

## FINDING OF NO SIGNIFICANT IMPACT & DECISION RECORD

for  
Cedar Resources, Corporation  
Clabaugh POD

### ENVIRONMENTAL ASSESSMENT –WY-070-EA08-134

**DECISION:** Approve Alternative C as described in the attached Environmental Assessment (EA) and authorize Cedar Resources Clabaugh POD Coal Bed Natural Gas (CBNG) Plan Of Development (POD) comprised of the following four Applications for Permit to Drill (APDs):

	Well Name	Well #	Qtr/Qtr	Section	TWP	RNG	Lease #
1	CLABAUGH	32-21WA	SWNE	21	53N	76W	WYW130292
2	CLABAUGH	33-21WA	NWSW	21	53N	76W	WYW130292
3	CLABAUGH	41-21WA	NENE	21	53N	76W	WYW130292
4	CLABAUGH	43-21WA	NESE	21	53N	76W	WYW130292

This approval is subject to adherence with all of the operating plans and mitigation measures contained in the Master Surface Use Plan of Operations, Drilling Plan, Water Management Plan, and information in individual APDs. This approval is also subject to operator compliance with all mitigation and monitoring requirements contained within the Powder River Oil and Gas Project Environmental Impact Statement and Resource Management Plan Amendment (PRB FEIS) approved April 30, 2003 and the original Clabaugh POD EA#WY-070-EA07-158 (approved 05-05-2008).

Comments received during a public review period have been incorporated into the analysis and are addressed in Attachment III (page 24).

**RATIONALE:** The FONSI for implementation of Alternative C, as described in the attached Environmental Assessment (EA), is based on the following:

1. The Operator, in their POD, has 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, the installation of water management facilities, water discharge permits, and relevant air quality permits.
  - 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.
  - Provide a water analysis from a designated reference well in each coal zone.
  - Bury all new electrical power.
  - Use existing roads and avoid constructing new roads wherever possible.
  - Monitor gas production remotely.
2. The Operator has certified that a Surface Use Agreement has been reached with the Landowner(s).
3. The proposed action is in conformance with the PRB FEIS and the Approved Resource Management Plan for the Public Lands Administered by the Bureau of Land Management (BLM), Buffalo Field Office, April 2001.
4. This site-specific analysis tiers into and incorporates by reference the information and analysis contained in the PRB FEIS and the original Clabaugh POD EA#WY-070-EA07-158 (approved 05-05-2008)
5. Alternative C will not result in any undue or unnecessary environmental degradation.

6. Mitigation measures applied by the BLM will alleviate environmental impacts. Alternative C is the environmentally-preferred Alternative.
7. It is in the public interest to approve these wells, as the leases are being drained of federal gas, resulting in a loss of revenue for the government.
8. Elk impacts are anticipated to be minimal; there is little use of the project area now.
9. Implementation of the project will not affect the proposed Fortification Creek Area of Critical Environmental Concern (ACEC).
10. Implementation of the project will not affect BLM's decision regarding the ongoing Fortification Creek Resource Management Plan Amendment.

**FINDING OF NO SIGNIFICANT IMPACT:** Based on the analysis of the potential environmental impacts, including the issues raised in the public comment period, I have determined that NO significant impacts are expected from the implementation of Alternative C. I have further determined that there are no significant impacts beyond those analyzed in the PRB FEIS and the original Calbaugh POD EA #WY-070-EA07-158 (approved 05-05-2008), to which this EA is tiered. An environmental impact statement is not required.

**ADMINISTRATIVE REVIEW AND APPEAL:** Under BLM regulations, this decision is subject to administrative review in accordance with 43 CFR 3165. Any 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: \_\_\_\_\_

**UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
Buffalo Field Office  
Buffalo, Wyoming**

**Environmental Assessment (EA)  
For Coal Bed Methane Related Actions**

**EA#- WY-070-EA08-134**

**Proposed Action:** Clabaugh POD Application for Permits to Drill (APD) for 4 Wells (listed below) with their associated infrastructure

**Location of Action:** Campbell County, Wyoming T53N, R76W Section 21

**Applicant:** Cedar Resources

	Well Name	Well #	QTR	Sec	TWP	RNG	Lease
1	CLABAUGH	32-21WA	SWNE	21	53N	76W	WYW130292
2	CLABAUGH	33-21WA	NWSW	21	53N	76W	WYW130292
3	CLABAUGH	41-21WA	NENE	21	53N	76W	WYW130292
4	CLABAUGH	43-21WA	NESE	21	53N	76W	WYW130292

**Conformance with Applicable Land Use Plan:**

The proposed action has been reviewed and determined to be in conformance with the Approved Resource Management Plan for the Public Lands Administered by the Bureau of Land Management (BLM), Buffalo Field Office (BFO), 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).

These 4 wells, access road and utility corridor infrastructure are proposed for the eastern half of Section 21, located from 200 to 2800 feet to the west of the Burlington Northern (BN) Railroad which forms the eastern border of the Fortification Creek Planning Area (FCPA).

On August 20, 2007, the BFO published in the Federal Register (FR) a Notice of Intent (NOI) to amend the 1985 Buffalo Resource Management Plan (RMP) with regard to decisions made in the FCPA (72 FR 46511). According to the NOI the BFO, through the plan amendment process will evaluate; 1) management guidance in the FCPA; 2) designation of an Area of Critical Environmental Concern (ACEC) in the FCPA; and 3) a potential land exchange with the State of Wyoming to consolidate ownership and facilitate management of the FCPA.

Through the RMP amendment, the BFO intends to determine whether to continue management activities within the FCPA as described in the 1985 BFO RMP, or generate new goals and objectives and use limitations in the area for the protection of steep slopes, erosive soils, elk habitat, cultural, and visual resources. The NOI also states the plan amendment will recognize valid existing rights (72 FR 46512).

A primary component of the preferred alternative being analyzed in the RMP Amendment is to geographically phase CBNG development. The planning area has been divided into three areas with the Wilderness Study Area in the center; the three areas are the southeast, southwest, and north (see Figure 4-

5 from RMP Amendment in project file). CBNG development is to occur in only one geographic area at a time before proceeding to the next geographic area. This approach allows for CBNG development within one-third of the FCPA while providing secure elk habitat in the remaining two-thirds.

The four wells in question are within the northern area. In discussions with CBNG operators, the southeastern area will likely be the first area developed. The original Clabaugh decision (EA #WY-070-EA07-158 approved 05-05-08) was to defer approval of these wells to allow for BLM to continue analyzing the proposed phased development approach within the RMP amendment. The Final RMP Amendment and decision record, originally scheduled for completion in the first quarter 2009, has been postponed to further refine the phased development strategy.

On May 21, 2008, Cedar Resources filed a request for the BLM State Director to review the decision made to withhold these four wells from approval with the original Clabaugh Plan of Development (POD). Upon review, the State Director remanded the withholding of these wells stating “that denying the four APDs proposed for development in the Clabaugh POD is premature” (SDR No. WY-2008-18 dated 06-19-08). The State Director’s determination went on to direct the BFO to prepare an environmental assessment of the 4 wells with consideration of applicable mitigation and operator committed practices. The second environmental analysis only considered the four wells listed above which were denied in the original Clabaugh POD. Upon completion of the additional analysis (EA #WY-070-EA08-134 approved 07-21-08), the BFO once again determined that the well approval should be deferred pending the RMP amendment completion. After a second State Director Review request by the operator (dated August 8, 2008), the BFO voluntarily requested the Wyoming State Office remand the BFO Manager’s decision dated July 18, 2008 for additional consideration, prior to completion of the RMP Amendment (SDR No. WY-2008-22 dated 08-28-08). There is risk of drainage to the Cedar Resources lease from existing wells on adjacent property. By the time the Clabaugh wells would be placed into production through the phased development called for in the RMP Amendment, recoverable reserves may be limited based on continuing production from the adjacent wells.

The proposed wells are outside the proposed ACEC; therefore there will be no effect to managing a potential ACEC.

This Environmental Analysis was posted for 30 days of Public Comment, in which time only two comment letters were received. Those comments are summarized on page 24. The comments were also incorporated into the analysis.

#### **Relationship to Other Environmental Documents:**

This site-specific analysis tiers into and incorporates by reference the information and analysis contained in the PRB FEIS and the original Clabaugh POD EA#WY-070-EA07-158 (approved 05-05-2008). The conditions and environmental effects described in the PRB FEIS and the Clabaugh POD EA are still valid.

#### **1. Purpose and Need for Proposed Action**

The purpose for the Applications for Permit to Drill (APDs) is to produce coal bed natural gas (CBNG) on a valid federal oil and gas mineral lease issued to the applicant by the BLM. Analysis has determined that federal CBNG is being drained from the federal lease by surrounding non-federal mineral development. The need exists because without approval of the APDs, federal lease royalties will be lost and the lessee will be deprived of the federal gas they have the rights to develop.

## 2. Alternatives including the Proposed Action

### 2.1. Alternative A – No Action Alternative

This alternative would allow no new federal wells. An oil and gas lease grants the lessee the “right and privilege to drill for, mine, extract, remove, and dispose of all oil and gas deposits” in the lease lands, “subject to the terms and conditions incorporated in the lease.” Thus, under this alternative, the operator’s APDs would be denied and therefore the lessee’s lease rights would also be denied. A No Action Alternative was considered in the PRB FEIS, Volume 1, pages 2-54 through 2-62.

### 2.2. Alternative B – Proposed Action

**Description of Proposed Action:** Cedar Resources (the operator) has proposed to drill four (4) wells in Section 21 to be included in the Clabaugh POD (See table above). These wells are located on the west side of the Burlington Northern Railroad in an area which has been defined as the FCPA. The wells are vertical bores proposed on an 80 acre spacing pattern with 1 well per location. Each well will produce from up to 4 coal seams. Proposed well house dimensions are 10 ft wide x 10 ft length x 6 ft height. Well house color is Covert Green, selected to blend with the surrounding vegetation.

County: Campbell

Applicant: Cedar Resources

Surface Owners: Clabaugh

Project Description:

The proposed action involves the following:

- Drilling of 4 total federal CBM wells in the Wall (1330’ to 1620’), Cook (1010’ to 1300’), Canyon (810’ to 1100’) and Swartz-Anderson (460’ to 750’) coal seams on locations using slotted pads. Multiple seams will be produced, beginning with the shallowest (Swartz-Anderson and Canyon), eventually co-mingling production from the deeper coals in the same wellbore.
- Drilling and construction activities are anticipated to be completed within two years, the term of an APD.
- Well metering shall be accomplished by telemetry from the individual wells with the information transmitted to a central gathering facility. Metering would entail 4 visits per month to each well.
- A Water Management Plan (WMP) that involves the following infrastructure (located on the east side of Wild Horse Creek, outside of the FCPA) and strategy: Discharge to several existing subsurface drip irrigation (SDI) systems or to 2 existing and one proposed discharge point and 2 existing and one proposed stock water impoundments within the Upper Powder River watershed. These impoundments will be operated to fully contain the water discharged to them with the exception of storm events. The operator has obtained permits from the Wyoming Department of Environmental Quality (WDEQ) Groundwater Division Permit - UIC 07-805) for the SDI systems and Wyoming Pollutant Discharge Elimination System (WYPDES) program (Permit #WY0055859) for discharge into impoundments. The operator has also obtained a permit from the Wyoming Oil and Gas Conservation Commission (WOGCC) to spread produced water on county roads for dust control.

- An unimproved and improved road network.
- A buried gas, water and power line network.
- no central gathering/metering facilities or compression facilities are proposed; existing facilities will be utilized.

**2.3. Alternative C – Environmentally Preferred**

Alternative C represents a modification of Alternative B based on the operator and BLM working cooperatively to reduce environmental impacts. The description of Alternative C is similar to Alternative B with the addition of the project modifications identified by BLM and the operator following the initial project proposal identified in 2.3.1 (Alternative B). Because the Operator and the BLM agreed on changes that modified Alternative B creating Alternative C, only Alternative C will be analyzed in detail.

At the on-sites, all areas of proposed surface disturbance were inspected to insure that the project would meet BLM multiple use objectives to conserve natural resources while allowing for the extraction of Federal minerals. Access roads, pipelines, and well locations were moved, modified, or mitigated to alleviate environmental impacts. Modifications of the proposed action are always considered and applied as pre-approval changes, site specific mitigation and/or Conditions of Approval (COAs), if they will alleviate environmental effects of the operator’s proposal. The specific changes identified for these wells are listed below:

**2.3.1. Changes as the result of the Onsite**

Well Number	QtrQtr	Sec	Lease	Onsite Notes
32-21WA	SWNE	21	WYW130292	No Changes
33-21WA	NWSW	21	WYW130292	Access will be realigned to avoid disturbing ridge. Access will require expedient reclamation. A proposal for final abandonment may be requested.
41-21WA	NENE	21	WYW130292	No Changes
43-21WA	NESE	21	WYW130292	Relocated well and pad 300 feet to the NE to area where disturbance will be decreased at landowners request.

**2.3.2. Programmatic mitigation measures identified in the PRB FEIS ROD**

The Operator will be required to comply with all the programmatic measures as identified in the original Clabaugh POD under 2.3.2.

**2.3.3. Site Specific mitigation measures**

**Surface Use**

1. The operator is committed to all pertinent plans, mitigation, and Conditions of Approval contained in Clabaugh POD EA approved 05-05-2008.
2. Wells 32-21-5376 and 33-21-5376 SE ¼ Section 21: Access route will be constructed prior to drilling the wells. Due to erosive soils and steep slopes, the access route to these wells will require interim reclamation and slope stabilization to be completed within 30 days of road construction.

3. The approval of this project does not grant authority to use off lease federal lands. No surface disturbing activity, or use of off-lease federal lands, is allowed on affected leases until right-of-way grants become effective on the date in which the right-of-way grant is signed by the authorized officer of the BLM.
4. For any questions regarding this project and the conditions of approval, contact Kathy Brus at (307)684-1087.

## **Wildlife**

### *Bald Eagles*

1. The following conditions will alleviate impacts to bald eagles:

No project related actions shall occur within one mile of bald eagle habitat along Wild Horse Creek annually from November 1 through April 1, prior to a winter roost survey or from February 1 through August 15 prior to a nesting survey. This timing limitation will be in effect unless surveys determine the nest/roost to be inactive. This timing limitation will affect all of the proposed wells analyzed in this EA.

  - a. 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).
  - b. 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).
  - c. Additional mitigation measures may be necessary, such as remote monitoring and restricting maintenance visitation to between 9:00 AM and 3:00 PM, if the site-specific project is determined by a Bureau biologist to have an adverse affect to bald eagles or their habitat.

### *Raptors*

1. The following conditions will alleviate impacts to raptors:
  - a. No surface disturbing activity shall occur within 0.5 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 timing limitation will affect all of the proposed wells analyzed in this EA.
    - 1) 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 0.5 mile timing buffer will be implemented. The timing buffer restricts surface disturbing activities within 0.5 mile of occupied raptor nests from February 1 to July 31.
    - 2) Nest productivity checks shall be completed annually during construction and 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. This applies to the following nest(s):

BLM ID#	SPECIES	UTM E (NAD 83)	UTM N	SUBSTRATE
4462	Unknown	4935166	420684	Dead Cottonwood
4461	Unknown	4934307	420247	Dead Cottonwood
4464	Red-tailed hawk	4935206	421082	Live Cottonwood

- b. 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.
- 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).

*Elk*

1. Cedar Resources will provide BLM with a proposed work schedule at the pre-construction meeting and a work summary report, due by the 12<sup>th</sup> of each month. The report shall summarize the work activities from the previous month, what activities were conducted, where the work was conducted, when the work was conducted, and any elk observations shall be recorded. The report shall also include the proposed activity schedule for the next month. The summary report shall be compared with the elk monitoring data to evaluate cause and affect relationships.

*Sharp-tailed Grouse*

1. Cedar Resources shall immediately notify the BLM if any sharp-tailed grouse leks are identified within 0.64 miles of the Clabaugh POD. If an active lek is identified during the survey, the 0.64 mile timing restriction (March 1-June 15) will be applied and surface disturbing activities will not be permitted until after the nesting season. If surveys indicate that the identified lek is inactive during the current breeding season, surface disturbing activities may be permitted within the buffer until the following breeding season (April 1). The required sharp-tailed grouse survey will be conducted by a biologist following WGFD protocol. All survey results shall be submitted in writing to a Buffalo BLM biologist.

**2.4. Alternative D – Deferred Approval**

Alternative D would use the locations and COAs of Alternative C but defer the approval of the four proposed wells to follow the proposed phased development strategy recommended as the Environmentally Preferred Alternative in the RMP Amendment for the FCPA (described below). These wells would be approved when development is authorized in the northern portion of the FCPA. Exact timing for this approval is unknown but projected to be approximately four (phase II) to seven (phase III) years. Because there are producing CBNG wells in the area, there is the potential that drainage of the lease area and loss of the CBNG resource could occur prior to the time of approval.

Phased development is a principal component of the RMP Amendment’s preferred alternative. The objective of phased development is to provide the elk with secure habitat in two-thirds of the FCPA while CBNG development is proceeding in the remaining third. Another principal component of the preferred alternative is a security habitat/road density standard which would limit construction of new roads in order to keep security habitat loss less than 20% of the 2005 base-line conditions. Approximately 90 miles of new road could be constructed within the entire yearlong range of the FCPA without compromising this standard. To maximize CBNG development potential, the RMP amendment proposes that CBNG operators work together to coordinate and consolidate road corridors. Authorizing the proposed Clabaugh roads would be included in the total road allowance, thereby reducing the 90 miles available.

The phased development approach and the security habitat loss/road density standard were developed to allow for economic CBNG development while preventing significant impacts to the Fortification Creek elk.

### **2.5. Alternatives Considered but Eliminated from Detailed Analysis**

Neither Cedar Resources nor the BLM was able to develop an additional alternative that would meet the purpose and need while being technically and economically feasible. For example: horizontal or directional drilling from outside the FCPA was eliminated from detailed analysis as non-vertical drilling has not been proven to be technically or economically feasible for Powder River Basin CBNG; in addition a suitable non-vertical well location is not available as nearly all of lease WYW-130292 is located within the FCPA.

### **3. Affected Environment**

These four wells which are located in the eastern half of Section 21 were included in the southwestern corner of the original Clabaugh POD area which is located at the far western edge of Campbell County, Wyoming, along the lower reaches of Wild Horse Creek, tributary to the Upper Powder River. The project area (372 acres) is located west of Wild Horse Creek and to the west of the railroad right of way which runs from the Southeast to the Northwest to create the eastern boundary of the Fortification Creek Planning Area.

The project area comprises the transition zone from the creek floodplain on the east to the rough breaks with incised ephemeral drainages which rise to an elevation of over 4500 feet on the west. Primary vegetation is typical of the arid high plains with areas of sagebrush stands interspersed with native grasses and forbs. Cheatgrass (downy brome) has invaded the area. Annual precipitation rates range from 10 to 17 inches.

Historically, this area has been primarily used for hunting, ranching and livestock production. During the 1960-80's there was conventional oil and gas development which has since been abandoned. More recently, there has been CBNG development of State and fee minerals.

This area is surrounded on three sides by CBNG development, both approved and proposed. Wells in the surrounding proximity are situated using the customary 80 acre spacing pattern, which has been determined to avoid production interference between wellbores. According the Wyoming Oil and Gas Conservation Commission database, July 14, 2008 update, in the 8 sections surrounding Section 21, there are:

- 6 producing CBNG wells (Cedar Resources)
- 5 shut in CBNG wells (3 Lance Oil and Gas, 2 Cedar Resources)
- 5 pending APDs (Cedar Resources)
- 2 drilling wells (Cedar Resources)

### 3.1. Soils and Vegetation

Physiography: This area is in the Missouri Plateau, unglaciated, section of the Great Plains Province of the Interior Plains. It is an area of old plateaus and terraces that have been deeply eroded. Typically, local relief is about 150 to 250 feet. Slopes generally are gently rolling to steep, and wide belts of steeply sloping badlands border a few of the larger drainage valleys. Terraces are common along most of the major river systems in the area. In places flat-topped, steep-sided buttes rise sharply above the general level of the plains.

#### 3.1.1. Soils

The dominant soil orders in this Major Land Resource Area (MLRA) are Aridisols and Entisols. Soils have developed in alluvium and residuum derived mainly from the Wasatch Formation. Lithology consists of light to dark yellow and tan siltstone and sandstones with minor coal seams resulting in a wide variety of surface and subsurface textures. The soils in the area dominantly have a mesic soil temperature regime, an aridic soil moisture regime that borders on ustic, and mixed or smectitic mineralogy. They are shallow to very deep, and generally well drained.

Soils within the project area were identified from the *North Campbell County, Wyoming*. The soil survey was performed by the Natural Resource Conservation Service according to National Cooperative Soil Survey standards. Pertinent information for analysis was obtained from the published soil survey and the National Soils Information System (NASIS) database for the area.

Soils differ with topographic location, slope and elevation. Topsoil depths to be salvaged for reclamation range from 0 to 4 inches on the ridges and side slopes to 12+ inches in the bottomland and on the floodplain. Erosion potential varies from moderate to severe depending on the soil type, vegetative cover, and slope. Reclamation potential of soils also varies throughout the project area.

The map units identified for the soils within this project area are listed in the table below along with the individual acreage.

**Table 3.2 Clabaugh POD Soil Map Unit Types**

Map Unit Symbol	Map Unit Name	Acres
206	SAMDAY-SHINGLE-BADLAND COMPLEX, 10 TO 45 PERCENT SLOPES	132.7
229	ULM-RENOHILL CLAY LOAMS, 6 TO 15 PERCENT SLOPES	22.7
313	SAVAGETON-SAMDAY CLAY LOAMS, 3 TO 15 PERCENT SLOPES	87.3
327	ULM-BIDMAN COMPLEX, 0 TO 6 PERCENT SLOPES	112.3
330	ULM CLAY LOAM, 6 TO 10 PERCENT SLOPES	16.9

Some of the map units listed above have been identified as highly erosive lands, with a badlands component. Highly erosive soils (low reclamation potential areas) in this POD have been designated using the following criteria:

- Slopes in excess of 25%
- Soils classified as miscellaneous areas
- Taxon above the family level of soil taxonomy and/or
- Existing ecological sites of Very Shallow or Shale.

Highly erosive soils and landforms present distinct challenges for development. Approximately 35% of the area within the boundary of the proposed action contain soil mapping units with a named component identified as being a highly erosive or susceptible to degradation, and 36% of this project area has a poor reclamation potential, making reclamation challenging if not impossible. The Bureau of Land Management has an obligation to protect these lands from disturbance which could lead to irretrievable and irreversible impacts, as stated in the ROD. “Areas of highly erosive soils will be avoided when drill sites, two-track access routes, and pipeline routes are surveyed and staked in order to reduce the amount of soil loss.” (ROD page A-31).

### 3.1.2. Vegetation

Ecological Site Descriptions are used to provide soils and vegetation information needed for resource identification, management and reclamation recommendations. To determine the appropriate Ecological Sites for the area contained within this proposed action, BLM specialists analyzed data from onsite field reconnaissance and Natural Resources Conservation Service published soil survey information. The map units identified for the soils and the associated ecological sites found within the POD boundary are listed in the table below. This area falls within the 10 - 14” Northern Plains precipitation zone, but some of the Map Units include characteristics of the 15-17” Northern Plains precipitation zone.

**Table 3.3 Clabaugh POD Ecological Sites**

Map Unit Symbol	Ecological Site	Acres	Percentage
206	Shallow Clayey	133	36
327	Clayey	112	30
313	Clayey	87	23
229	Clayey	23	6
330	Clayey	17	5

#### Clayey Ecological Sites

In this project area, 64% of the landforms and soils are clayey sites. These sites occur on nearly level to 30% slopes, on hill sides, in alluvial fans, stream terraces and ridge tops in the 10-14” and 15-17” precipitation zones. The soils of these sites are moderately deep (greater than 20” to bedrock) to very deep, well-drained soils that formed in alluvium or alluvium over residuum. These soils have slow permeability. The bedrock is clay shale which is virtually impenetrable to plant roots. The main soil limitations include shallow depth to bedrock, high clay content and low organic matter content. The surface soil will vary from 2 to 5 inches deep and have one of the following textures: silty clay, sandy clay, clay, and the finer portions of silty clay loam, clay loam, and sandy clay loam. These soils may develop severe cracks.

The present plant community in this project area is a Mixed Sagebrush/Grass. Historically, this plant community evolved under grazing by bison and a low fire frequency. Currently, it is found under moderate, season-long grazing by livestock in the absence of fire or brush control. Big sagebrush is a significant component of this plant community. Cool-season grasses make up the majority of the understory with the balance made up of short warm-season grasses, annual cool-season grass, and miscellaneous forbs.

Dominant grasses identified include: western wheatgrass, crested wheatgrass, downy brome, Japanese brome, Sandburg bluegrass, common pepperweed, prairie junegrass, and blue gramma. Forbs identified

include: tumble mustard, scarlet globemallow, fringed sagewort, and cudweed sagewort. Other vegetative species identified at onsite: Wyoming big sagebrush, silver sagebrush, yucca, prickly pear cactus, Russian thistle, and Rocky Mountain juniper.

Cheatgrass (downy brome) has invaded the site. The overstory of big sagebrush and understory of grass and forbs provide a diverse plant community that will support domestic livestock and wildlife such as elk, mule deer, and pronghorn.

These sites will prove challenging for reclamation success and may require additional or extraordinary measures for interim and final site stability.

### **Shallow Clayey Ecological Sites**

In this project area, 36 percent of the landforms and soils are shallow clayey sites. This site occurs on steep slopes and ridge tops, but may occur on all slopes. The soils of this site are shallow (less than 20" to bedrock) well-drained soils formed in alluvium over residuum or residuum. These soils have moderate to slow permeability. The bedrock is clay shale which is virtually impenetrable to plant roots. The surface soil will have one or more of the following textures: silty clay, clay, and the finer portions of sandy clay loam, clay loam, or silty clay loam. Thin ineffectual layers of other textures are disregarded. Layers of the soil most influential to the plant community vary from 3 to 6 inches thick. The main soil limitations include the depth to bedrock, low organic matter content, and soil droughtiness. The low annual precipitation should be considered when planning a seeding.

The Mixed Sagebrush/Grass Plant Community is the plant community for this site. Fringed sagewort is also commonly found.

Due to the shallow characteristics of these sites, reclamation success will be challenging and may require additional or extraordinary measures for interim and final site stability.

For more detailed soil information, see the NRCS Soil Survey 705 – Northern Campbell County.

## **3.2. Wildlife**

### **3.2.1. Elk**

Elk within the project area belong to the Fortification herd unit. The project area is located within yearlong range as designated by the Wyoming Game and Fish Department. Yearlong range is where a population of animals makes general use of suitable documented habitat sites on a year round basis. Animals may leave the area under severe conditions.

The Fortification Creek elk herd has been subjected to increased human activity (wells, roads, weeds, and human presence) associated with the encroaching CBNG development. Results of recent studies indicate that the Fortification Creek elk are actively selecting areas away from existing natural gas wells and roads (BLM 2007a). Radio-collared elk avoided available habitat that was within 1.7 miles of well sites and within 0.5 mile of roads. Lyon (1983) and other researchers have associated increasing road density with reduced habitat effectiveness.

The following is an example of elk response to CBNG development based on three of the Fortification Creek elk collared in March 2008. The three collared elk were located, between April 8<sup>th</sup> and April 18<sup>th</sup>, within 0.5 miles of proposed non-federal CBNG development. Beginning in May 2008, multiple well drilling operations were initiated within the immediate area used by the elk in April and no collared elk locations have been recorded in the area since. Two elk moved northeast approximately 6 and 16 miles

respectively and the third moved south approximately 7 miles. All three elk have continued to seek areas without development.

The elk herd originally used the entire 123,000-acre yearlong elk range designated by the WGFD; the current herd largely restricts their activity to the Wilderness Study Area (WSA) and adjacent areas of the FCPA. Approximately 90 percent of the 2005 radio-collared animal locations were north of Fortification Creek (BLM 2007a), which generally bisects the yearlong elk range (Figure 3-6). However, it should be noted that all the 2005 elk were captured north of Fortification Creek despite an effort to distribute captures throughout the elk range. Preliminary data from elk collared in March 2008, where seven elk were collared south of Fortification Creek and 31 north of the creek, indicate more use south of Fortification Creek during May and June than in the 2005 study. The Clabaugh POD is north of Fortification Creek.

Two of the 39 elk collared in March 2008 each spent a day within the Clabaugh project area during April. Several of the collared elk have been using the public lands to the west and south of the project area. The elk have not been using areas to the north and east of the Clabaugh project area which have already been developed for CBNG. Based on analyses of road density, topography, and vegetation in combination with radio monitoring, the FCPA elk are continuing to avoid mineral development.

### 3.2.2. Raptors

There are three raptor nests within ½ mile of the proposed wells as shown in the following table.

Table 1. Raptor nests within ½ mile of proposed wells.

BLM_ID	Species	UTMN	UTME	Substrate	Condition
4462	Unknown	4935166	420684	dead cottonwood	fair
4461	Unknown	4934307	420247	dead cottonwood	fair
4464	Red-tailed hawk	4935206	421082	live cottowood	excellent

For additional discussion of the existing environment in the area, refer to the original Clabaugh POD EA (#WY-070-07-158) as approved 5-5-08 Section 3.

## 4. Environmental Consequences

Critical Element	Potentially Affected	Critical Element	Potentially Affected
Air Quality	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	T&E Species	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
ACEC	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wastes, Haz./Solid	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Cultural Resources	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Water Quality	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Farmlands, Prime/Unique	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wetlands/Riparian	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Floodplains	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wild and Scenic Rivers	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nat. Amer. Rel. Concerns	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wilderness	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Environmental Justice	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Invasive Species	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

**Description of Impacts:** Following is a summary of the major impacts or issues identified in each of the alternatives proposed. Additional discussion of impacts is provided in the original Clabaugh POD EA (#WY-070-07-158) as approved 5-5-08.

**Table 4.1. Summary of Surface Disturbance by Alternative**

Facility	Alt. A.	Alt. B	Alt. C & D
Wells			
Nonconstructed Pad	0	4 (2.1 ac)	4 (2.1 ac)
Improved Roads			
No Corridor	0.0	0	0
With Corridor	0.0	0.21 mi (0.7ac )	0.21 mi (0.7 ac)
2-Track Roads			
No Corridor	0.0	0	0
With Corridor	0.0	1.51 mi (2.2 ac)	1.45 mi (2.1 ac)
<b>TOTAL</b>	<b>0</b>	<b>5.0 acres</b>	<b>4.9 ac</b>

Alternatives C and D differ in the timing of CBNG development, locations of wells and other infrastructure (surface disturbance) are the same. Following a discussion of the primary issues with varying impacts across the alternatives (potential CBNG production and revenue, elk, and the RMP amendment) only Alternative C (the environmentally preferred alternative) will be analyzed in detail because remaining environmental impacts are similar across the three action alternatives.

Alternative A:

Under the no action alternative, no CBNG would be produced directly from this leased area; no wells would be drilled and no additional roads would be constructed. A portion of the Federal mineral resource, leased to Cedar Resources, could be drained by surrounding production. Three of the 18 surrounding wells (17%) were drilled by a different operator (Lance Oil and Gas). This could result in lost revenue for Cedar Resources, the Federal treasury and the State of Wyoming. The State of Wyoming may realize revenues as the three Lance wells potentially draining the Clabaugh POD are located on an adjacent state lease.

The surface resources and wildlife would be unaffected by development construction activities. There would be no physical habitat loss within the elk yearlong range and elk would not be displaced from the project area. Light elk use of the Clabaugh project area would continue. Two of the 39 elk collared in March 2008 each spent a day within the project area during April. Elk are expected to continue to use the public lands to the west and south of the Clabaugh project area as demonstrated by the 2005 and 2008 collared elk data.

There would be no impact to the RMP Amendment, i.e. the road allowance, phased development, etc. would not be affected.

Alternatives B and C:

The types and magnitude of CBNG, elk, and RMP amendments impacts from the development of the Cedar Resources proposed plan of development (Alt B) will be nearly identical to Alternative C and

therefore are not discussed separately. Additionally, Cedar Resources has agreed to adopt the changes made at the onsite which made Alternative C the preferred alternative.

Four APDs would be authorized for the Clabaugh POD allowing for immediate CBNG development. The PRB FEIS assumes a well production life of 7 years and an average production of 100 mcf per day per well (PRB FEIS Table 2-2 pg 2-14 and Table 2-10 pg 2-32). This would result in an anticipated 25.5 million cubic feet (mmcf) of natural gas per well providing revenue for Cedar Resources the Federal treasury and the State of Wyoming. However, actual production data from the Wyoming Oil and Gas Conservation Commission (WOGCC) Web site shows an much lower average production rate (50 mcf per well per day) across the Basin. Additionally, reported offset gas production in this area currently averages less than 20 mcf/well/day.

The 4.9 acres of surface disturbance is direct elk habitat loss. Radio-collared elk within Fortification Creek avoid available habitat that within 1.7 miles of well sites and within 0.5 mile of roads (BLM 2007). Collared elk use has been light within 0.5 miles of the Clabaugh POD. No crucial ranges would be impacted directly or indirectly, the closest crucial range (parturition) is more than one-half mile from proposed development. Therefore additional impact to the Fortification Creek elk is expected to be minimal. Elk impacts are discussed in more detail in the full analysis of Alternative C which follows.

Alternative B and C do not comply with the anticipated RMP amendment direction for phased development. However, elk habitat use within the Clabaugh project area has been light, and therefore impacts to elk by not following the phased development approach are expected to be minimal. Elk rarely use the project area now and therefore elk would not be expected to be displaced from the Southeast or Southwest phases into the Clabaugh POD. The road allowance within the RMP amendment would be reduced by the total mileage of newly constructed access road within Elk yearlong range (0.21 mi).

Alternative D: With this alternative, mineral resource development would be delayed from 4 to 7 years (estimated) to comply with the phased development approach identified in the RMP amendment. During this period, recoverable CBNG reserves would likely be drained resulting in predicted lost revenue (production ranging from 117 to 204 mmcf) in the amounts ranging between \$500,000 to \$820,000 to Cedar Resources, the Federal treasury, and the State of Wyoming (assuming an average sales price of \$4 per mcf and production rate of 20 mcf/well/day for 4 wells).

Impacts to elk would be delayed by four to seven years to accommodate the anticipated phased development direction of the RMP amendment. Elk use within the Clabaugh project area has been light, and therefore impacts to elk by drilling and operating the wells are expected to be minimal.

This alternative would comply with the preferred alternative for the RMP amendment in terms of phased development. The road allowance within the RMP amendment would be reduced by the total mileage of newly constructed access road within Elk yearlong range (0.21 mi).

#### **4.1. Surface Use**

The changes to the proposed action (Alternative B) which resulted in development of Alternative C as the preferred alternative have reduced the potential impact to the environment which will result from this action. The environmental consequences of Alternative C are described below. Under this alternative, 4 wells would be drilled at 4 locations to Federal minerals on 80 acre spacing. For the most part, the operator utilized existing primitive roads as infrastructure for this POD. The wells have been sited to avoid the most sensitive areas and construction for these wells should disturb a minimum area. There are

some areas along the access routes that cross highly erosive soils and will require expedient or extraordinary stabilization to reduce erosion potential.

Please see Attachment 1 for a map of the Clabaugh POD 4 Wells Location with Elk Ranges identified. Also see Attachment 2 for the locations of Collared Elk.

Impacts to vegetation and soils from surface disturbance will be reduced by following the operator's plans and BLM applied mitigation. Of the 4 proposed locations, none are on existing or reclaimed conventional well pads; all 4 will require a slotted well pad. Surface disturbance associated with the drilling of the wells without constructed pads would involve digging-out of rig wheel wells (for leveling drill rig on minor slopes), reserve pit construction (estimated approximate size of 20 x 50 feet for each well), and compaction (from vehicles driving/parking at the drill site). The slotted pad locations would involve the excavation of a slot 30 x 120 feet for the rig in a work area of 150 x 150 feet. Estimated disturbance associated with these wells would involve approximately 0.52 acres/location or 2.1 total acres.

Approximately 0.21 miles of improved roads would be constructed within the yearlong elk range to provide access to various well locations. Approximately 0.32 miles of new and 1.13 miles of existing two-track trails would be utilized to access well sites (0.5 miles existing and 0.2 miles proposed within the yearlong elk range). The proposed pipelines (gas and water) 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. Cedar Resources intends to install the utilities using a Cable Plow Dozer, which will plow the utility lines in a common ditch within the road disturbance area. This practice will minimize the disturbance associated with the construction of this project and reduce the area where reclamation will be required. 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, etc.) would ensure land productivity is regained and stability is maximized. Two of the wells are located close to an existing railroad right of way, within ¼ mile (disturbance width of railroad ~ 100 ft). Trains run regularly on this track. The other two wells are located to the west toward Federal surface along an existing primitive ranch road, which will be upgraded.

For effects to soils resulting from well pad, access roads and pipeline construction see the Clabaugh POD EA (WY-070-EA07-158) at 4.1.1 Soils

The proposed action was designed to avoid highly erosive areas which have a low potential for successful reclamation wherever possible. However, the operator used existing disturbance (primitive road) for access to two of the well locations, which was located through some highly erosive sites. The road is in the only place where access was possible without greatly increasing the road length in order to avoid the erosive soils. Disturbance within these erosive areas may require extraordinary measures to insure that reclamation success is attained. The access road to the 32-21 and 33-21 wells is identified as an area requiring additional reclamation efforts beyond traditional methods, due to steep slopes and erosive soils. These areas have a limited potential for successful reclamation, having a slope between 15 and 25%, which limit the use of conventional farm machinery and farming practices. These sites are also susceptible to site degradation and increased soil erosion.

Soil disturbances other than permanent facilities would be short term with expedient, successful interim reclamation and site stabilization. In locations of highly erosive soils, the operator will be required to

stabilize disturbed surface within 30 days of the initial disturbance. Construction activities would be designed following Best Management Practices (BMPs). The Surface Use and Environmental Compliance staff and the Inspection and Enforcement staff in the Buffalo Field office perform onsite inspections during the drilling and construction of Federal mineral wells and the associated infrastructure to ensure compliance with Federal regulations and conformance to the approved project. Deviations from approved conditions will be cited and rectified.

**Table 4.2 Summary of Disturbance – Alternative C**

Facility	Number or Miles	Factor	Acreage of Disturbance
Nonconstructed Pad	4	0.52 acres/pad	2.1
Improved Roads	0.21		
No Corridor			
With Corridor	0.21	28' Width	0.7
2-Track Roads	1.45		
No Corridor	0	12' Width	0.0
With Corridor	1.45	12' Width	2.1
<b>TOTAL</b>			4.9
			4.9

For more information on impacts predicted for the Clabaugh POD, please refer to EA# WY-070-EA07-158.

#### **4.1.1. Invasive Species**

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. Control Methods will include:
  - a. Mowing prior to seed formation on weeds of concern.
  - b. Hand pulling of small infestations
  - c. Use of domestic animals
  - d. Application of appropriate herbicides
2. Preventive practices will include:
  - a. Prompt reseeding and revegetation with a certified weed free seed mixture
  - b. Use of certified weed free mulch
  - c. Use of weed free road surfacing and other earthen materials for maintenance and construction
  - d. Cleaning of vehicles or equipment prior or entering or leaving each worksite
  - e. Minimization of surface disturbance
3. Education:
  - a. Weed awareness programs will be provided to Cedar Resources employees and contractors
  - b. Field personnel will report infestations to supervisors

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 at this time.

The use of existing facilities along with the surface disturbance associated with construction of proposed access roads, pipelines and related facilities would present opportunities for weed invasion and spread. The activities related to the performance of the proposed project would create a favorable environment for the establishment and spread of noxious weeds/invasive plants such as salt cedar, Canada thistle, and perennial pepperweed. However, mitigation as required by BLM applied COAs will reduce potential impacts from noxious weeds and invasive plants.

## **4.2. Wildlife**

### **4.2.1. Elk**

The four wells in question are within the Fortification Creek Planning Area which is currently being analyzed in a RMP amendment.

In an environmental report analyzing cumulative effects of CBNG development on the Fortification Creek elk herd (BLM 2007) BLM indicated that loss of habitat (effective habitat and security habitat) would serve to evaluate management actions, and these are the metrics used in the present analysis. The discussion below describes the factors that define habitat loss for wildlife, with specific references to elk, and to the Fortification Creek elk herd where data were available.

#### **Direct Habitat Loss**

Direct habitat loss occurs when required life-sustaining conditions are lost (i.e., through removal of vegetation). Removal of vegetation affects wildlife by reducing the extent or quality of habitat in terms of food and cover. These impacts are relatively simple to quantify by comparing the amount of habitat lost to the amount preserved. For example, removal of vegetation during construction of a road or well pad essentially strips the affected area of any wildlife value. While closure and reclamation of temporarily disturbed areas can eventually restore lost habitat values, the disturbance may have a long duration (10 or more years for wells) and require decades for recovery of pre-disturbance structure and function. For the purposes of this analysis the impact of direct habitat loss (4.9 acres) is dwarfed by effective habitat loss (see below). As a consequence, many of the impacts will be evaluated in terms of effective habitat loss.

#### **Effective Habitat Loss**

While some species are more tolerant of human activity than others, virtually all species have some threshold of disturbance above which they will abandon or avoid an area. The result is a de facto loss of habitat, because avoided areas meet no survival needs. The amount of habitat actually available to wildlife is called effective habitat, and reductions in the amount of effective habitat can greatly exceed any direct habitat loss. Also important is security habitat, defined as a place to escape from disturbance. Security habitat is typically defined in patches of a minimum size, generally 250 acres for elk.

Effective loss of habitat can occur as a result of habitat fragmentation, disturbance, and interference with movement. These impacts to habitat reduce the ability of the habitat to provide the basic needs of wildlife.

Habitat fragmentation is increasingly recognized as an important impact on wildlife. Impacts of habitat fragmentation relate to the loss of large habitat blocks and the increased percentage of “edge” on smaller blocks as compared to larger blocks. Roads can cause habitat fragmentation, and hence loss of effective habitat, because many species exhibit a decline in use of areas adjacent to roads. Another cause of habitat fragmentation is the replacement of native vegetation by weeds. The presence of cheatgrass and other invasive non-native weeds decreases species richness.

Disturbance impacts occur when some type of activity, typically of human origin, causes animals to shift their activity or alter their behavior. Disturbance impacts generally overlap with habitat fragmentation, because many of the more common and important types of fragmentation (i.e., roads) also include increased levels of human activity.

Habitat loss, habitat fragmentation, and disturbance impacts can also affect wildlife by altering important daily or seasonal movement patterns. These patterns may be altered through shifts to avoid human activity or to avoid crossing open areas that provide inadequate cover. Conversely, some species and populations adapt to disturbance. This effect, called habituation, is very difficult to predict with a species such as elk. Some populations habituate, such as in Yellowstone National Park, and yet others do not, and continue to be stressed and move away from human disturbance, as appears to be the case for the Fortification Creek herd. Elk habituate in areas where activity is predictable and non-lethal. Hunted populations show fewer tendencies to habituate, such as in Fortification Creek.

Disturbance is a key factor in effective habitat loss. For example, Reed et al. (1996) estimated that the effective habitat loss because of roads was 2.5 to 3.5 times as great as actual habitat loss. In the Fortification Creek Area, 26 elk collared in 2005 by BLM and WGFD avoided areas within 1.7 miles of oil, natural gas, and CBNG wells and 0.5 miles of roads. A study in the Jack Morrow Hills reported elk avoidance distances of 1.73 miles from roads and 1.24 miles from oil and gas activity (Powell 2003, Sawyer et al. 2007).

The collared elk data indicate that only a few elk are occasionally using the Clabaugh project area. The elk are likely displaced by the active coal railroad paralleling Wild Horse Creek as there are very few observations within one mile of the railroad yet there is a concentration of observations one mile east of the railroad and the herd's core use stays approximately one mile west of the railroad.

The few elk using the Clabaugh project area are expected to avoid the area while drilling the wells and constructing the CBNG infrastructure. Elk will likely move through the project area after construction and forage within it on occasion. However because current elk use is so light, the additional impacts resulting from this alternative are considered to be minimal.

The radio-collared elk data is downloaded and reviewed weekly. Cedar Resources is required to submit a monthly work summary report which will be compared against the collared elk data and the management thresholds established in the monitoring plan (BLM 2008) to evaluate elk response to project activities allowing management actions to be taken if necessary.

#### **4.2.2. Raptors**

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 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.

One nest BLM ID # 4461 is 0.25 miles from the 33-21 well and 0.2 miles from the 32-21 well and the access to both wells. This nest is located in a deeply incised canyon and is not visible from any of the access or from the well locations. Despite the proximity of this nest to these wells, prohibitions on drilling and surface disturbance during the breeding season should provide adequate protections to allow for future nesting at this location. Timing limitations will be applied to all four proposed wells that will restrict surface disturbance during the raptor breeding season.

The proposed wells are within one mile of bald eagle habitat along Wild Horse Creek. Conditions of approval to survey Wild Horse Creek for roosting eagles each winter and nesting eagles each spring, prior to disturbance activities, will reduce disturbance to eagles. To reduce the risk of decreased productivity or nest failure, BLM BFO requires a 0.5 mile no surface occupancy radius and a one mile radius timing limitation of all activity during the breeding season around active bald eagle nests. To reduce the risk of disruption to the winter roosting activities of bald eagles, the BLM BFO requires a 0.5 mile no surface occupancy radius and a one mile radius timing limitation of all winter roosts.

### 4.3. Water Management

The water produced in association with these wells will be added to the existing infrastructure constructed for the Clabaugh POD. No new water management infrastructure is required for these wells. There are no additional site specific impacts. For additional information refer to the Clabaugh POD EA (WY-070-EA07-158) at 4.3 Water Resources.

### 4.4. Cumulative Impact Analysis

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, wildlife cumulative impacts are discussed on pages 4-211-to 4-215 (big game), 4-225 to 4-226 (raptors), 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.

## 5. Consultation/Coordination

Contact	Title	Organization	Present at Onsite?
Rich Lynde	Vice President	Cedar Resources, Corp	Yes
Ray Lynde	President	Cedar Resources, Corp	Yes

## 6. Reviewers

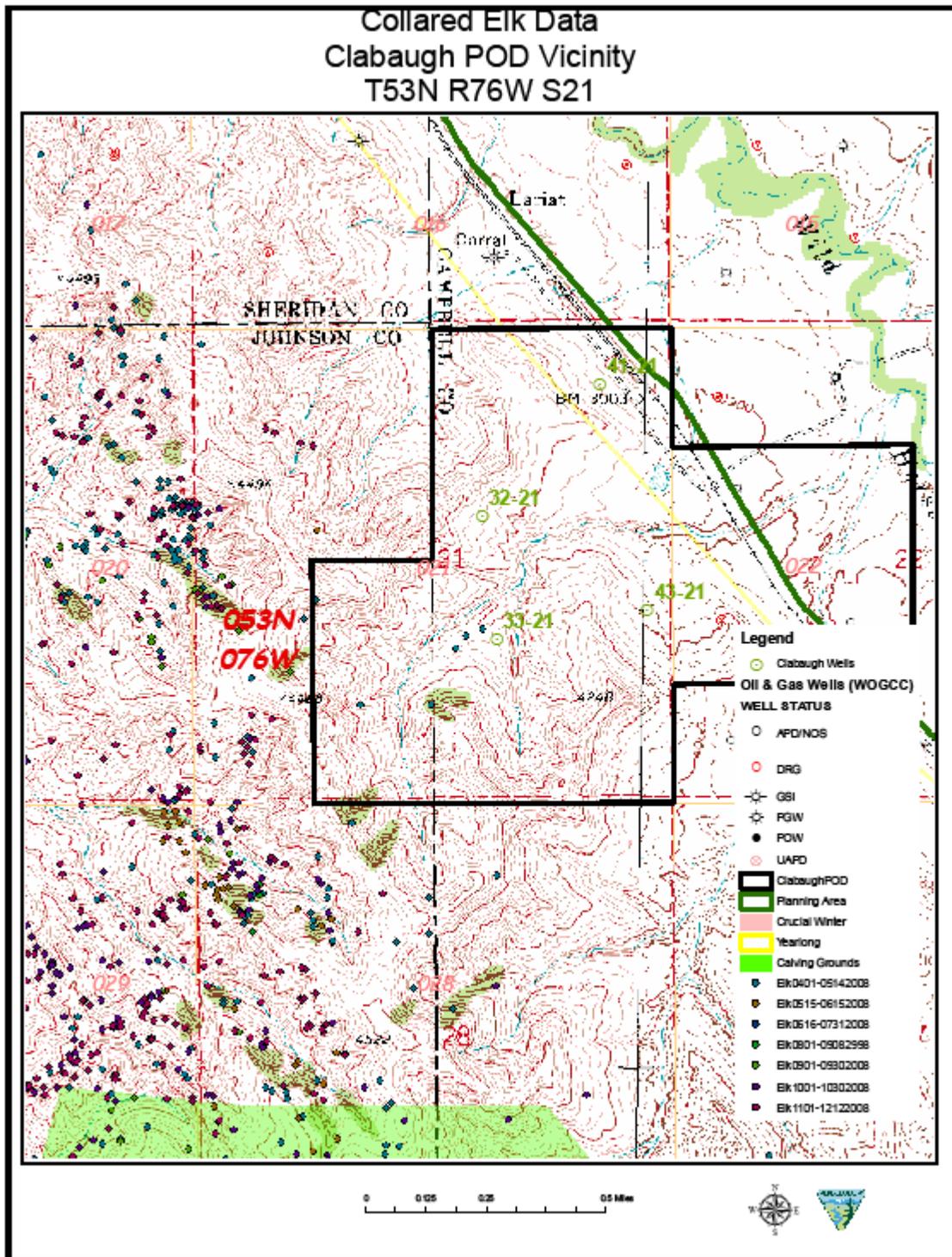
Kathy Brus, Supervisory Natural Resource Specialist, Hydrologist  
 Deb Childers, Legal Assistant  
 Bill Ostheimer, Wildlife Biologist  
 Thomas Bills, Environmental Coordinator  
 Brenda Vosika-Neuman, WSO Physical Scientist  
 Duane Spencer, Buffalo Field Manager

## 7. References

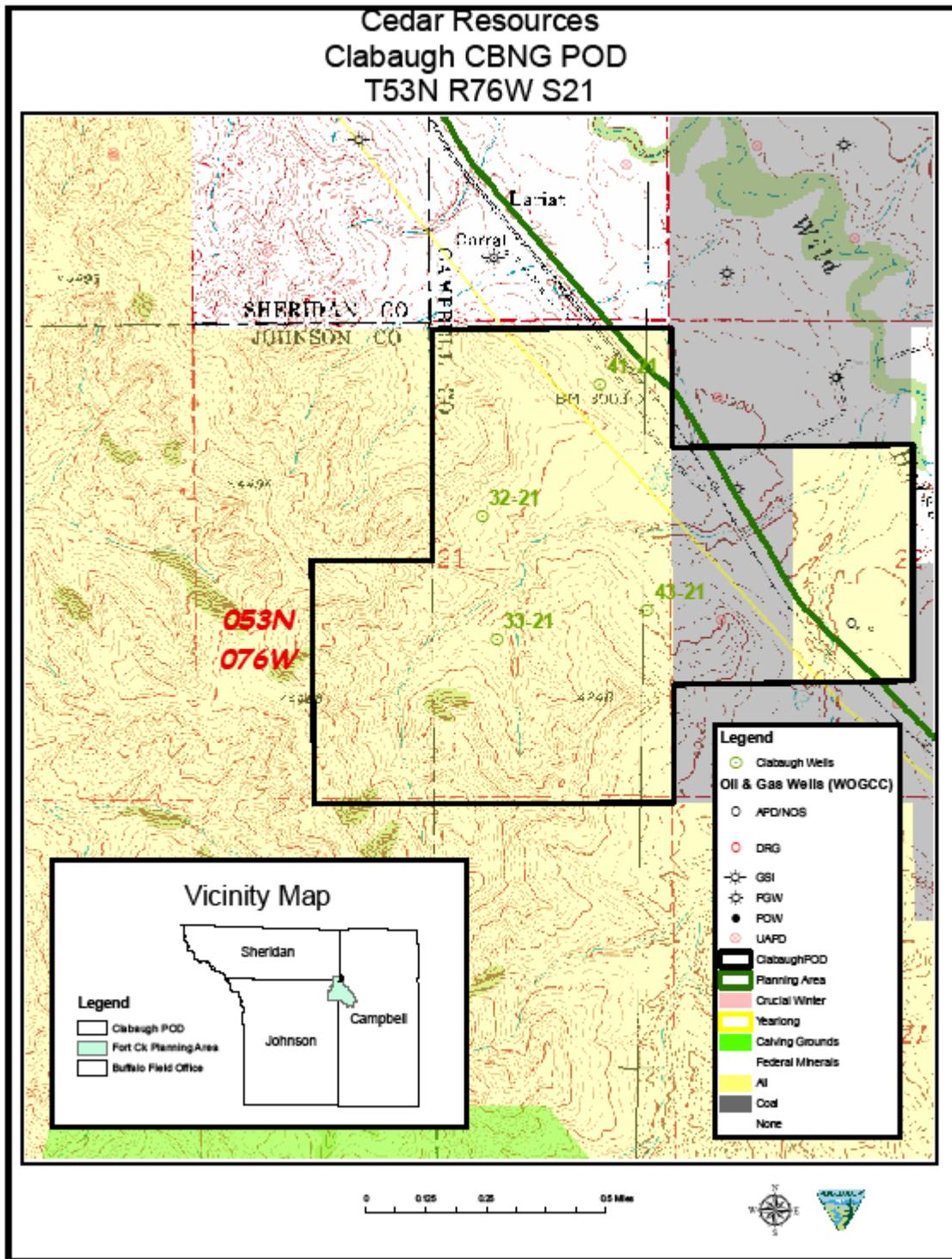
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Attachment I



Attachment II



## **Attachment III: Public Comments and Agency Response**

### **Cumulative Effects**

#### **Cumulative effects were not adequately addressed.**

Response: The BLM completed a cumulative effects analysis (CEA) (BLM 2007) on the Fortification Creek elk herd prior to analyzing the Clabaugh POD. The Clabaugh EA is based upon the 2007 CEA, which is referenced in the affected environment (pg. 11) and environmental consequences (pgs. 13 & 16). BLM concluded that there is minimal use of the project area because of the cumulative effects of past actions including the Burlington Northern Railroad (pgs. 3 & 17) and past CBNG development (pg. 8) and therefore additional impacts from the Clabaugh POD are anticipated to be not significant.

In addition, the BLM has committed to an elk monitoring program developed in cooperation with the Wyoming Game and Fish Department (WGFD) and the University of Wyoming. The Environmental Consequences states on page 17 that: “Cedar Resources is required to submit a monthly work summary report which will be compared against the collared elk data and the management thresholds established in the monitoring plan (BLM 2008) to evaluate elk response to project activities allowing management actions to be taken if necessary.” The COA is identified is the site-specific mitigation measures on page 7.

#### **The Fortification Creek RMP Amendment should be completed before approving the Clabaugh POD.**

Response: Alternative D examined deferring APD approval until completion of the Fortification Creek RMP amendment (pgs. 7, 12, 13). The BLM concluded in its Decision Record that approval of the four Clabaugh APDs will not impact the RMP Amendment.

### **Soil and Vegetation**

#### **Recommend restoration of sagebrush, native forbs and other species suitable for big game.**

Response: BLM’s standard for reclamation is described in site-specific surface use mitigation measure eight (pg. 10) of the original Clabaugh EA (WY-070-EA07-158) which states that: “vegetation canopy cover (on unforested sites), production and species diversity (including shrubs) shall approximate the surrounding undisturbed area. The vegetation shall stabilize the site and support the planned post disturbance land use, provide for natural plant community succession and development, and be capable of renewing itself.”

Cedar Resources committed to using native seed, no introduced species, for revegetation on federal surface in the Master Surface Use Plan as identified in site-specific surface use mitigation measure 13 (pg. 10) of the original Clabaugh EA (WY-070-EA07-158).

#### **Recommend topsoil be saved and used to accelerate reclamation.**

Response: Topsoil salvage for reclamation activities is a standard COA in the PRB FEIS which states: “remove all available topsoil (depths vary from 4 inches on ridges to 12+ inches in bottoms) from constructed well locations including areas of cut and fill, and stockpile at the site. Topsoil will also be salvaged for use in reclamation on all other areas of surface disturbance (roads, pipelines, etc.). Clearly

segregate topsoil from excess spoil material. Any topsoil stockpiled for one year or longer will be signed and stabilized with annual ryegrass or other suitable cover crop.”

## **Wildlife**

### **Big Game**

**Recommend applicable seasonal stipulations for elk be applied.**

Response: A paragraph was added to the affected environment (pg. 11) identifying that the Clabaugh project area is entirely within yearlong elk range. The Buffalo Field Office Resource Management Plan (BLM 2001) and PRB FEIS established seasonal timing limitations for parturition and crucial winter ranges, not yearlong range. The BLM has committed to an elk monitoring program developed in cooperation with the Wyoming Game and Fish Department (WGFD) and the University of Wyoming. The Environmental Consequences states on page 17 that: “Cedar Resources is required to submit a monthly work summary report which will be compared against the collared elk data and the management thresholds established in the monitoring plan (BLM 2008) to evaluate elk response to project activities allowing management actions to be taken if necessary.” The COA is identified is the site-specific mitigation measures on page 7.

### **Threatened, Endangered, and Sensitive Species**

**Additional wildlife surveys are recommended for sensitive and threatened species, including bald eagles and raptors.**

Response: Bald eagle roost and nest surveys and raptor nest surveys are required annually as identified in the site-specific mitigation measures. In addition the standard conditions of approval from the PRB FEIS require annual wildlife surveys until construction activities are completed.

### **Greater Sage-Grouse & Sharp-tailed Grouse**

**Effects to sage-grouse and sharp-tailed grouse were not addressed.**

Response: The BLM identified in the Decision Record, the affected environment (pg. 11) and environmental consequences (pg. 12) that this site-specific analysis tiers into and incorporates by reference the information and analysis contained in the PRB FEIS and the original Clabaugh POD EA (WY-070-EA07-158). The affected environment for greater sage-grouse and sharp-tailed grouse are identified on page 28 of WY-070-EA07-158; environmental consequences are discussed on pages 46 and 47.

**Discovery of sharp-tailed grouse leks should be recorded and reported to BLM and WGFD.**

BLM has not required Cedar Resources to perform additional sharp-tailed grouse lek surveys as the wildlife surveys completed to date (KTI 2007) have not identified any sharp-tailed grouse leks within 2.7 miles of the Clabaugh POD. A COA has been added requiring Cedar Resources to notify the BLM if a sharp-tailed grouse lek is located within the Clabaugh project area and a seasonal timing limitation will be applied to surface-disturbing activities.

### **Raptors**

**The applied raptor mitigation does not protect future nesting and wintering sites.**

BLM’s standard for reclamation is described in site-specific surface use mitigation measure eight (pg. 10) of the original Clabaugh EA (WY-070-EA07-158) which states that: “vegetation canopy cover (on

unforested sites), production and species diversity (including shrubs) shall approximate the surrounding undisturbed area. ..." Adherence to this standard should provide sufficient future raptor nesting and wintering habitat.

**Species specific raptor nest timing limitations recommendations are provided.**

Response: The BLM seasonally prohibits surface-disturbing activities within a half mile buffer from active raptor nests as recommended. However, instead of the species specific dates recommended, BLM has adopted a generic raptor nesting season for all species from February 1 through July 31 (August 15 for bald eagles). February 1 is the earliest of the recommended dates; but several of the end dates extend into August. None of the species potentially still nesting in August have been identified within the Clabaugh project area (KTI 2007, Affected Environment pg. 11, WY-070-EA07-158 pg. 23). The general raptor timing limitation should be sufficient to protect raptors nesting within the Clabaugh project area and therefore will not be modified.

**Recommend the discovery of new active raptor nests be reported to BLM and USFWS.**

Response: The standard conditions of approval from the PRB FEIS put the following responsibility on CBNG operators: "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."

Aquatics

**Six recommended management practices for aquatic resources are provided.**

Response: The recommended practices are all either standard or programmatic COAs identified in the PRB FEIS which will be applied to the Clabaugh POD.