

**UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
Buffalo Field Office  
Buffalo, Wyoming Optional Environmental Assessment (EA), FONSI/DR Short Form  
For  
Devon Energy Production Company L.P.  
House Creek Q  
PLAN OF DEVELOPMENT  
WY-070-EA08-188**

**INTRODUCTION**

This site-specific analysis tiers into and incorporates by reference the information and analysis contained in the Powder River Basin Oil and Gas Project Environmental Impact Statement and Resource Management Plan Amendment (PRB FEIS), #WY-070-02-065 (approved April 30, 2003), pursuant to 40 CFR 1508.28 and 1502.21. This document is available for review at the Buffalo Field Office. This project EA addresses site-specific resources and impacts that were not covered within the PRB FEIS.

**Conformance with Applicable Land Use Plan:**

The proposed action is in conformance with the terms and the conditions of the Approved Resource Management Plan for the Public Lands Administered by the Bureau of Land Management, Buffalo Field Office (BFO), April 2001 and the PRB FEIS, as required by 43 CFR 1610.5

**Relationship to Other Environmental Documents:**

This site-specific analysis tiers into and incorporates by reference the information and analysis, including cumulative effects, contained in the;

- PRB FEIS
- Devon Energy: House Creek O POD EA#-WY070-EA06-320, approved 9/21/06
- Lance Oil and Gas: Durham Ranch I POD EA#-WY070-01-141, approved 5/22/01
- Devon Energy Corporation House Creek Unit Infill Development EA# WY-061-8-056, approved 12-8-97

**Purpose & Need for Proposed Action:**

The purpose for the proposal is to produce coal bed natural gas (CBNG) on 8 federal oil and gas mineral leases issued to the applicant by the BLM.

Proposed Well Information: There are 21 wells proposed within this POD, on 80 acre spacing pattern with 1 well per location. Well head production facilities will be housed in a 42 inch x 42 inch well head enclosure.

Wells are located as follows:

	Well Name	Well #	QTR	Sec	TWP	RNG	Lease
21	HOUSE CREEK Q DURHAM RANCH	28S-5*	SWNW	28	45N	73W	WYW131208
1	HOUSE CREEK Q BROWN OEDEKOVEN	29S-1	NENE	29	45N	73W	WYW0202988B
2	HOUSE CREEK Q BROWN OEDEKOVEN	29S-3	NENW	29	45N	73W	WYW0143820
3	HOUSE CREEK Q BROWN OEDEKOVEN	29S-5	SWNW	29	45N	73W	WYW0143820
4	HOUSE CREEK Q BROWN OEDEKOVEN	29S-7	SWNE	29	45N	73W	WYW0202988B
5	HOUSE CREEK Q BROWN	29S-9	NESE	29	45N	73W	WYW0202988B

	Well Name	Well #	QTR	Sec	TWP	RNG	Lease
	OEDEKOVEN						
6	HOUSE CREEK Q BROWN OEDEKOVEN	29S-11	NESW	29	45N	73W	WYW0143820
7	HOUSE CREEK Q BROWN OEDEKOVEN	29S-13	SWSW	29	45N	73W	WYW0143820
8	HOUSE CREEK Q BROWN OEDEKOVEN	29S-15	SWSE	29	45N	73W	WYW0202988B
9	HOUSE CREEK Q BROWN OEDEKOVEN	30S-1	NENE	30	45N	73W	WYW0143820
10	HOUSE CREEK Q BROWN OEDEKOVEN	30S-3	NENW	30	45N	73W	WYW30227
11	HOUSE CREEK Q BROWN OEDEKOVEN	30S-5	SWNW	30	45N	73W	WYW30748
12	HOUSE CREEK Q BROWN OEDEKOVEN	30S-7	SWNE	30	45N	73W	WYW0143820
13	HOUSE CREEK Q BROWN OEDEKOVEN	30S-9	NESE	30	45N	73W	WYW0143820
14	HOUSE CREEK Q BROWN OEDEKOVEN	30S-11	NESW	30	45N	73W	WYW30748
15	HOUSE CREEK Q BROWN OEDEKOVEN	30S-13	SWSW	30	45N	73W	WYW107257
16	HOUSE CREEK Q BROWN OEDEKOVEN	30S-15	SWSE	30	45N	73W	WYW0143820
17	HOUSE CREEK Q BROWN OEDEKOVEN	33S-4	NWNW	33	45N	73W	WYW0202988B
18	HOUSE CREEK Q BROWN OEDEKOVEN	33S-6	SENE	33	45N	73W	WYW0202988B
19	HOUSE CREEK Q BROWN OEDEKOVEN	33S-12	NWSW	33	45N	73W	WYW0202988B
20	HOUSE CREEK Q BROWN OEDEKOVEN	33S-14	SESW	33	45N	73W	WYW7083

### Description of Proposed Action

The proposed action involves the following:

- Drilling of 21 total federal CBM wells in Big George coal zone to depths of approximately 1100 feet. The 21 locations will be single well locations all locations will be capable of producing from multiple coal seams.
- Drilling and construction activities are anticipated to be completed within two 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 POD, but rarely do these restrictions affect an entire POD.
- Well metering shall be accomplished by telemetry and well visitation. Metering would entail 20 visits per month to each well/central metering facility.
- A Water Management Plan (WMP) that involves the following infrastructure and strategy: CBNG produced water will be directly discharged by 1 proposed and 2 existing outfalls into the Belle Fourche River or its tributaries. The maximum discharge rate is projected to be 50 gpm. The existing discharge points have been active for several years, but discharge rates have been

declining. The piping network for this POD will be manifolded into existing infrastructure that was built as part of previous fee and federal House Creek O POD development (EA#-WY070-EA06-320).

- An unimproved and improved road network.
- An above ground power line network to be constructed by a contractor. If the proposed route is altered, then the new route will be proposed via sundry application and analyzed in a separate NEPA action. Depending on the contractors' construction schedule, power line construction and completion may be completed before the CNNG wells are producing.
- A buried gas, water and power line network.

For a detailed description of design features, construction practices and water management strategies associated with the proposed action, refer to the Master Surface Use Plan (MSUP), Drilling Plan and WMP in the POD and individual APDs. Also see the subject POD and/or APDs for maps showing the proposed well locations and associated facilities described above. More information on CBNG well drilling, production and standard practices is also available in the PRB FEIS, Volume 1, pages 2-9 through 2-40 (January 2003).

Implementation of committed mitigation measures contained in the MSUP, Drilling Program and WMP, in addition to the Standard COA contained in the PRB FEIS Record of Decision Appendix A, are incorporated and analyzed in this document.

Additionally, the Operator, in their POD, has committed to:

1. Comply with all applicable Federal, State and Local laws and regulations.
2. Obtain the necessary permits for the drilling, completion and production of these wells including water rights appropriations, the installation of water management facilities, water discharge permits, and relevant air quality permits.
3. Offer water well agreements to the owners of record for permitted water wells within ½ mile of a federal CBNG producing well in the POD
4. Provide water analysis from a designated reference well in each coal zone.
5. The Operator has certified that a Surface Use Agreement has been reached with the Landowners.

Applications to drill were received on February 20, 2008 Field inspections of the proposed House Creek Q CBNG project were conducted July 15, 2008 by;

<b>NAME</b>	<b>TITLE</b>	<b>AGENCY</b>
Eric Holborn	Natural Resource Specialist	BLM
Bill Ostheimer	Wildlife Biologist	BLM
Wendy Sutton	Archeologist	BLM
Chris Williams	Hydrologist	BLM
Rick Taylor	Production Superintendent	Devon Energy
Randy Maxey	Senior Regulatory Specialist	Devon Energy
Kathleen Fields	Land Advisor	Devon Energy
Becky Byram	Regulatory Analyst	Devon Energy

## **Description of Affected Environment & Impacts of the Proposed Action**

This analysis tiers into and incorporates by reference the information and analysis, including cumulative effects, contained in the following: PRB FEIS, Devon Energy: House Creek O POD EA#-WY070-EA06-320, approved 9/21/06, Lance Oil and Gas: Durham Ranch I POD EA#-WY070-01-141, approved 5/22/01, and Devon Energy Corporation House Creek Unit Infill Development EA# WY-061-8-056, approved 12-8-97. Potentially affected resources will be identified below, and any effects not addressed in the above mentioned documents will be disclosed. The above documents must be referenced for a complete description of resource effects.

### **Affected Environment**

The House Creek Q project is located south of Gillette in Campbell County, north of Hwy 387. The area consists of flat to gentle rolling topography with small ephemeral drainages that flow into the Upper Belle Fourche River. The Upper Belle Fourche River is located on the east side of the project. There is existing conventional oil and CBNG development located within the POD boundary. The project area and surrounding region has been or is currently being cultivated and/or replanted into the Conservation Reserve Program (CRP), introduced pasture or allowed to go-back without any seeding. Due to past practices, little vegetation diversity was found. The primary grasses growing in the project area are crested wheat grass and cheat grass.

Infrastructure currently existing within the POD area consists of the following companies that have lease holdings encompassed by the House Creek Q POD and the surrounding region;

- Devon Energy: House Creek O POD EA#-WY070-EA06-320, approved 9/21/06
- Lance Oil and Gas: Durham Ranch I POD EA#-WY070-01-141, approved 5/22/01
- Devon Energy Corporation House Creek Unit Infill Development EA# WY-061-8-056, approved 12-8-97

For specifics on wells and infrastructure development, and further information pertaining to the affected environment, see the above referenced documents.

Critical Elements requiring mandatory evaluation are presented below:

Air Quality	No	T&E Species	Yes
ACEC	No	Wastes, Haz./Solid	No
Cultural Resources	Yes	Water Quality	No
Farmlands, Prime/Unique	No	Wetlands/Riparian	No
Floodplains	No	Wild and Scenic Rivers	No
Nat. Amer. Rel. Concerns	No	Wilderness	No
Environmental Justice	No	Invasive Species	Yes

### **Invasive Species**

Per operator communication with Campbell County Weed and Pest, the following list of state and county designated weeds may be found in the House Creek O POD; Scotch thistle, Canada thistle, field bind weed, skeleton leaf bursage, Russian knapweed, spotted knapweed, diffuse knapweed, and black henbane. Devon personnel have inspected areas of the POD and have found isolated patches of the above listed weeds.

Based on the investigations performed during the POD planning process, the operator has committed to the control of noxious weeds and species of concern using the following measures in an Integrated Pest Management Plan (IPMP) included in the proposal:

1. Administer herbicides.
2. Incorporate weed prevention and control measures into environmental restoration and infrastructure maintenance activities (for specifics see Integrated Pest Management Plan (IPMP) in the POD.
3. Initiate a weed education policy to assist contractors and field employees in the identification of noxious weeds and to create an awareness of the impacts of noxious weeds and invasive plants.

Cheatgrass or downy brome (*Bromus tectorum*) and to a lesser extent, Japanese brome (*B. japonicus*) are known to exist in the affected environment. These two species are found in such high densities and numerous locations throughout NE Wyoming that a control program is not considered feasible. Utilization of existing facilities and surface disturbance associated with construction pipelines, water management infrastructure, produced water discharge points and related facilities would present opportunities for weed invasion and spread. Produced CBNG water would likely continue to modify existing soil moisture and soil chemistry regimes in the small areas of water release and storage.

Wildlife

A habitat assessment and wildlife inventory surveys were performed by ICF Jones & Stokes(J&S)(2008). ICF Jones & Stokes performed surveys for bald eagles, mountain plover, sharp-tailed grouse, greater sage-grouse, raptor nests, and prairie dog colonies according to Powder River Basin Interagency Working Group (PRBIWG) accepted protocol in (2007 and 2008). Surveys were conducted for Ute ladies'-tresses orchid. PRB IWG accepted protocol is available on the CBM Clearinghouse website ([www.cbmclearinghouse.info](http://www.cbmclearinghouse.info)).

A BLM biologist conducted field visits on July, 15 2008. During this time, the biologist reviewed the wildlife survey information for accuracy, evaluated impacts to wildlife resources, and provided project modification recommendations where wildlife issues arose. A summary of Sensitive Species Habitat and Project Effects table was used to evaluate impacts. The table is located in the project file.

**Raptors**

Seventeen raptor nest sites were identified by ICF Jones & Stokes (2008) and BLM within 0.5 mile of the project area. Of these, 5 nests were active during spring 2008.

Due to the amount of existing mineral development in close proximity to nests, BLM Biologist ability to move proposed federal wells was limited. A majority of the House Q POD has existing infrastructure from fee wells. The existing disturbance may have already led to raptor nest abandonment or an alteration of raptor habitat.

To reduce the risk of decreased productivity or nest failure, the BLM BFO requires a one-half mile radius timing limitation during the breeding season around active raptor nests and recommends all infrastructure requiring human visitation to be located greater than one-quarter mile from occupied raptor nests.

BLM ID	UTMs	Legal	Substrate	Year	Condition	Status	Species
1679	449165E 4851954N	S4 T44N R73W	GHS	2008	Remnants	INAC	
				2007	Remnants	INAC	
				2006	Poor	INAC	
				2003	Remnants	INAC	
2148	447808E 4856751N	S20 T45N R73W	GHS	2008	Fair	INAC	

BLM ID	UTMs	Legal	Substrate	Year	Condition	Status	Species	
				2007	Good	OCCU	FEHA	
				2006	Good	ACTI	FEHA	
				2004	Fair	INAC		
2151	447937E 4854458N	S28 T45N R73W	WIL	2008	Remnants	INAC	RETA	
				2007	Poor	INAC		
				2006	Fair	INAC		
				2005	Fair	INAC		
				2004	Good	ACTI		
2152	448022E 4856909N	S21 T45N R73W	GHS	2008	Poor	UNK		
				2007	Remnants	INAC		
				2006	Poor	INAC		
				2005	Poor	INAC		
				2004	Poor	INAC		
				2003	Poor	INAC		
2153	448024E 4856906N	S21 T45N R73W	GHS	2008	Fair	INAC	FEHA	
				2007	Fair	INAC		
				2006	Fair	INAC		
				2005	Fair	INAC		
				2004	Fair	INAC		
				2003	Good	ACTF		
2154	448292E 4856641N	S21 T45N R73W	GHS	2008	Fair	INAC		
				2007	Fair	INAC		
				2006	Good	INAC		
				2005	Good	INAC		
				2004	Good	INAC		
2155	448446E 4856815N	S21 T45N R73W	GHS	2008	Fair	INAC		
				2007	Fair	INAC		
				2006	Good	INAC		
				2005	Good	INAC		
				2004	Good	ACTI		FEHA
				2003	Fair	INAC		
2156	449144E 4853209N	S33 T45N R73W	GHS	2008	Poor	INAC		
				2007	Fair	INAC		
				2006	Poor	INAC		
				2005	Poor	INAC		
				2004	Fair	INAC		
2265	445824E 4853060N	S31 T45N R73W	CTL	2008	Good	ACTI	SWHA	
				2007	Good	INAC		
				2006	Good	ACTI	GRHO	
				2004	Good	ACTI	GRHO	

BLM ID	UTMs	Legal	Sub-strate	Year	Con- dition	Status	Species
4056	447361E 4852518N	S32 T45N R73W	CTD	2008	Good	ACTI	SWHA
				2007	Fair	ACTI	RETA
				2006	Poor	INAC	
4151	447712E 4853854N	S32 T45N R73W	CTL	2008	Good	ACTI	SWHA
				2007	Good	ACTI	SWHA
				2006	Good	ACTI	SWHA
4441	448265E 4854876N	S28 T45N R73W	CTL	2008	Fair	INAC	
				2007	Good	ACTI	RETA
				2006	Good	ACTI	RETA
				2005	Excellent	ACTI	RETA
4442	448206E 4854652N	S28 T45N R73W	CTL	2008	Gone	UNK	
				2007	Poor	ACTI	RETA
4856	447931E 4854472N	S28 T45N R73W	CTL	2008	Good	ACT	RETA
4936	448238E 4854340N	S28 T45N R73W	WIL	2008	Gone	INAC	GHOW
4938	448310E 4856915N	S21 T45N R73W	GRD	2008	GOOD	INAC	FEHA

### Ute Ladies'-Tresses Orchid

The Belle Forche River is intermittent and its tributaries are generally ephemeral. Mud Spring Creek is within the project area ( SW NW Section 32 T45N:R73W). Suitable habitat for the Ute Ladies'-tresses orchid was identified along the Belle Forche River and Mud Spring during a habitat assessment conducted by J&S biologist in Spring 2007. Those areas included one combined pipeline corridor and six road crossings along portions of the Belle Forche River in SW SW and NE SW Section 28; SE SE Section 29; and SW NE, NE NE, and NW NE Section 32, and two road crossings along Mud Spring Creek in SW NW and SE NW Section 32.

No Ute Ladies''-tresses orchids were documented at or near the nine aforementioned targeted survey areas along the primary drainages associated with the House Creek Q POD, and no known populations of the orchid exist within the survey area.

The vast majority of the survey area along the Belle Forche River contained significant amounts of flowing water during the August survey. However, only small stagnant pools of water with an obvious salt crust at the high water mark were present at the road crossing in SW SW Section 28. Although Mud Spring Creek contained significant amount of water in March 2007, most areas along the drainage were relatively dry. The streambed contained soils that were only slightly moist and showed evidence of a saline crust where the water line had receded. However, on small pond of water was present in SE NW Section 29 during August surveys.

The wetland vegetation along both drainages was quite dense (<10%) and tall (exceeding 3 feet), and included several wetland and mesic species, such as sedges, rushes, cattails, arrowhead, mint, and foxtail barley. Although both drainages had steep banks, the Belle Forche River channel was significantly incised, which created an abrupt transition from wetland to upland species. The surrounding upland vegetation in these areas was lightly grazed and included crested wheatgrass, Japanese brome, western wheatgrass, mustard, kochia, and cocklebur.

Soil samples collected from each of the crossings along the primary drainages were primarily composed of clay and clay loams. A saline crust along the exposed stretches of soil at the high water mark was visible throughout portions of both Mud Spring Creek and the Belle Forche River.

Jones & Stokes surveyed for Ute ladies' tresses on August 30, 2007. No Ute ladies' tresses orchids were documented at or near the survey area along the primary drainages associated with the House Creek Q POD.

Based upon the perennial water and hydrophytic vegetation within the project area potential orchid habitat is present. Pipeline and road crossings of the Belle Fourche and other proposed infrastructure within suitable orchid habitat could result in potential impacts to this Threatened plant. Because the plant is inconspicuous and difficult to find, a single is not sufficient to conclude that the orchid is not present.

Heavy equipment used in CBNG development could dig up plants. Invasive weeds transplanted by vehicle and foot traffic in habitat could outcompete this fragile species. Restricting work from areas of Ute ladies' tresses orchid habitat reduces these impacts.

Implementation of the proposed coal bed natural gas project "**may affect, but is not likely to adversely affect**" the Ute ladies' tresses orchid as suitable habitat is present.

### **Bald Eagle**

Mature cottonwood trees along the Belle Forche River exhibit good quality bald eagle winter habitat. The Belle Forche River borders over half of the House Creek Q POD. A one mile buffer around quality bald eagle winter habitat encompasses the majority of the House Creek Q POD. No bald eagle nests were documented within one mile of the House Creek Q POD during 2008 spring surveys. A total of four bald eagles were observed within 1 mile of the project area during the 2007/2008 winter roost surveys.

### **Black-tailed prairie dog**

One black-tailed prairie dog colony, totaling approximately 9.5 acres, was identified during site visits by J&S within the project area in SW Section 27, T45N:R73W.

### **Mountain plover**

Suitable mountain plover habitat is present within the project area. The Conservation Reserve Program (CRP) of the U.S. Department of Agriculture may be one helpful tool for conservation of the mountain plover. Farmers enrolled in the program agree to plant appropriate vegetation on eligible fields, field edges and stream banks to create wildlife habitat and retain topsoil. Fallow agricultural lands, or areas of restored shortgrass prairie created under the CRP program could be valuable habitat for mountain plovers and other grassland species. Agriculture fields and CRP land occurring in portions of Sections 29 and 32 have suitable mountain plover habitat. J&S survey concluded that no mountain plover nests were documented on or within 0.25 mile of the House Creek Q POD area, however for the second consecutive year, mountain plovers were documented on two separate occasions within Section 32, T45N:R73W.

Surveys should be continued on an annual basis throughout the project area and impacts to documented nesting areas will be reduced by timing restrictions during construction of this project.

### **Greater sage-grouse**

Suitable sage-grouse habitat is not present throughout the project area. Small stands of less than 10 percent sagebrush are present in patches throughout the project area. Sage-grouse habitat models indicate that none of the project area contains high quality sage-grouse nesting habitat or high quality sage-grouse wintering habitat (Walker et al. 2007). BLM records identified no sage-grouse leks within 4 miles of the project area. The 4-mile distance was recommended by the State wildlife agencies' ad hoc committee for consideration of oil and gas development effects to nesting habitat (WGFD 2008). The nearest occupied lek is (Northwest Wright) 4.8 miles southeast of the House Creek Q POD. No sage grouse, or sage grouse sign were observed during ground or aerial surveys in 2008.

### Hydrology

Direct discharge of production water from this POD at two existing outfalls to the Belle Fourche River will not change existing conditions or projected impacts. Discharge rates will be higher at these outfalls soon after these wells are completed, but will rapidly decrease over the first year of dewatering. The range of discharge is estimated to range from a maximum of 50 gpm per well to a low of 18 gpm per well. One new outfall will discharge to an ephemeral draw and will flow within a well defined channel for approximately one half mile before combining with the Belle Fourche River. Riparian vegetation may be affected by increased water availability.

Cultural Resources

Class III cultural resource inventories were conducted for the House Creek Q POD project, following the Secretary of the Interior’s Guidelines and Standards. A Class III inventory specifically for the project was conducted by SWCA Inc., Environmental Consultants (BLM project no. 70070159). The inventory covered approximately 2460 acres; this inventory recorded, rerecorded, or revisited 6 sites and 10 isolates. The following cultural resources are located in or near the APE (area of potential effect).

Site Number	Site Type	National Register Eligibility
48CA1568	Site	E
48CA1570	Site	E
48CA3185	Site	NE
48CA4561	Site	NE
48CA4975	Site	E
48CA6616	Site	NE
48IR-A	Isolate	NE
48IR-B	Isolate	NE
48IR-C	Isolate	NE
48IR-D	Isolate	NE
48IR-E	Isolate	NE
48IR-F	Isolate	NE
48IR-G	Isolate	NE
48IR-H	Isolate	NE
48IR-I	Isolate	NE
48IR-J	Isolate	NE

BLM review, conducted by Wendy Sutton, has determined that no sites will be impacted by the current project. One isolated resource (48IR-E) will be impacted by the current project. The isolate is not eligible to the National Register of Historic Places and is not considered an historic property. Following the Wyoming State Protocol, Section VI(A)(1) the Bureau of Land Management electronically notified

the Wyoming State Historic Preservation Officer (SHPO) on 9/23/2008 that the proposed project would result in *no historic property affected* (DBU\_WY\_2008\_2209).

Vegetation & Soils

Overall impacts to vegetation and soils from surface disturbance should be minor, based on the operator’s plans and BLM applied mitigation. All 21 proposed well locations can be drilled without a well pad being constructed.

Approximately 2.4 miles of primitive road would be constructed to provide access to various well locations. Where applicable proposed utilities; gas, water and electric have been located in “disturbance corridors.” Disturbance corridors involve the combining of 2 or more utility lines (water, gas, power) in a common trench, usually along access routes. This practice results in less surface disturbance and overall environmental impacts. Approximately 5 miles of utilities would be constructed outside of corridors (the extensive existing pipeline infrastructure hinders corridor construction). Expedient reclamation of disturbed land with stockpiled topsoil, proper seedbed preparation techniques, and appropriate seed mixes, along with utilization of erosion control measures waterbars, culverts, rip-rap, gabions etc.) would ensure land productivity/stability is regained and maximized.

**Summary of Existing and Proposed Disturbance**

Facility	Existing Number or Miles	Proposed Number or Miles	Revised Number or Miles
Total CBNG Wells	36	21	21
Well Locations Non-constructed	36	21	21
Conventional Wells	149		
Gather/Metering Facilities	3	0	0
Compressors	0	0	0
Ancillary (Staging/Storage Areas) existing	1	1	1
Template/Spot Upgrade Roads No Corridor With Corridor	20 20	0	0
Engineered Roads No Corridor With Corridor	0	0	0
Primitive Roads No Corridor With Corridor	20 20	1 2.4	0.4 2.4
Buried Utilities No Corridor With Corridor	25 25	4.1	5
Overhead Powerlines	9.4	0	0.6
Communication Sites	0	0	0
Monitor Wells	0	0	0

Facility	Existing Number or Miles	Proposed Number or Miles	Revised Number or Miles
LAD	0	0	0
SDI	0	0	0
Treatment Facilities	0	0	0
Impoundments			
On-channel	0	0	0
Off-channel	0	0	0
Lined			
Unlined			
Water Discharge Points	2	1	1
Channel Disturbance			
Headcut Mitigation	0	0	0
Channel Modification	0	0	0
<b>TOTAL ACRES DISTURBANCE</b>	<b>310</b>	<b>29</b>	<b>29</b>

\*existing well/infrastructure figures taken from NEPA documentation

For a complete description of cumulative impacts, please refer to the PRB Final EIS Volume 2, Chapter 4, pages 4-1 through 4-364. Specifically, groundwater cumulative impacts are discussed on pages 4-64 through 4-69 and surface water cumulative impacts are discussed on pages 4-115 through 4-117 and 4-122 through 4-124.

**Description of Proposed Mitigation Measures (applied as Conditions of Approval):**

**Conditions of Approval**

**Site Specific Mitigation Measures:**

**General**

1. Please contact Eric Holborn – Natural Resource Specialist, @ (307) 684-1044, Bureau of Land Management, Buffalo, if there are any questions concerning surface use COAs.

**Surface Use**

2. Proposed Primitive Roads with utility corridor will be allowed a maximum working width of 35ft with a blading/clearing width not to exceed 20ft.
3. All permanent above-ground structures (e.g., production equipment, tanks, etc.) not subject to safety requirements will be painted to blend with the natural color of the landscape. The paint used will be a color which simulates “Standard Environmental Colors.” The color selected for the House Creek Q POD is Carlsbad Canyon, (Munsell Soil Color 2.5Y 6/2).
4. The operator will drill seed on the contour to a depth of 0.5 inch, followed by cultipaction to compact the seedbed, preventing soil and seed losses. To maintain quality and purity, the current years tested, certified seed with a minimum germination rate of 80% and a minimum purity of 90% will be used. On BLM surface or in lieu of a different specific mix desired by the surface owner, use the following:

Species	% in Mix	Lbs PLS*
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Species	% in Mix	Lbs PLS*
<b>Western Wheatgrass</b> (Pascopyrum smithii)	40	4.8
<b>Bluebunch Wheatgrass</b> (Pseudoroegneria spicata ssp. Spicata)	10	1.2
<b>Green needlegrass</b> (Nassella viridula)	25	3.0
<b>Thickspike Wheatgrass</b> (Elymus lanceolatus ssp. lanceolatus)	10	1.2
<b>Prairie coneflower</b> (Ratibida columnifera)	5	0.6
<b>White or purple prairie clover</b> (Dalea candidum, purpureum)	5	0.6
<b>Rocky Mountain beeplant</b> (Cleome serrulata) /or <b>American vetch</b> (Vicia americana)	5	0.6
<b>Totals</b>	<b>100%</b>	<b>12 lbs/acre</b>

\*PLS = pure live seed

\*Northern Plains adapted species

\*Double this rate if broadcast seeding

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

### **Wildlife**

#### *Raptors*

1. No surface disturbing activity shall occur within ½ mile of all identified raptor nests from February 1 through July 31, annually, prior to a raptor nest occupancy survey for the current breeding season. This condition will be implemented on an annual basis for the duration of surface disturbing activities.

Township/Range	Section	Wells and Infrastructure
45/73	28	Wells: 28S-5 All proposed access / pipeline corridors in the NWSW and SWSW.
45/73	29	Wells: 29S-9, 29S-15. All proposed access/pipeline corridors in the south half of Section 219, and NW quarter of Section 29
45/75	33	Wells:33S-4, 33S-6, 33S-12, 33S-14 All proposed access/pipeline corridors, S half of Section 33, and NW quarter of Section 33
45/75	32	Entire proposed pipeline corridor

- a. Surveys to document nest occupancy shall be conducted by a biologist following BLM protocol, between April 15 and June 30. All survey results shall be submitted in writing to a Buffalo BLM biologist and approved prior to surface disturbing activities. Surveys outside

- this window may not depict nesting activity. If a survey identifies active raptor nests, a ½ mile timing buffer will be implemented. The timing buffer restricts surface disturbing activities within ½ mile of occupied raptor nests from February 1 to July 31.
- b. Nest productivity checks shall be completed for the first five years following project completion. The productivity checks shall be conducted no earlier than June 1 or later than June 30 and any evidence of nesting success or production shall be recorded. Survey results will be submitted to a Buffalo BLM biologist in writing no later than July 31 of each survey year. Nests to be checked are within a ½ mile or less of the proposed development. If an undocumented raptor nest is located during project construction or operation, the Buffalo Field Office (307-684-1100) shall be notified within 24 hours and timing limitations will be applied.
  - c. Well metering, maintenance and other site visits within 0.5 miles of raptor nests should be minimized as much as possible during the breeding season (February 1 – July 31).
  - d. If an undocumented raptor nest is located during project construction or operation, the Buffalo Field Office (307-684-1100) shall be notified within 24 hours.

#### *Bald Eagles*

1. No project related actions shall occur within one mile of bald eagle habitat annually from November 1 through April 1 (CM9), prior to a winter roost survey or from February 1 through August 15 (CM8) prior to a nesting survey. This timing limitation will be in effect unless surveys determine the nest/roost to be inactive. This affects the following wells and infrastructure: The entire House Creek Q POD except for wells: 29-3 and 30-1
  - a. If a roost is identified and construction has not been completed, a year-round disturbance-free buffer zone of 0.5 mile will be established for all bald eagle winter roost sites. A seasonal minimum disturbance buffer zone of 1 mile will be established for all bald eagle roost sites (November 1 - April 1). Additional measures such as remote monitoring and restricting maintenance visitation to between 9:00 AM and 3:00 PM may be necessary to prevent disturbance.
  - b. If a nest is identified and construction has not been completed, a disturbance-free buffer zone of 0.5 mile (i.e., no surface occupancy) would be established year round for all bald eagle nests. A seasonal minimum disturbance buffer zone of 1 mile will be established for all bald eagle nest sites (February 1 - August 15).
  - c. Additional mitigation measures may be necessary if the site-specific project is determined by a Bureau biologist to have an adverse affect to bald eagles or their habitat.

#### *Mountain Plover*

The following conditions will alleviate impact to mountain plovers:

1. A mountain plover nesting survey shall be conducted within the entire House Creek Q POD. This condition will be implemented on an annual basis for the duration of surface-disturbing activities. Mountain plover nesting surveys shall be conducted by a biologist following the most current USFWS Mountain Plover Survey Guidelines (the survey period is May 1-June 15). All survey results must be submitted in writing to the BFO.
  - a. If occupied mountain plover habitat is identified, then BLM shall be consulted regarding use of any road that travels through the area for the remainder of that breeding season.
  - b. If no mountain plover observations are identified, then activities may be permitted until the following breeding season (March 15).
2. No dogs will be permitted at work sites to reduce the potential for harassment of mountain plovers.
3. Maximum allowed travel speed on roads within 0.5 mile of identified mountain plover nesting areas shall not exceed 25 miles per hour from March 15 to July 31.

*Ute Ladies'-tresses Orchid*

The following conditions will alleviate impacts to Ute ladies'-tresses:

1. A habitat suitability survey will be conducted each year of project activities to evaluate all areas with potential Ute ladies'-tresses habitat that will be impacted by the project; i.e. crossings of the Belle Fourche River and Mud Spring Creek. Surveys are to be conducted according to the Powder River Basin Interagency Working Group's (PRBIWG) accepted protocol. If individual plants are found, then BLM reserves the right to re-evaluate the water management plan to mitigate potential impacts to the plant.

**LIST OF INTERDISCIPLINARY TEAM PREPARERS AND REVIEWERS**

Eric Holborn, Natural Resource Specialist  
Casey Freise, Supervisory Natural Resource Specialist  
Chris Williams, Hydrologist  
Rob Coleman, Petroleum Engineer  
Sharon Soule, Legal Instruments Examiner  
Wendy Sutton, Archaeologist  
Bill Ostheimer, Wildlife Biologist  
Scott Jawors, Wildlife Biologist  
Gerald Queen, Geologist  
Tom Bills, NEPA Coordinator  
Chris E. Hanson, Field Manager

Interdisciplinary Team Lead: Eric Holborn

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**FINDING OF NO SIGNIFICANT IMPACT/DECISION RECORD**

I have determined that the proposed action is in conformance with the Approved Resource Management Plan for the Public Lands Administered by the Bureau of Land Management, Buffalo Field Office, April 2001 and the Powder River Basin Oil and Gas Project Environmental Impact Statement and Resource Management Plan Amendment (PRB FEIS), #WY-070-02-065 (approved April 30, 2003). I have reviewed this environmental assessment including the analyses of potentially significant environmental impacts. I have determined that the proposed action, with the mitigation measures described below, will not have any significant impacts on the human environment and that an EIS is not required. It is my decision to implement the project with the mitigation measures identified above as Conditions of Approval.

Authorized Official: \_\_\_\_\_ Date: \_\_\_\_\_