. Greater Sage-grouse

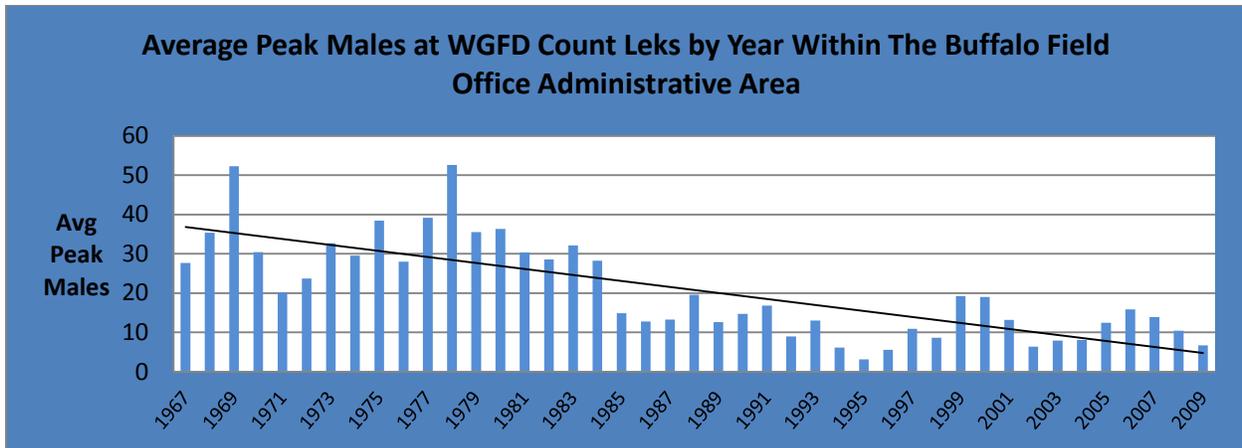
4.3.2.1.1. Direct and Indirect Effects

Habitat at the project site is not highly suitable for sage-grouse, so the surface disturbance associated the Ponderosa 215-1NH well will not directly impact sage-grouse. There will be an increase in traffic, noise, dust and human presence in the area, but impacts will be minimal because of the lack of sage-grouse.

4.3.2.1.2. Cumulative Effects

The sage-grouse population in northeast Wyoming is exhibiting a steady long term downward trend, as measured by lek attendance (WGFD 2010). The figure below illustrates a long-term cycle of periodic highs and lows. Each subsequent population peak is lower than the previous peak. Research suggests that these declines may be a result, in part, of CBNG development, as discussed in detail in USFWS (2010).

The PRB FEIS (BLM 2003) states 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 Project Area [Powder River Basin] or the entire range of the species is not likely to be compromised (pg. 4-270).” Based on the impacts described in the PRB FEIS and the findings of more recent research, the proposed action may contribute to extirpation of the local grouse population.



4.3.3. Sensitive Species

The sensitive species worksheet in Appendix B indicates species that will be impacted by the Ponderosa 215-1NH well project. The species most likely to be affected by the project is the ferruginous hawk. Impacts to the ferruginous hawk will be analyzed in the raptor section that follows.

4.3.4. Big Game

4.3.4.1. Direct and Indirect Effects

The PRB FEIS discussed impacts to big game 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.

4.3.4.2. Cumulative Effects

The cumulative effects associated with Ponderosa 215-1NH well project are within the analysis parameters and impacts described in the PRB FEIS. For details on expected cumulative impacts, refer to the PRB FEIS, pg. 4-211 to 4-215. There is no mitigation proposed and no residual effects anticipated for big game as a result of this project.

4.3.5. Migratory Birds

4.3.5.1. Direct and Indirect Effects

Direct and indirect effects to migratory birds are discussed in the PRB FEIS (pp. 4-231 to 4-235). More recent research suggests that impacts will occur. Ingelfinger (2004) identified that the density of some breeding bird species declined within 100 m of dirt roads within a natural gas field. In the study, the density of Brewer's sparrows declined by 36%, and the density of breeding sage sparrows declined by 57%. Effects occurred along roads with light traffic volume (<12 vehicles per day). The increasing density of roads constructed in developing natural gas fields exacerbated the problem creating substantial areas of impact where indirect habitat losses through displacement were much greater than the direct physical habitat losses. Though no timing restrictions are typically applied specifically to protect migratory birds breeding or nesting; sage-grouse and raptor nesting timing limitations will also protect nesting migratory birds. Also, BLM recommended shortening the well pad by 25 feet to minimize disturbance to sagebrush habitat, which will also minimize impacts to sagebrush-dependent species.

Migratory bird species in the PRB nest in the spring and early summer and are vulnerable to the same effects as sage-grouse and raptor species. Though no timing restrictions are typically applied specifically to protect migratory bird breeding or nesting, where sage-grouse or raptor nesting timing limitations are

applied, nesting migratory birds are also protected. Where these timing limitations are not applied and migratory bird species are nesting, migratory birds remain vulnerable.

4.3.5.2. Cumulative Effects

The cumulative effects associated with Ponderosa 215-1NH are within the analysis parameters and impacts described in the PRB FEIS. For details on expected cumulative impacts, refer to the PRB FEIS, p. 4-235. No additional mitigation measures are required.

4.3.5.3. Mitigation Measures

BLM will consider placing timing limitations on surface disturbance for raptors from February 1 to through July 31. This will also provide protection to nesting non raptor birds during this period. Vegetative cover lost during construction will be partially replaced by reclamation once construction is completed.

4.3.5.4. Residual Effects

Many migratory birds nest well into August and would not be protected after July 31. Timing limitations only apply to construction activities. Once construction is completed, operation and maintenance of the well, should it be a producing well, will continually cause disturbance during the nesting season. If the well is productive, only part of the original vegetative cover disturbance will be reclaimed.

4.3.6. Raptors

4.3.6.1. Direct and Indirect Effects

The PRB FEIS discussed direct and indirect effects to raptors (pp. 4-216 to 4-221). Human activities in close proximity to active raptor nests may interfere with nest productivity. Romin and Muck (1999) indicate that activities within 0.5 miles of a nest are prone to cause adverse impacts to nesting raptors. If mineral activities occur during nesting, they could be sufficient to cause adult birds to remain away from the nest and their chicks for the duration of the activities. This absence can lead to overheating or chilling of eggs or chicks. Prolonged disturbance can also lead to the abandonment of the nest by the adults. Both actions can result in egg or chick mortality. In addition, routine human activities near these nests can draw increased predator activity to the area and increase nest predation.

To reduce the risk of decreased productivity or nest failure, the BLM BFO requires a 0.5 mile radius timing limitation during the breeding season around active raptor nests and recommends all infrastructures requiring human visitation be located in such a way as to provide an adequate biologic buffer for nesting raptors. A biologic buffer is a combination of distance and visual screening that provides nesting raptors with security such that they will not be flushed by routine activities.

Ferruginous hawks are a species of conservation concern to the BLM in Wyoming, the WGFD, and the FWS. Trends evaluated from the data collected by the BLM and stored in the BFO database indicate that ferruginous hawk populations in the PRB declined in recent years. Ferruginous hawks are sensitive to human disturbance; pairs may abandon nests even when mildly disturbed during nest building or incubation (Smith and Murphy 1978, White and Thurow 1985, Olendorff 1993, Washington Department of Fish and Wildlife 1996). Furthermore, disturbed nests fledge fewer young, and they often are not reoccupied the year following disturbances (White and Thurow 1985). Rather than becoming acclimated to repeated disturbance, ferruginous hawks become sensitized and flush at greater distances (White and Thurow 1985), which may result in increased clutch or brood mortality due to exposure, predation, starvation, or nest desertion.

Both the WGFD and FWS recommend a 1 mile buffer around ferruginous hawk nests because of their sensitivity to human disturbance during nesting season. The BFO data base indicates 4 ferruginous hawk nest are within 1 mile off the Ponderosa 215-1NH project.

4.3.6.2. Cumulative Effects

The cumulative effects associated with project are within the analysis parameters and impacts described in the PRB FEIS. For details on expected cumulative impacts, refer to the PRB FEIS, p. 4-221.

4.3.6.3. Mitigation Measures

To reduce the risk of decreased productivity or nest failure, the BLM requires a nest survey and a 0.5 mile radius timing limitation during the breeding season around active raptor nests per the RMP. It is recommended that because of the historic preference by ferruginous hawks to nest in the area, and the quality of the habitat, raptor timing limitations be applied to the Ponderosa 215-1NH well and access road construction.

4.3.6.4. Residual Impacts

Even with a timing limitation, raptors may abandon nests due to alteration in foraging habitats associated with development or because of sensitivity to well or infrastructure placement. Declines in breeding populations of some species that are more sensitive to human activities may occur.

4.3.7. Plains Sharp-tailed Grouse

4.3.7.1. Direct and Indirect Effects

Sharp-tailed grouse may avoid habitats adjacent to the project area. BLM does not expect the project will impact the nearest known lek due the project's distance from the lek.

4.3.7.2. Cumulative Effects

The cumulative effects associated with project are within the analysis parameters and impacts described in the PRB FEIS. For details on expected cumulative impacts, refer to the PRB FEIS, pp. 4-225-226.

4.4. Cultural Resources

4.4.1. Direct and Indirect Effects

The project will not impact historic properties. Following the Wyoming State Protocol Section VI(A)(1) the BLM electronically notified the Wyoming SHPO on August 11, 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. Further discovery procedures are explained in the Standard COA (General)(A)(1).

4.4.2. 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 mineral 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.

4.4.3. 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).

4.4.4. 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	Phone Number	Present at Onsite?
Mary Hopkins	WY SHPO	Wyoming SHPO	307-766-5324	No

Also see, Table 3.1.

6. REFERENCES AND AUTHORITIES:

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

Code of Federal Regulations (CFR)

- 40 CFR All Parts and Sections inclusive Protection of Environment Revised as of July 1, 2001.
- 43 CFR All Parts and Sections inclusive - Public Lands: Interior. Revised as of October 1, 2000.

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7. REVIEWERS

Andy Perez, Natural Resource Specialist
Casey Freise, Supervisory Natural Resource Specialist
Matthew Warren, Petroleum Engineer
Sharon Soule, Legal Instruments Examiner
Ardeth Hahn, Archaeologist
Donald Brewer, Wildlife Biologist
Kerry Aggen, Geologist
John Kelley, Plans and Environmental Coordinator
Chris Durham, Assistant Field Manager, Resources
Clark Bennet, Assistant Field Manager, Minerals & Lands
Duane Spencer, Field Manager

Lead Preparer: Andy Perez

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.)
7. **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.
8. **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.
9. **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.
10. **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.

Appendix B: Special Status Species Worksheet

Threatened, Endangered, Proposed, and Candidate Species Worksheet

Common Name	Habitat	Presence? (NP, NS, S, K)	Direct Impacts Anticipated?	Intend to apply COA?	Direct, indirect, and/or cumulative impacts anticipated beyond the level analyzed within the PRB FEIS?
<i>Endangered</i>					
Black-footed ferret	Black-tailed prairie dog colonies or complexes > 1,000 acres.	NP	No	No	4-251, BA & BO
Blowout penstemon	Sparsely vegetated, shifting sand dunes	NP	No	No	Not in FEIS
<i>Threatened</i>					
Ute ladies'-tresses orchid	Areas with appropriate hydrology	NS	No	No	4-253, BA & BO
<i>Candidate</i>					
Greater sage-grouse	Basin-prairie shrub, mountain-foothill shrub	S	No	Yes	4-257 to 4-273

Sensitive Species worksheet

Common Name	Habitat	Presence? (NP, NS, S, K)	Direct Impacts Anticipated?	Intend to apply COA?	Direct, indirect, and/or cumulative impacts anticipated beyond the level analyzed within the PRB FEIS?
<i>Amphibians</i>					
Northern leopard frog	Beaver ponds and cattail marshes from plains to montane zones.	NS	No	No	4-258

Common Name	Habitat	Presence? (NP, NS, S, K)	Direct Impacts Anticipated?	Intend to apply COA?	Direct, indirect, and/or cumulative impacts anticipated beyond the level analyzed within the PRB FEIS?
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.	NP	No	No	
<i>Fish</i>					4-259 & 4-260
Yellowstone cutthroat trout	Cold-water rivers, creeks, beaver ponds, and large lakes in the Upper Tongue sub-watershed	NP	No	No	
<i>Birds</i>					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.	NS	No	No	
Bald eagle	Mature forest cover often within one mile of large water body with reliable prey source nearby.	S	Yes	Yes	4-251 to 4-253 & BA
Brewer's sparrow	Sagebrush shrubland	S	Yes	No	
Ferruginous hawk	Basin-prairie shrub, grasslands, rock outcrops	S	No	Yes (raptor TLS)	
Loggerhead shrike	Basin-prairie shrub, mountain-foothill shrub	S	No	No	
Long-billed curlew	Grasslands, plains, foothills, wet meadows	NS	No	No	
Mountain plover	Short-grass prairie with slopes < 5%	NS	No	No	4-254, 4-255 & BA

Common Name	Habitat	Presence? (NP, NS, S, K)	Direct Impacts Anticipated?	Intend to apply COA?	Direct, indirect, and/or cumulative impacts anticipated beyond the level analyzed within the PRB FEIS?
Northern goshawk	Conifer and deciduous forests	NS	No	No	
Peregrine falcon	Cliffs	NS	No	No	
Sage sparrow	Basin-prairie shrub, mountain-foothill shrub	NS	No	No	
Sage thrasher	Basin-prairie shrub, mountain-foothill shrub	NS	No	No	
Trumpeter swan	Lakes, ponds, rivers	NP	No	No	
Western Burrowing owl	Grasslands, basin-prairie shrub	NS	No	No	
White-faced ibis	Marshes, wet meadows	NP	No	No	
Yellow-billed cuckoo	Open woodlands, streamside willow and alder groves	NS	No	No	
<i>Mammals</i>					4-264 &4-265
Black-tailed prairie dog	Prairie habitats with deep, firm soils and slopes less than 10 degrees.	NP	No	No	4-255, 4-256
Fringed myotis	Conifer forests, woodland chaparral, caves and mines	NS	No	No	
Long-eared myotis	Conifer and deciduous forest, caves and mines	NS	No	No	
Spotted bat	Cliffs over perennial water.	NS	No	No	
Swift fox	Grasslands	NS	No	No	
Townsend's big-eared bat	Caves and mines.	NS	No	No	
<i>Plants</i>					4-258
Limber pine	Mountains, associated with high elevation conifer species	NP	No	No	

Common Name	Habitat	Presence? (NP, NS, S, K)	Direct Impacts Anticipated?	Intend to apply COA?	Direct, indirect, and/or cumulative impacts anticipated beyond the level analyzed within the PRB FEIS?
Porter's sagebrush	Sparsely vegetated badlands of ashy or tuffaceous mudstone and clay slopes 5300-6500 ft.	NP	No	No	
William's wafer parsnip	Open ridgetops and upper slopes with exposed limestone outcrops or rockslides, 6000-8300 ft.	NP	No	No	

Non-designated wildlife worksheet

Common Name / Group	Presence? (NP, NS, S, K)	Direct Impacts Anticipated?	Intend to apply COA?	Direct, indirect, and/or cumulative impacts anticipated beyond the level analyzed within the PRB FEIS?
Big Game	K	Yes	No	4-181 to 4-215
Aquatics	K	No	Yes	4-235 to 4-249
Migratory Birds	K	Yes	No	4-231 to 4-235
Raptors	K	Yes	Yes	4-216 to 4-221
Plains Sharp-tailed Grouse	possible	No	No	4-221 to 4-226

NP = Not Present
NS = Not Suspected
S = Suspected
K = Known