



THE DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
CASPER FIELD OFFICE



FINDING OF NO SIGNIFICANT IMPACT & DECISION RECORD
For

Comet Energy Services, LLC
Duck Creek Federal Coal Bed Natural Gas Project

ENVIRONMENTAL ASSESSMENT –WY-060-05-003

DECISION: It is my decision to approve Alternative B as described in the attached Environmental Assessment (EA) and authorize Comet Energy Services, LLC (Comet) Duck Creek Federal Coal Bed Natural Gas (CBNG) Plan of Development (POD) which includes the Applications for Permit to Drill (APDs) for the 46 federal wells listed in Attachment 1.

The Duck Creek Federal CBNG project proposed by Comet includes the drilling and completion of 46 federal wells, 7 fee wells, and 1 state of Wyoming well and the associated gas production and water disposal infrastructure for these wells including access roads, pipelines, power lines, and water management structures (culverts, low water crossings, monitor wells, outfalls, and reservoirs).

This approval is subject to operator compliance 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 subject to operator compliance with all mitigation and monitoring requirements contained within the Powder River Basin Oil and Gas Project (PRBOGP) Environmental Impact Statement and Resource Management Plan Amendment (PRB FEIS) and Record of Decision (ROD) approved April 30, 2003. This approval is subject to operator compliance with the mitigation and monitoring measures developed in the Duck Creek Federal CBNG EA and included as Conditions of Approval (COAs) in Attachment 2.

RATIONALE: The decision to authorize Alternative B, as described in the attached Environmental Assessment (EA), is based on the following:

1. The Operator, in their Plan of Development, has committed to:
 - x Use of best Management Practices (BMP) in utilizing soil erosion control measures to reduce the potential for soil erosion.
 - x Locate and design pipelines to meet federal, state, and local regulations and to design, test, operate and maintain the pipelines in accordance with standard safety practices.
 - x Construct all new roads, road upgrades, low water crossings and culverts to the construction standards outlined in the BLM “Gold Book” (Surface Operating Standards For Oil and Gas Exploration and Development, January 1989).

- x Legally permit all reservoirs (existing and proposed) with the Wyoming State Engineer's Office (WSEO) and construct as per WSEO and Wyoming Oil and Gas Conservation Commission (WOGCC) regulations.
 - x Designate a POD reference well (first effluent well) that will have the ability to be sampled at the wellhead, to submit water samples for analysis within 30-60 days of initiation, and provide the results to the BLM CFO for review.
 - x Monitor all facilities and stream channels on a monthly basis during the first year of production and make all monitoring records available to the BLM CFO.
 - x Comply with all applicable Federal, State and Local laws and regulations.
 - x 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.
 - x Provide water well agreements to the owners of record for permitted water wells within the area of influence of the action.
 - x The construction of a dedicated monitor well set for the project constructed according to BLM CBNG monitor well drilling stipulations.
 - x Certification that a Surface Use Agreement has been reached with the landowner(s).
 - x Work together with the landowner(s) on pest (weed) management issues.
2. Alternative B will not result in any undue or unnecessary environmental degradation.
 3. It is in the public interest to approve these wells, as the leases may be drained of federal gas, resulting in a loss of revenue for the government.
 4. Mitigation measures applied by the BLM will alleviate or minimize environmental impacts.
 5. Alternative B is the environmentally-preferred Alternative.
 6. The Proposed Action is in conformance with the PRBOGP FEIS ROD and with the development and land use decisions contained in the Platte River Resource Area (PRRA) Resource Management Plan (RMP) Environmental Impact Statement (EIS) and ROD (BLM, 1985).
 7. Based on current information, it was determined that no significant impacts in the spread of WNV would occur from the implementation of this project.

FINDING OF NO SIGNIFICANT IMPACT: Based on the analysis of the potential environmental impacts of the Proposed Action in the attached EA, I have determined that no significant impacts are expected and, therefore, an EIS 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.

/s/ Patrick Moore
Assistant Field Manager, Mineral and Lands
Casper Field Office

January 3, 2005
Date

ATTACHMENT 1

COMET ENERGY SERVICES LLC DUCK CREEK FEDERAL CBNG PROJECT LIST OF FEDERAL WELLS

DUCK CREEK FEDERAL CBNG PROJECT - PROPOSED WELLS					
Well Name & No.	Seam	Elev.	Location	Total Depth	Footages
Lease WYW149207					
Duck Creek Fed. A2-4-3872	Upper & Lower Pawnee	5154'	Lot 3, T38N., R72W Section 4	2024'	652' FNL & 2145' FWL
Duck Creek Fed. A4-4-3872	Upper & Lower Pawnee	5130'	Lot 1, T38N., R72W Section 4	2000'	649' FNL & 606' FEL
Duck Creek Fed. B1-4-3872	Upper & Lower Pawnee	5186'	SWNW, T38N., R72W Section 4	2056'	1854' FNL & 657' FWL
Duck Creek Fed. B3-4-3872	Upper & Lower Pawnee	5145'	SWNE, T38N., R72W Section 4	2015'	2042' FNL & 2023' FEL
Duck Creek Fed. C2-4-3872	Upper & Lower Pawnee	5163'	NESW, T38N., R72W Section 4	2015'	2128' FSL & 2067' FWL
Duck Creek Fed. C4-4-3872	Upper & Lower Pawnee	5199'	NESE, T38N., R72W Section 4	2069'	2014' FSL & 701' FEL
Duck Creek Fed. D1-4-3872	Upper & Lower Pawnee	5168'	SWSW, T38N., R72W Section 4	2038'	638' FSL & 666' FWL
Duck Creek Fed. D3-4-3872	Upper & Lower Pawnee	5127'	SWSE, T38N., R72W Section 4	1997'	557' FSL & 1958' FEL
Duck Creek Fed. A4-5-3872	Upper & Lower Pawnee	5118'	Lot 1, T38N., R72W Section 5	1988'	555' FNL & 835' FEL
Duck Creek B Fed. 3-5-3872	Upper & Lower Pawnee	5159'	SWNE, T38N., R72W Section 5	2029'	2214' FSL & 2160' FEL
Duck Creek Fed. C2-5-3872	Upper & Lower Pawnee	5174'	NESW, T38N., R72W Section 5	2044'	2073' FSL & 1965' FWL
Duck Creek Fed. C4-5-3872	Upper & Lower Pawnee	5203'	NESE, T38N., R72W Section 5	2073'	2021' FSL & 718' FEL
Duck Creek Fed. D1-5-3872	Upper & Lower Pawnee	5165'	SWSW, T38N., R72W Section 5	2035'	491' FSL & 771' FWL
Duck Creek Fed. D3-5-3872	Upper & Lower Pawnee	5231'	SWSE, T38N., R72W Section 5	2100'	616' FSL & 1848' FEL
Duck Creek B Fed. 4-6-3872	Upper & Lower Pawnee	5062'	Lot 1, T38N., R72W Section 6	1932'	711' FNL & 444' FEL
Duck Creek Fed. B3-6-3872	Upper & Lower Pawnee	5102'	SWNE, T38N., R72W Section 6	1972'	1885' FSL & 1834' FEL
Duck Creek Fed. C2-6-3872	Upper & Lower Pawnee	5208'	NESW, T38N., R72W Section 6	2150'	1835' FSL & 2236' FWL
Duck Creek Fed. C4-6-3872	Upper & Lower Pawnee	5134'	NESE, T38N., R72W Section 6	2004'	2071' FSL & 457' FEL
Duck Creek Fed. D3-6-3872	Upper & Lower Pawnee	5213'	SWSE, T38N., R72W Section 6	2083'	546' FSL & 1731' FEL
Duck Creek Fed. A2-7-3872	Upper & Lower Pawnee	5161'	NENW, T38N., R72W Section 7	2031'	576' FNL & 2078' FWL
Duck Creek Fed. A4-7-3872	Upper & Lower Pawnee	5185'	NENE, T38N., R72W Section 7	2055'	659' FNL & 580' FEL
Duck Creek Fed. B1-7-3872	Upper & Lower Pawnee	5193'	Lot 2, T38N., R72W Section 7	2063'	1948' FNL & 642' FWL

DUCK CREEK FEDERAL CBNG PROJECT - PROPOSED WELLS

Well Name & No.	Seam	Elev.	Location	Total Depth	Footages
Duck Creek Fed. B3-7-3872	Upper & Lower Pawnee	5077'	SWNE, T38N., R72W Section 7	2046'	2104' FNL & 1869' FEL
Duck Creek Fed. C2-7-3872	Upper & Lower Pawnee	5100'	NESW, T38N., R72W Section 7	2069'	2016' FSL & 2247' FWL
Duck Creek Fed. D1-7-3872	Upper & Lower Pawnee	5118'	Lot 4, T38N., R72W Section 7	1988'	703' FSL & 853' FWL
Duck Creek Fed. A2-9-3872	Upper & Lower Pawnee	5163'	NENW, T38N., R72W Section 9	2033'	744' FNL & 1723' FWL
Duck Creek Fed. A4-9-3872	Upper & Lower Pawnee	5086'	NENE, T38N., R72W Section 9	1956'	637' FNL & 764' FEL
Duck Creek Fed. B1-9-3872	Upper & Lower Pawnee	5093'	SWNW, T38N., R72W Section 9	1963'	2022' FNL & 724' FWL
Duck Creek Fed. B3-9-3872	Upper & Lower Pawnee	5025'	SWNE, T38N., R72W Section 9	1895'	2122' FNL & 1963' FEL
<u>Lease WYW134200</u>					
Duck Creek Fed. A2-8-3872	Upper & Lower Pawnee	5212'	NENW, T38N., R72W Section 8	2082'	620' FNL & 2134' FWL
Duck Creek Fed. A4-8-3872	Upper & Lower Pawnee	5195'	NENE, T38N., R72W Section 8	2065'	644' FNL & 630' FEL
Duck Creek Fed. B1-8-3872	Upper & Lower Pawnee	5174'	SWNW, T38N., R72W Section 8	2044'	1976' FNL & 668' FWL
Duck Creek Fed. B3-8-3872	Upper & Lower Pawnee	5127'	SWNE, T38N., R72W Section 8	1997'	1964' FNL & 1926' FEL
<u>Lease WYW149208</u>					
Duck Creek Fed. B1-17-3872	Upper & Lower Pawnee	4982'	SWNW, T38N., R72W Section 17	1852'	1990' FNL & 517' FWL
Duck Creek Fed. C4-17-3872	Upper & Lower Pawnee	4937'	NESE, T38N., R72W Section 17	1807'	2007' FSL & 675' FEL
Duck Creek Fed. D1-17-3872	Upper & Lower Pawnee	4965'	SWSW, T38N., R72W Section 17	1835'	741' FSL & 699' FWL
Duck Creek Fed. D3-17-3872	Upper & Lower Pawnee	4929'	SWSE, T38N., R72W Section 17	1800'	690' FSL & 1967' FEL
<u>Lease WYW142787</u>					
Duck Creek Fed. A2-18-3872	Upper & Lower Pawnee	5041'	NENW, T38N., R72W Section 18	1911'	621' FNL & 2315' FWL
Duck Creek Fed. B1-18-3872	Upper & Lower Pawnee	5138'	Lot 2, T38N., R72W Section 18	2008'	1909' FNL & 832' FWL
Duck Creek Fed. C2-18-3872	Upper & Lower Pawnee	5088'	NESW, T38N., R72W Section 18	1958'	2160' FSL & 2245' FWL
Duck Creek Fed. D1-18-3872	Upper & Lower Pawnee	5117'	Lot 4, T38N., R72W Section 18	1987'	601' FSL & 993' FWL
<u>Lease WYW049848</u>					
Duck Creek Fed. C2-8-3872	Upper & Lower Pawnee	5095'	NESW, T38N., R72W Section 8	1965'	1989' FSL & 1782' FWL
Duck Creek Fed. C4-8-3872	Upper & Lower Pawnee	5054'	NESE, T38N., R72W Section 8	1924'	2046' FSL & 622' FEL
<u>Lease WYW059237</u>					
Duck Creek Fed. B3-17-3872	Upper & Lower Pawnee	4981'	SWNE, T38N., R72W Section 17	1851'	2010' FNL & 2002' FEL
Duck Creek Fed. B3-18-3872	Upper & Lower Pawnee	5017'	SWNE, T38N., R72W Section 18	1887'	1954' FNL & 1874' FEL
<u>Lease WYW136943</u>					
Duck Creek Fed. C4-7-3872	Upper & Lower Pawnee	5080'	NESE, T38N., R72W Section 7	2150'	2036' FSL & 512' FEL

ATTACHMENT 2

**COMET ENERGY SERVICES LLC
DUCK CREEK FEDERAL CBNG PROJECT
CONDITIONS OF APPROVAL**



THE DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
CASPER FIELD OFFICE



CONDITIONS OF APPROVAL FOR THE APPLICATION FOR PERMIT TO DRILL

Operator: Comet Energy Services, LLC. (Comet)

Proposed Action: Duck Creek Federal Coal Bed Natural Gas Project (CBNG), Converse County, Wyoming

Plan of Development: The Duck Creek Federal CBNG project proposed by Comet includes the drilling and completion of 46 federal wells, 7 fee wells, and 1 state of Wyoming well and the associated gas production and water disposal infrastructure for these wells including access roads, pipelines, power lines, and water management structures (culverts, low water crossings, monitor wells, outfalls, and reservoirs).

Date: January 3, 2005

The required mitigation and monitoring measures adopted for implementation in the Powder River Oil and Gas Project (PRBOGP) Final Environmental Impact Statement (FEIS) are described in detail in Appendix A of the Record of Decision and Resource Management Plan Amendments (ROD) for the PRBOGP (WY-070-02-065). The Powder River Basin CBNG operators shall implement all the Standard Conditions of Approval (COAs) and Programmatic Mitigation (PM) as determined applicable, for surface disturbing and other CBNG activities.

Site-specific COAs are developed by the BLM, as needed, on a case-by-case basis at the on-site inspection to address special issues not addressed by programmatic mitigation or standard COAs. Some of the site-specific COAs presented below are mitigation and monitoring measures developed during NEPA analysis for the Duck Creek Federal CBNG Project.

Standard Conditions of Approval (PRB FEIS ROD)

Standard COAs are those measures that are applied to the Proposed Action if they are not specifically addressed in the POD. Section A.4.1 (pp. A-21 – A-23, PRB FEIS ROD) applies to CBNG wells only while Section A.4.2 (pp. A-23 – A-30) applies to all oil and gas development. Comet shall ensure that all of the mitigation measures in Section A.4.1 and A.4.2 are addressed during the development of the Duck Creek Federal CBNG project.

Programmatic Mitigation Measures (PRB FEIS ROD) Identified

PM measures are measures from the PRB FEIS ROD determined through analysis which may be applied at the time of APD approval if site specific conditions warrant. These measures are applied as COAs by the BLM as determined in the site-specific NEPA analysis.

- x (A.5.15 Air Quality) During construction, dust from road and well pad construction will be minimized by the application of water or other dust suppressants, with at least 50% control efficiency. Roads and wells constructed on soils susceptible to wind erosion could be appropriately surfaced or stabilized to reduce the amount of dust generated by traffic or other activities. Dust inhibitors (surfacing material, non-saline dust suppressants, and water) could be used as necessary on unpaved access roads. Chemical dust suppressants will require prior approval from the BLM AO.
- x (A.5.7 Vegetation) Temporarily fence reseeded areas, if not already fenced, for at least two complete growing seasons to insure reclamation success on problematic sites.
- x (A.5.11.6) All power lines will be built to protect raptors, including wintering bald eagles, from accidental electrocution using methods detailed by the Avian Power Line Interaction Committee.

Applicant-Committed Mitigation and Monitoring Measures

Comet Energy Services (Comet) has committed to the following mitigation and monitoring measures in their Plan of Development (POD) for the drilling, completion, and development of the Duck Creek Federal CBNG Project:

- x Use of best Management Practices (BMP) in utilizing soil erosion control measures to reduce the potential for soil erosion.
- x To locate and design pipelines to meet federal, state, and local regulations and to design, test, operate and maintain the pipelines in accordance with standard safety practices.
- x Construct all new roads, road upgrades, low water crossings and culverts to the construction standards outlined in the BLM "Gold Book" (Surface Operating Standards For Oil and Gas Exploration and Development, January 1989).
- x Legally permit all reservoirs (existing and proposed) with the Wyoming State Engineer's Office (WSEO) and construct as per WSEO and Wyoming Oil and Gas Conservation Commission (WOGCC) regulations.
- x Designate a POD reference well (first effluent well) that will have the ability to be sampled at the wellhead, to submit water samples for analysis within 30-60 days of initiation, and provide the results to the BLM CFO for review.
- x Monitor all facilities and stream channels on a monthly basis during the first year of production and make all monitoring records available to the BLM CFO.
- x Comply with all applicable Federal, State and Local laws and regulations.
- x 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.
- x Provide water well agreements to the owners of record for permitted water wells within the area of influence of the action.
- x The Operator has certified that a Surface Use Agreement has been reached with the Landowner(s).

- x The construction of a dedicated monitor well set for the POD constructed according to BLM CBNG monitoring well stipulations.
- x To work together with the landowner(s) on pest (weed) management issues.

Site Specific Mitigation Measures

1. No surface-disturbing activity will be allowed within ½ mile of all documented raptor nest from February 1 through July 31, annually, prior to a raptor nest occupancy survey for the current breeding season. This timing stipulation affects Sections 4, 5, 6, 8, 9 and 17, T. 38 N., R. 72 W. in the project area and would apply to the following wells, discharge points, reservoirs and their supporting infrastructure (roads, pipelines, culverts, low water crossings, etc.):

Section 4:

Wells: B3-4, C4-4, D3-4, D1-4, B1-4, A2-4

Discharge Points: 2

Reservoirs: None

Section 5:

Wells: C4-5, B3-5, A4-5

Discharge Points: None

Reservoirs: None

Section 6:

Wells: A4-6, B3-6

Discharge Points: None

Reservoirs: None

Section 8:

Wells: D3-8 (Fee)

Discharge Points: 5, 6

Reservoirs: Reynolds 24-8-3872, Reynolds 44-8-3872

Section 9:

Wells: D1-9, D3-9, A2-9, A4-9,

Discharge Points: 3, 7

Reservoirs: Reynolds 14-9-3872, Reynolds 32-9-3872

Section 17:

Wells: B1-17, B3-17, C4-17, D1-17

Discharge Points: None

Reservoirs: None

2. 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 this project is Carlsbad Canyon, 2.5Y 6/2.
3. Reclamation shall be initiated on all disturbed surfaces as soon as practicable. Well site and utility corridor disturbance can be limited to short-term impacts if reclamation is promptly initiated. Potential residual impact from long-term disturbance can be reduced or eliminated if post-development reclamation is initiated to take advantage of the first planting season available. The operator shall drill seed on the contour to a depth of 0.5 inch, followed by cultipaction to compact the bed, 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. The seed mix will be selected by the landowner as stated in the SUP.
4. If any dead or injured threatened, endangered, proposed, or candidate species is located during construction or operation, the U.S. Fish and Wildlife Service’s Wyoming Field Office (307-772-

2374) and law enforcement office (307-261-6365) and BLM Casper Field Office (307-261-7600) shall be notified within 24 hours (T&C1).

5. Operator constructed roads will be designed for a maximum travel speed of 25 mph to minimize road related wildlife mortality (CM11). Maximum travel speeds on operator maintained roads shall not exceed 25 mph.
6. Native seed mixes (selected by landowner, or if requested, by the BLM CFO) will be used to re-establish short grass prairie vegetation during reclamation (T&C19).
7. If any dead or injured sensitive species is located during construction or operation, the BLM Casper Field Office (307-261-7600) shall be notified within 24 hours.
8. The Record of Decision for the Powder River Basin FEIS includes a programmatic mitigation measure that states, "The companies will conduct clearance surveys for threatened and endangered or other special-concern species at the optimum time" (M32). The measure requires companies to coordinate with the BLM before November 1 annually to review the potential for disturbance and to agree on inventory parameters.
9. The contract biologist shall contact the BLM prior to initiating any wildlife surveys.
10. No surface disturbing activity will be allowed within ½ mile of all documented raptor nest from February 1 through July 31, annually, prior to a raptor nest occupancy survey for the current breeding season. This timing stipulation affects the entire project area.
11. Surveys to document raptor nest activity in the area shall be conducted between April 15 and June 30. 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 any surface disturbing activities within ½ mile of occupied raptor nests from February 1 to July 31.
12. Well metering and other site visits within 0.5 miles of occupied raptor nests shall be minimized as much as possible during the breeding season (February 1 – July 31), and restricted to between 0900 and 1500 hours.
13. If an undocumented raptor nest is located during project construction or operation, the Casper Field Office (307-261-7600) shall be notified within 24 hours.
14. If a raptor nest within 0.5 miles of the project is determined to be occupied, nest occupancy checks shall be completed for the first five years following project completion. The occupancy check shall be conducted no earlier than June 1 or later than June 30 and any evidence of nesting success/production shall be recorded. Survey results will be submitted to a Casper BLM biologist in writing no later than July 31 of each survey year.
15. If a mountain plover is located during project construction or operation, the Casper Field Office (307-261-7600) shall be notified within 24 hours.
16. If a mountain plover nest is documented, the following conditions shall apply:
 - A. A seasonal disturbance-free buffer zone of 0.25 mile will be maintained around all active mountain plover nest sites outside of black-tailed prairie dog towns between March 15 and July 31 (T&C13).

- B. Documented nesting areas will be surveyed for five years following project completion. Surveys will be conducted by a BLM approved biologist and follow the most current version of the Service's Mountain Plover Survey Guidelines (USFWS 2002 or most current version).
 - C. 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 (T&C17). Work schedules and shift changes should be set to avoid the periods from one-half hour before to one-half hour after sunrise and sunset during June and July, when mountain plovers and other wildlife are most active (T&C22).
 - D. No dogs will be permitted at work sites to reduce the potential for harassment of plovers (T&C23).
17. (Recommended, not required) Remote technology (telemetry, central metering facility, etc.) should be utilized to reduce human activities which are potentially disturbing to wildlife.
18. In order to protect any potential fresh water aquifers above the target coal zone(s) from adverse impact during drilling and completion, the operator shall adhere to: (a) the proposed drilling plan, (b) the setting of casing at the appropriate depths, (c) following safe remedial procedures in the event of casing failure, and (d) utilizing proper cementing procedures.
19. In order to determine the actual water quality of the producing formations in the Duck Creek Federal POD, and to verify the water analysis submitted for the pre-approval evaluation, Comet has committed to designate a reference well within the POD boundary. The well will be sampled for analysis within sixty days of initial production and a copy of the water analysis will be submitted to the BLM Authorizing Officer.
20. Comet shall be responsible for drilling, completing, and equipping a set of monitoring wells, as described in the *BLM CBNG Monitor Well Stipulations* (Attachment 1 below). The specific location will be determined in consultation with the BLM, and may only be drilled in a location where the oil and gas mineral estate is owned by the federal government.

Bald Eagle

Standard COAs (PRBOGP ROD) have been included in oil and gas project design to minimize the risk to wildlife, such as building overhead power lines to raptor safe standards, and access roads are proposed to remain 2-track with a 25 mph maximum speed design criterion to be included as a COA for future development/improvement of roads in the project area (A.4.2.2-PRBOGP ROD).

The U. S. Fish and Wildlife Service (FWS) has determined that the following Reasonable and Prudent Measures (RPMs) are needed to minimize the effects of the anticipated take of bald eagles:

- x RMP 1: The BLM shall ensure implementation of all conservation measures identified and committed to as part of the proposed action (fully described in September 3, 2002 Final Biological Assessment (FBA) for the Powder River Oil and Gas Project.
- x RMP 2: The BLM shall ensure direct habitat disturbance does not exceed that discussed in the FBA and evaluated in the FWS Duck Creek CBNG BO. Through minimization and monitoring of direct habitat disturbance, indirect disturbance to the species will also be minimized.
- x RMP 3: Reduce the possibility of vehicular collision with bald eagles, including reducing the amount of carrion present as a result of vehicular collision to discourage foraging by bald eagles.
- x RMP 4: Reduce the possibility of electrocutions of bald eagles.

- x Power lines will be built to standards identified by the Avian Power line Interaction Committee (1996) to minimize electrocution potential. Moreover power lines will be built to the additional specification (see T&C 6, Attachment1):

For new distribution lines and facilities:

- A. Bury distribution lines where feasible.
- B. Raptor-safe structures (e.g., with increased conductor-conductor spacing) are to be used that provide adequate spacing for bald eagles (i.e. minimum 60" for bald eagles).
- C. Equipment installations (overhead service transformers, capacitors, reclosers, etc.) are to be made bald eagle safe (e.g., by insulating the bushing conductor terminations and by using covered jumper conductors).
- D. Jumper conductor installations (e.g. corner, tap structures, etc.) are to be made bald eagle safe by using covered jumpers or providing adequate separation.
- E. Employ covers for arrestors and cutouts, when necessary.
- F. Lines should avoid high avian use areas such as wetlands, prairie dog towns, and grouse leks.

For modification of existing facilities:

- A. Existing structures, such as dead ends, tap or junction poles, transformers, reclosers and capacitor banks or other structures with less than 60" between conductors or a conductor and ground will need to be retrofitted to provide adequate spacing for bald eagles (i.e. minimum 60" for bald eagles).
- B. Cover exposed jumpers
- C. Gap any pole top ground wires
- D. Isolate grounded guy wires (install insulating link)
- E. On transformers, install insulated bushing covers, covered jumpers, and cutout covers and arrestor covers, if necessary
- F. If bald eagle mortalities occur on existing lines and structures, bald eagle protection measures are to be applied (e.g. modify for raptor-safe construction, install safe perches or perching deterrents, nesting platforms or nest deterrent devices, etc.)
- G. In areas where midspan collisions are a problem, install line-marking devices that have been proven effective. All transmission lines that span streams and rivers, should maintain proper spacing and have markers installed

- x A minimum year-round disturbance-free buffer zone (no surface occupancy (NSO)) of 0.5 mile will be established for all bald eagle nests. An alternative would be development of a site management plan, as discussed in the GYBEWG and the MBEWG, by the BLM (with the cooperation and approval of the FWS) for each bald eagle nest or winter roost site. Each site management plan will include the following zones: Zone 1 (Occupational Nesting Zone), Zone 2 (Primary use areas), and Zones 3 (home ranges). The BLM will restrict and monitor the types of activities to occur within each of these zones. No surface occupancy or use is

allowed within 0.5 miles of known bald eagle nest sites which have been active within the past 5 years.

x A seasonal disturbance-free buffer zone of 1 mile will be established for all bald eagle nests (February 15 - August 15). This buffer zone and timing may be adjusted based on site specific information through coordination with and with written concurrence of the Service's Wyoming Field Office.

x A year-round disturbance-free buffer zone of 0.5 mile will be established for all bald eagle roost sites. This buffer zone restriction may be adjusted based on site specific information through coordination with and with written concurrence of the FWS Wyoming Field Office.

x An additional seasonal buffer zone of 0.5 mile will be established for all bald eagle roost sites (November 1 - April 1). This buffer zone will start at the outside boundary of the 0.5 mile year-round disturbance-free buffer zone and extend out an additional 0.5 mile. However, within this seasonal buffer zone less restrictive measures such as remote monitoring of wells and/or restricting well maintenance visitations or human activity critical to project operations to between 9:00 AM and 3:00 PM may be allowed after coordination with the FWS's Wyoming Field Office and a demonstration that measures more protective of bald eagles are not reasonable or feasible.

x Nest productivity monitoring will be conducted by the BLM or a BLM-approved biologist in areas with high levels of development (i.e., areas with greater than or equal to 4 well pads/section) within 1 mile of a bald eagle nest between March 1 and mid-July to determine nesting success (i.e., number of nestlings/fledglings per nest).

x Appropriately-timed surveys for active bald eagle nests and winter roost sites will be conducted within 1 mile of proposed actions prior to permit (*i.e.* Application for Permit to Drill/POD, Right-of-way grants, or Sundry Notices) approval.

General Conditions of Approval

1. Approval of this APD does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease that would entitle the applicant to conduct operations thereon. In addition, approval of this APD does not imply that the operator has legal access to the drilling location. When crossing private surface 43 CFR 3814 regulations must be complied with and when crossing public surface off-lease the operator must have an approved right-of-way.
2. This APD is valid for a period of one year from the date of approval or until the oil and gas lease expires/terminates, whichever occurs first. If the APD terminates, any surface disturbance created under the application must be reclaimed in accordance with the approved plan.
3. All applicable local, state and/or federal laws, regulations, and/or statutes must be complied with.
4. A complete copy of the approved APD must be at the drill site during the construction of the roads and drill pad, the drilling of the well, and the completion of the well.
5. The spud date will be reported orally to the Authorized Officer 24 HOURS PRIOR TO SPUDDING, unless otherwise required in site specific conditions of approval.
6. Verbal notification shall be given to the Authorized Officer at least 24 hours in advance of formation tests, BOP tests, running and cementing casing (other than conductor casing), and drilling over lease expiration dates.

7. A progress report must be filed a minimum of once a month starting with the month the well was spud and continuing until the well is completed. The report must be filed by the 25th of each month on a Sundry Notice (Form 3160-5). The report will include the spud date, casing information such as size, grade, weight, hole size, and setting depth, amount and type of cement used, top of cement, depth of cementing tools, casing test method, intervals tested, perforated, acidized, fractured and results obtained and the dates all work done.
8. The operator is responsible for informing all persons associated with this project that they shall be subject to prosecution for damaging, altering, excavating or removing any archaeological, historical, or vertebrate fossil objects on site. If archaeological, historical, or vertebrate fossil materials are discovered, the operator is to suspend all operations that further disturb such materials and immediately contact the Authorized Officer. Operations are not to resume until written authorization to proceed is issued by the Authorized Officer.

Within five (5) working days, the Authorized Officer will evaluate the discovery and inform the operator of actions that will be necessary to prevent loss of significant cultural or scientific values.

The operator is responsible for the cost of any mitigation required by the Authorized Officer. The Authorized Officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the Authorized Officer that the required mitigation has been completed, the operator will be allowed to resume operations.

9. The operator shall be responsible for the prevention and suppression of fires on public lands caused by its employees, contractors or subcontractors. During conditions of extreme fire danger, surface use operations may be limited or suspended in specific areas.
10. All survey monuments found within the area of operations shall be protected. Survey monuments include, but are not limited to: General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U. S. Coast and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any survey monuments, the incident shall be reported in writing to the Authorized Officer.
11. If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (due to a contraction in the unit or other lease or unit boundary change) the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental, or other financial obligation determined by the authorized officer.
12. Gas produced from this well may not be vented or flared beyond an initial, authorized test period of 30 days or 50 MMcf following its completion, whichever first occurs, without the prior, written approval of the authorized officer. Should gas be vented or flared without approval beyond the test period authorized above, you may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted, and you shall be required to compensate the lessor for that portion of the gas vented or flared without approval which is determined to have been avoidably lost.
13. The operator/holder is responsible for weed control on disturbed areas within the exterior limits of the permit. The control methods must be undertaken in accordance with guidelines established by the BLM, State, and local authorities. Prior BLM approval is not required on split estate; however, compliance with EPA regulations and State Law is required.

Please contact Patrick Moore with the Casper Field Office if there are any questions concerning the above stipulations (307-261-7530) or e-mail: Patrick_Moore@blm.gov.

Attachment 1: BLM CBNG Monitor Well Drilling Stipulations

As part of the approval of this POD, the operator will be responsible for drilling, completing, and equipping a set of monitoring wells, as described below. The specific location will be determined in consultation with the BLM, and may only be drilled in a location where the oil and gas mineral estate is owned by the Federal Government.

U.S. BLM CBNG groundwater monitoring sites in the Powder River Basin generally consist of two types of wells and a common data collection platform. The two types of wells are: 1) coal or production zone completion(s) and 2) under- or over-burden sand zone completions.

Descriptions of these three components are as follows:

1. Coal Zone Monitor Wells

There could be one or more of these wells at each monitor site, depending on the number of CBNG producing zones. Because of the presence of methane, and potential for significant well head pressure, these wells must be shut in (not open to the atmosphere). These wells are completed the same as actual production wells and are subject to the same Conditions of Approval (COA) associated with CBNG production wells. The finished well will include the following:

The well(s) will be drilled to the top of the production zone(s) and 5 1/2" OD (minimum) API steel casing will be set and cemented from the top of coal to the surface. The coal will then be drilled out, leaving an open-hole completion. The well will then be circulated with fresh water to remove any remaining drilling fluids and solids, and air lifted to get a yield estimate. If the coal doesn't appear to be making water during the clean up of the well bore, water enhancement (and possibly under reaming) may be required. The well must be completed on top with a standard well head, i.e. KVF 'Gillette Special' well head (2x2 or 2x4 with a 2", centered tubing port and threaded auxiliary access port in the mandrel).

Standard equipment includes:

- a. KVF wellhead as described above
- b. downhole transducer to measure total head (gas + water) - we are currently using Druck PTX1835, 250 psig pressure transmitters
- c. wellhead pressure transducer to measure well head pressure (this allows separation of gas and water pressures) - we are currently using Druck PTX621 transmitters (10, 100, up to 900 psig, depending on anticipated well head pressure)
- d. an airline consisting of 1/8" ID by 3/8" OD poly tubing, running from the surface to near the bottom of the hole, suspending a weight to keep the line taught. This arrangement allows verification measurements without opening the wellbore.
- e. access ports to allow for pressure testing, sampling (gas and water), and detection of methane.

2. Sand Zone Monitor Wells

There could be one or more of these wells at each monitor site, depending on parameters of interest, local concerns, etc. Typically there is a well completed in an overburden sand to monitor leakage of the shallower, generally more accessible sands. Wells are completed in under-burden sands when the under-burden sands are of more local interest or are of more significant thickness and quality, and some sites are established with wells in each of the sands from the surface down to the production zone to study recharge/discharge relationships, inter-aquifer communication, and changes in water quality. In addition, some sites will require shallow alluvial wells along ephemeral drainages receiving CBM discharge water - again to look at recharge. These wells are completed as follows:

The depth of the sand well(s) will be determined in the field utilizing the geophysical logs from the adjacent coal well(s).

On wells where coal is penetrated (as determined from the logs from the adjacent coal well(s)) and on wells greater than 500 feet in depth, drilling and casing will be done as described above for the coal zone well(s). One of two completion methods may be used. The decision on which method to use will be determined by the authorized officer depending on the objectives and use of the well.

Method 1: Steel casing will be set through the sand zone, cemented to surface, and perforated, 4 shots per foot, through the sand zone.

Method 2: On wells where water quality sampling is a primary concern, steel casing will be set above the sand zone and cemented to the surface. The sand zone will then be drilled out and a screened or slotted casing string set through the sand zone. This screened casing string can either be placed using packers (i.e. K-packer) or hung on a string of casing from the surface.

On wells not penetrating coals and less than 500 feet (and optionally on wells from 500 to approximately 700 feet), the hole must be drilled with a minimum of a 9" bit to accommodate SDR17, 5 inch ID (minimum) PVC casing and 1" (minimum) flush joint tremie pipe allowing for proper placement of gravel pack and bentonite grout. If larger casing is used, a larger hole will have to be drilled. Upon completion of drilling, geophysical logs will be run to determine the exact placement of the well screen. The well casing will include 10 to 20 feet of blank pipe on the bottom (capped), .020 slot well screen open to the selected sand zone, and blank pipe to the surface. The well will then be gravel packed with 10-20 silica sand to cover the well screen (and associated sand zone). On very shallow wells (less than 200 feet) the annulus above the gravel pack will be backfilled with bentonite gravel (or pellets) to the surface. On wells from 200 to approximately 700 feet total depth, the annulus above the gravel pack must be grouted from the bottom to the surface using a tremie. The top of the well casing must have threads (slip to thread adapter) and a vented cap.

The well(s) will then be cleaned up by air lifting until all drilling fluids and solids are removed, clear water is produced, and a yield is estimated.

Standard equipment includes:

Either a submersible transducer as in the coal wells (we generally use these if depth to water is greater than 400 feet or so) or a shaft encoder (Handar, Sutron, Stevens) and float-tape-weight arrangement.

3. Data collection platform and miscellaneous support equipment.

All wells are linked to a central data logger (Campbell CR10 or CR510) located in a central shelter and powered via 12 volt batteries and solar modules.

All wells are enclosed in secure, weather proof shelters and fenced in to protect from livestock and wildlife damage.

Attached are photo examples of two and four well setups.

Other Requirements:

1. Equipment Funding: The methane operator will be required to provide the BLM with \$5000 for each monitoring well bore (i.e. \$10,000 for a typical two well setup, \$15,000 for a three well setup, etc.).
2. Schedule: Wells must be completed and funding provided 30 days prior to initiating pumping of production wells in proximity of the monitoring wells.
3. Access: If no public access exists to the monitor well site, the CBM operator must provide access in the form of a right of way or access agreement with the private landowners involved.
4. The operator shall submit APDs to BLM for the monitor wells. The APDs should include the completed APD cover sheet (Form 3160-3), survey plats, a drilling plan and a surface use plan (including a map). The monitor wells will require a cultural clearance report. In addition, they are subject to the same spud notification requirements and completion report requirements as regular federal wells (see General Conditions of Approval). If you have any questions concerning this stipulation and for information on locating and equipping of the wells, please contact Mike Brogan, BLM Hydrologist, at (307) 261-7600.
5. Monitor wells are subject to the same standard COA applied to CBNG production wells.
6. Prior to installation of monitoring equipment by the BLM, the operator will submit to the BLM copies of the following:
7.
 - x State Engineers Well Permit (U.W. 5) and Well Completion (U.W. 6) forms
 - x Signed landowner access agreement (if applicable)
 - x Final copies of all well logs