

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

**SURFACE USE  
CONDITIONS OF APPROVAL**

**POD Name:** ND Unit POD

**Operator:** Black Diamond Energy, Inc

**List of Wells:**

	<b>Well Name</b>	<b>Well #</b>	<b>Qtr/Qtr</b>	<b>Section</b>	<b>TWP</b>	<b>RNG</b>	<b>Lease #</b>
1	ND UNIT NDU	12B-26*	SWNW	26	52N	78W	WYW146357
2	ND UNIT NDU	13B-26	NWSW	26	52N	78W	WYW146357
3	ND UNIT NDU	33B-26	NWSE	26	52N	78W	WYW146357
4	ND UNIT NDU	24B-26	SESW	26	52N	78W	WYW146357
5	ND UNIT NDU	44B-26	SESE	26	52N	78W	WYW146357
6	ND UNIT NDU	32B-27	SWNE	27	52N	78W	WYW146358
7	ND UNIT NDU	34B-27	SWSE	27	52N	78W	WYW146358
8	ND UNIT NDU	14B-27	SWSW	27	52N	78W	WYW146358
9	ND UNIT NDU	21B-27	NENW	27	52N	78W	WYW146358
10	ND UNIT NDU	23B-27	NESW	27	52N	78W	WYW146358
11	ND UNIT NDU	11B-28	NWNW	28	52N	78W	WYW146358
12	ND UNIT NDU	14B-28	SWSW	28	52N	78W	WYW146358
13	ND UNIT NDU	22B-28	SENW	28	52N	78W	WYW146358
14	ND UNIT NDU	23B-28	NESW	28	52N	78W	WYW146358
15	ND UNIT NDU	34B-28	SWNE	28	52N	78W	WYW146358
16	ND UNIT NDU	41B-28	NENE	28	52N	78W	WYW146358
17	ND UNIT NDU	14B-34	SWSW	34	52N	78W	WYW146358
18	ND UNIT NDU	23B-34	NESW	34	52N	78W	WYW146358
19	ND UNIT NDU	34B-34	SWSE	34	52N	78W	WYW146358
20	ND UNIT NDU	11B-34	NWNW	34	52N	78W	WYW146358
21	ND UNIT NDU	32B-34	SWNE	34	52N	78W	WYW146358
22	ND UNIT NDU	41B-34	NENE	34	52N	78W	WYW146358
23	ND UNIT NDU	14B-35	SWNW	35	52N	78W	WYW146357
24	ND UNIT NDU	21B-35	NENW	35	52N	78W	WYW146357
25	ND UNIT NDU	23B-35	NESW	35	52N	78W	WYW146357
26	ND UNIT NDU	32B-35	SWNE	35	52N	78W	WYW146357
27	ND UNIT NDU	41B-35	NENE	35	52N	78W	WYW146357
28	ND UNIT NDU	43B-35	NESE	35	52N	78W	WYW146357
29	ND UNIT NDU	34B-35	SWSE	35	52N	78W	WYW146357

**List of Impoundments:**

	<b>IMPOUNDMENT Name / Number</b>	<b>Qtr/Qtr</b>	<b>Section</b>	<b>TWP</b>	<b>RNG</b>	<b>Capacity (Acre Feet)</b>	<b>Surface Disturbance (Acres)</b>	<b>Lease Number</b>
1	41-28-52-78 (Dutch #2)	NENE	28	52	78	19.9	7	WYW146358
2	44-34-52-78	SESE	34	52	78	18.9	3.5	WYW146358
3	44-35-52-78	SESE	35	52	78	20	3.2	WYW146357
4	ROBERT G STOCK	SWNW	35	52	78	47.9	6.3	WYW146357
5	34-26-52-78	SWSE	26	52	78	49.4	5.6	WYW146357
6	23-26-52-78	NESW	26	52	78	18.4	4.5	WYW146357
7	MICHELENA #3	SWNW	17	51	77	31.5	5.5	WYW146313

**List of approved Right-of Ways:**

<b>ROW Grant</b>	<b>Type</b>	<b>Sections</b>	<b>TWP/RNG</b>
WYW-069802	Gas pipeline	2, 3, 12	51N/78W
WYW-169803	Access road and water pipeline	2, 3, 12	51N/78W

**I Programmatic mitigation measures identified in the PRB FEIS ROD**

**Groundwater**

In order to address the potential impacts from infiltration on shallow ground water, the Wyoming DEQ has developed a guidance document, “Compliance Monitoring and Siting Requirements for Unlined Coalbed Methane Produced Water Impoundments” which was approved September, 2006. For WYPDES permits received by DEQ after the effective date, the BLM requires that operators comply with the current approved DEQ compliance monitoring guidance document prior to discharge of federally-produced water into newly constructed or upgraded impoundments.

**Surface Water**

1. Channel Crossings:
  - a) Minimize channel disturbance as much as possible by limiting pipeline and road crossings.
  - b) Avoid running pipelines and access roads within floodplains or parallel to a stream channel.
  - c) Channel crossings by road and pipelines will be constructed perpendicular to flow. Culverts will be installed at appropriate locations for streams and channels crossed by roads as specified in the BLM Manual 9112-Bridges and Major Culverts and Manual 9113-Roads. Streams will be crossed perpendicular to flow, where possible, and all stream crossing structures will be designed to carry the 25-year discharge event or other capacities as directed by the BLM.
  - d) Channel crossings by pipelines will be constructed so that the pipe is buried at least four feet below the channel bottom.
2. Low water crossings will be constructed at original streambed elevation in a manner that will prevent any blockage or restriction of the existing channel. Material removed will be stockpiled for use in reclamation of the crossings.
3. Concerns regarding the quality of the discharged CBNG water on downstream irrigation use may require operators to increase the amount of storage of CBNG water during the irrigation months and allow more surface discharge during the non-irrigation months.
4. The operator will supply a copy of the complete approved SW-4, SW-3, or SW-CBNG permits to BLM as they are issued by WSEO for impoundments.
5. The operator will supply a copy of complete approved WYPDES permits to the BLM as they are

issued by WDEQ for discharge to impoundments.

### **Soils**

1. The Companies, on a case by case basis depending upon water and soil characteristics, will test sediments deposited in impoundments before reclaiming the impoundments. Tests will include the standard suite of cations, ions, and nutrients that will be monitored in surface water testing and any trace metals found in the CBNG discharges at concentrations exceeding detectable limits.

### **Wetland/Riparian**

1. Power line corridors will avoid wetlands, to the extent possible, in order to reduce the chance of waterfowl hitting the lines. Where avoidance can't occur, the minimum number of poles necessary to cross the area will be used.
2. Wetland areas will be disturbed only during dry conditions (that is, during late summer or fall), or when the ground is frozen during the winter.
3. No waste material will be deposited below high water lines in riparian areas, flood plains, or in natural drainage ways.
4. The lower edge of soil or other material stockpiles will be located outside the active floodplain.
5. Disturbed channels will be re-shaped to their approximate original configuration or stable geomorphologic configuration and properly stabilized.
6. Reclamation of disturbed wetland/riparian areas will begin immediately after project activities are complete.

### **Wildlife**

1. The Companies will locate facilities so that noise from the facilities at any nearby sage grouse or sharp-tailed grouse display grounds does not exceed 49 decibels (10 dBA above background noise) at the display ground.
2. The Companies will locate aboveground power lines, where practical, at least 0.5 mile from any sage grouse breeding or nesting grounds to prevent raptor predation and sage grouse collision with the conductors. Power poles within 0.5 mile of any sage grouse breeding ground will be raptor-proofed to prevent raptors from perching on the poles.
3. All stock tanks shall include a ramp to enable trapped small birds and mammals to escape. See Idaho BLM Technical Bulletin 89-4 entitled Wildlife Watering and Escape Ramps on Livestock Water Developments: Suggestions and Recommendations.

### **Visual Resources**

1. The Companies will mount lights at compressor stations and other facilities on a pole or building and direct them downward to illuminate key areas within the facility while minimizing the amount of light projected outside the facility.

### **Noise**

1. Noise mufflers will be installed on the exhaust of compressor engines to reduce the exhaust noise.
2. Where noise impacts to existing sensitive receptors are an issue, noise levels will be required to be no greater than 55 decibels measured at a distance of one-quarter mile from the appropriate booster (field) compressor. When background noise exceeds 55dBA, noise levels will be no greater than 5dBA above background. This may require the installation of electrical compressor motors at these locations.

### **Air Quality**

1. During construction, emissions of particulate matter from well pad and resource road construction will be minimized by application of water, or other dust suppressants, with at least 50 percent control efficiency. Roads and well locations constructed on soils susceptible to wind erosion could be

appropriately surfaced or otherwise stabilized to reduce the amount of fugitive dust generated by traffic or other activities, and dust inhibitors (surfacing materials, non-saline dust suppressants, and water) could be used as necessary on unpaved collector, local and resource roads that present a fugitive dust problem. The use of chemical dust suppressants on BLM surface will require prior approval from the BLM authorized officer.

## II Site Specific Conditions of Approval

### Surface Mitigation

1. All changes made at the onsite will be followed. They have all been incorporated into the operator's plan of development.
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 the Nurse Draw POD is **Covert Green**, 18-0617 TPX.
3. Due to a headcut at the 32-35 location, Black Diamond will keep 20' vegetated border from the headcut.
4. The 14-27 is located in a bowl at the edge of a knoll on rocky out slope. To prevent loss of soil that would not be recoverable, the edge of fill will kept 10' from edge of the drop off. There was not much vegetation on this rocky location other than fourwing saltbrush, therefore, the operator will be required to replant fourwing salt brush at the 14-27 location to aid in reclamation
5. The operator will drill seed on the contour to a depth of 0.5 inch, followed by cultipaction to compact the seedbed, preventing soil and seed losses. To maintain quality and purity, the current years tested, certified seed with a minimum germination rate of 80% and a minimum purity of 90% will be used. On BLM surface or in lieu of a different specific mix desired by the surface owner, use the following:

#### Clayey Seed Mix

Section 26 Wells: 12-26, 44-26, 33-26, Section 27 Wells: 12-27, 14-27, 32-27, 34-27, 21-27, 12-27, Section 28 Wells: 32-28, 22-28, 41-28, 14-28, 23-28, 34-28, 11-28		
Species	% in Mix	Lbs PLS*
<i>Western Wheatgrass</i> (Pascopyrum smithii)	35	4.2
<i>Green needlegrass</i> (Nassella viridula)	30	4.8
<i>Slender Wheatgrass</i> (Elymus trachycaulus ssp. trachycaulus)	20	1.2
<i>Prairie coneflower</i> (Ratibida columnifera)	5	0.6
<i>White or purple prairie clover</i> (Dalea candidum, purpureum)	5	0.6
<i>Rocky Mountain beeplant</i> (Cleome serrulata)	5	0.6
<b>Totals</b>	<b>100%</b>	<b>12 lbs/acre</b>

#### Loamy Seed Mix

<b>Section 34 Wells: 41-34, 11-34, 14-34, 23-34, 32-34, 34-34, Section 35 Wells: 14-35, 41-35, 32-35, 34-35, 23-35, 43-35, 21-35</b>		
<b>Species</b>	<b>% in Mix</b>	<b>Lbs PLS*</b>
<i>Western Wheatgrass</i> (Pascopyrum smithii)/or <i>Thickspike Wheatgrass</i> (Elymus lanceolatus ssp. lanceolatus)	30	3.6
<i>Bluebunch Wheatgrass</i> (Pseudoroegneria spicata ssp. Spicata)	10	1.2
<i>Green needlegrass</i> (Nassella viridula)	25	3.0
<i>Slender Wheatgrass</i> (Elymus trachycaulus ssp. trachycaulus)	20	2.4
<i>Prairie coneflower</i> (Ratibida columnifera)	5	0.6
<i>White or purple prairie clover</i> (Dalea candidum, purpureum)	5	0.6
<i>Rocky Mountain beeplant</i> (Cleome serrulata)	5	0.6
<b>Totals</b>	<b>100%</b>	<b>12 lbs/ac</b>

This is a recommended seed mix based on the native plant species listed in the NRCS Ecological Site descriptions, U.W. College of Ag. and seed market availability.

6. The operator will follow the guidance provided in the Wyoming Policy on Reclamation (IM WY-90-231) specifically the following:
 

Reclamation Standards:

  - C. 3 The reclaimed area shall be stable and exhibit none of the following characteristics:
    - a. Large rills or gullies.
    - b. Perceptible soil movement or head cutting in drainages.
    - c. Slope instability on, or adjacent to, the reclaimed area in question.
  - C.4. The soil surface must be stable and have adequate surface roughness to reduce runoff and capture rainfall and snow melt. Additional short-term measures, such as the application of mulch, shall be used to reduce surface soil movement.
  - C.5. 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. This shall be demonstrated by:
    - a. Successful onsite establishment of species included in the planting mixture or other desirable species.
    - b. Evidence of vegetation reproduction, either spreading by rhizomatous species or seed production.
  - C.6. The reclaimed landscape shall have characteristics that approximate the visual quality of the adjacent area with regard to location, scale, shape, color and orientation of major landscape features and meet the needs of the planned post disturbance land use.
7. Prior to the pre-construction onsite for this project, the operator shall submit a certification, signed by the landowner, regarding the construction of road from the NESE of section 21 to the SWSW of section 35, T52N R78W on Charles Lawrence's private surface. This certification shall include the

following:

- Documentation that the landowner has reviewed the design for the proposed construction for these road segments, examined the staking in the field, and is aware of the magnitude of surface disturbance that the installation will create.
- Certification that the landowner intends to retain these roads for his use after CBNG production ceases.

**Civil Engineering**

1. Roads shall be constructed and used according to the final maps that show the transportation routes. If the road is part of a proposed utility or pipeline corridor, then the corridor will be constructed according to drawings and typical details that show the road, utilities/pipeline, and space needed for temporary spoil and topsoil storage as submitted with the POD.
2. Due to highly erosive soils, steep slopes, and for safety purposes the roads must be built to the road standards permitted, \* **prior to being accessed by drilling rigs**. All primary corridors shall be surfaced prior to placing these roads into use.
3. Adequate drainage control (e.g. water bars, lead-out ditches, etc.) must be in place before operator use of the roads begins.
4. Roads shall be constructed prior to installation of utilities and pipelines unless scheduling requirements dictate otherwise. Pre-approval shall be obtained from the BLM if utilities and pipelines are to be placed before a road is constructed.
5. The operator shall restrict travel during periods of inclement weather or spring thaw when the possibility exists for excessive surface resource damage (e.g., rutting in excess of 4-inches, travel outside two-track roadway, etc.).
6. Rutting, other road damage, and/or adjacent surface damage, including erosion from road runoff, shall be promptly repaired. If needed, fill shall be placed in low spots to prevent further damage. If road damage or adjacent surface erosion from road runoff is caused or worsened by inadequate drainage, additional drainage shall be promptly constructed. If road damage is chronic or extensive, the operator shall request by sundry to upgrade to an improved road.
7. If erosion occurs during the life of the project, the company shall promptly repair it and control it through construction of additional culverts, lead-out ditches, or other modifications as necessary.
8. The operator shall have a licensed professional engineer certify in writing to the BFO that construction of the roads and/or crossings was in conformance with the final engineering designs submitted to the BLM for review during the permitting process. Deviations from the final engineering design shall be documented in the signed certification.
9. On cut-slope sections of road and other sections of road where topography on one side of the road does not allow the use of lead-out ditches to relieve road ditch flow, cross-drains in the form of culverts, water bars, or drainage dips shall be placed according to the following minimum spacing:

<b>Cross-Drain Spacing (feet)</b>				
<b>Soil Type</b>	<b>Road Grade 2-4%</b>	<b>Road Grade 5-8%</b>	<b>Road Grade 9-12%</b>	<b>Road Grade 13-16%</b>
<b>Highly erosive granitic or sandy</b>	<b>240</b>	<b>180</b>	<b>140</b>	<b>100</b>
<b>Intermediate erosive clay or clay/silt/sand</b>	<b>310</b>	<b>260</b>	<b>200</b>	<b>150</b>
<b>Low erosive shale or gravel</b>	<b>400</b>	<b>325</b>	<b>250</b>	<b>200</b>

(\*Please be aware you must request an extension from the BLM Reservoir Management Group if the mitigation timelines conflict with obligation requirements for the ND Unit).

### Water Management Mitigation

1. Impoundment 41-28-52-78 (Dutch #2), NENE - Due to the presence of weathered shale and sandstone outcrops, construction oversight will be required during work on this dam so that issues affecting the dam's integrity can be addressed at that time.
2. Impoundment 44-34-52-78, SESE - There is a substantial gully and headcut downstream of this site. The presence of weak sandstone in the sides of the gully could indicate eventual leaking and/or failure due to piping. If it is built, construction oversight will be required so that issues affecting the dam's integrity can be addressed at that time.
3. Impoundment 44-35-52-78, SESE - This is an old existing dam which will be enlarged. Silty material in the basin and the area downstream indicate that this structure has a high probability to seep and pipe. For these reasons, construction oversight is needed so that issues affecting the dam's integrity can be addressed at that time.
4. Impoundment Robert G Stock, SWNW - This old existing dam is proposed for enlargement, which could back water onto an exposed layer of weathered shale. Construction oversight will be required for this dam so that issues affecting the dam's integrity can be addressed at that time.
5. Impoundment 34-26-52-78, SWSE - This dam is proposed in a steep-sided gully upstream of the 23-26 dam. The presence of coal and sandstone outcrops within the pool and construction areas indicate that this site has a high probability of seeping and piping. Construction oversight will be required so that issues affecting the dam's integrity can be addressed at that time.
6. Impoundment 23-26-52-78, NESW - This dam is an old existing failed structure. The surrounding geology is very poor with coal, sandstone and weathered shale outcrops at various levels. This site was recommended for dropping or at least placing in a very low priority. Should this dam be rebuilt, construction oversight will be required so that issues affecting the dam's integrity can be addressed at that time.
7. Impoundment Michelena #4 - This dam was dropped from the WMP because of the small storage capacity associated with a relatively large embankment. If the operator decides to build this dam, a sundry will be submitted to the BLM for review and approval.
8. Black Diamond's water management strategy has been changed to rely solely on the EMIT treatment facility with discharge of a blend of treated and raw water directly into the Powder River. All impoundments proposed for development have been listed as "secondary" in order to avoid the need for posting of reclamation bonds prior to POD approval. Should Black Diamond choose to add any of the impoundments listed in the impoundment table above, a sundry notice will be submitted to the BLM for review. Construction is not authorized prior to receipt of appropriate reclamation bonds and BLM approval.

### Wildlife Mitigation

1. The following conditions will minimize impacts to raptors;
  - a. No surface disturbance shall occur within ½ mile of all identified nests from February 1 through July 31, annually, prior to a raptor nest occupancy survey for the current breeding season. This affects the following wells and **associated infrastructure; pipelines, low water crossings, culverts, temporary access roads, discharge points, and overhead power and drops.**

Area Covered by this Mitigation	BLM ID #	UTM N	UTM E	Species
T51R78: North half of section 2, pipeline.	4901	4920251	403902	Unknown
T52R78: South 1/4 section 35, pipeline	4902	4920459	403574	Northern Harrier
T52R78: Well location 43-35	3869	4919431	402643	Golden Eagle

<b>Area Covered by this Mitigation</b>	<b>BLM ID #</b>	<b>UTM N</b>	<b>UTM E</b>	<b>Species</b>
none	3870	4919837	399766	Unknown
T51R78: East 1/2 section 11, pipeline West 1/2 section 12, pipeline	3871	4917804	404307	Unknown
none	3052	4923957	406955	Red-tailed hawk
T52R78: Southeast 1/4 section 20 road work:	3051	4924828	399210	Golden Eagle
T52R78: Well locations 23-27, 32-27, 34-27, and road work in section 27	3868	4922669	402066	Red-tailed hawk
T52R78: Section 28 well locations 11-28, 22-28, 32-28, 23-28, 34-28, power line construction and road construction	3048	4923097	400202	Unknown
T52R78: Road construction in sections 30, 29, SESW section 20.	3047	4923712	398039	Red-tailed hawk
T52R78: Road construction in sections 29 and 30	3444	4923702	397717	Red-tailed hawk
T52R78: Well locations 41-34, 32-34, 21-35, 23-35, reservoir in west portion of section 35, powerline and road construction in section 34	3046	4921680	402848	Unknown
T52R78: Well locations 32-35, 23-35, 34-35, 43-5	3049	4920802	404068	Unknown
T52R78: Well location 43-35	3045	4921027	404787	Red-tailed hawk
T52R78: Road segment in section 36	4903	4921840	405256	Unknown
T52R78: Well locations 24-26, 13-26, 21-35	2607	4922234	403285	Red-tailed hawk
T52R78: Well location 33-26	4126	4923071	404173	Unknown
T51R78: Pipeline in east section 11 and west section 12	4364	4917725	404392	Unknown

- b. 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. Surveys outside this window may not depict nesting activity. If a survey identifies active raptor nests, a ½ mile timing buffer will be implemented. The timing buffer restricts surface disturbing activities within ½ mile of occupied raptor nests from February 1 to July 31.
- c. Nest productivity checks shall be completed for all raptor nests within ½ mile of the POD. The productivity checks shall be completed for the first five years following project completion. The productivity checks shall be conducted no earlier than June 1 or later than June 30 and any evidence of nesting success/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.
- d. Between February 1 and the completion of raptor nest productivity checks, drilling, completion, and maintenance activities requiring more than checking the well must be approved by the BLM for the following wells: 23-27
- e. Signs advising vehicles to not stop Feb1- Aug 1 will be placed on the ridge road ½ mile south and north of the 3868 nest.

- f. Where the operator ties into existing power poles, the existing pole shall be fitted to meet or exceed 2007 APLIC standards.
  - g. If nest 3868 becomes inactive in 2008 or 2009, then Black Diamond will meet with the BLM and US Fish and Wildlife Service to discuss mitigation to be in place by February 1, 2010.
2. The following conditions will minimize impacts to sage-grouse:
- a. A survey is required for sage-grouse between April 1 and May 7, annually, within the project area for the life of the project and results shall be submitted to a BLM biologist. The required sage grouse survey will be conducted by a biologist following the most current WGFD protocol. All survey results shall be submitted in writing to a Buffalo BLM biologist and approved prior to surface disturbing activities.
  - b. If an active lek is identified during the survey, the 2 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 2 mile buffer until the following breeding season (March 1).

Known 2007 leks affecting the project and project elements within 2 miles.

<b>Area Covered by this Mitigation</b>	<b>Lek Name</b>	<b>UTMN</b>	<b>UTME</b>
T52R78: All of section 34, southeast of section 35, 34-35. T51R78 pipeline in section 2	Kinney Draw I	4919134	401223
T52R78: well locations 32-34, 23-34, 14-34, 34-34, staging area, stock tank and reservoir in south 34, powerline south 34 Southwest 1/4 of section 35. T51R78: pipeline section 2 and 11.	Kinney Draw II	4918361	401423
T51R78: pipeline in sections 11, 12, 18	Kinney Draw III	4919515	401734
T52R78: All of section 34. Well locations 21-35, 32-35, 43-35, reservoir 44-35, 34-35, 23-35, 12-35, 14-35. Road work south of the 23-27 turn-off, 34-27, 34-28, 14-27. T51R78: pipeline in section 2 and 11	Nurse Draw	4917725	402906
T52R78: road work in sections 19, 30, 29, 20	Thompson Creek Rd	4925200	396600

- c. Creation of raptor hunting perches will be avoided within 0.5-mile of documented sage grouse lek sites. Perch inhibitors will be installed to deter avian predators from preying on sage grouse.
  - d. Disturbance widths on access (except for engineered, template sections or unforeseen circumstances such as rock) shall be limited to 30 feet and mowing around the well head (where no pad is needed) shall be limited to 35 feet at the following wells in order to reduce impacts to sage-grouse: 33-26, 44-26, 14-27, 11-34, 14-34, 23-34, 32-34, 23-35, 32-35, 34-35, 41-35.
3. The following conditions will minimize impacts to roosting and nesting bald eagles;
- a. Surveys for active bald eagle nests and winter roost sites will be conducted annually within suitable habitat (Crazy Woman Creek and the Powder River) by a biologist.

Surface disturbing activities will not be permitted within one mile of suitable habitat prior to survey completion.

- b. If a roost is identified a year round disturbance-free buffer zone of 0.5 mile will be established for all bald eagle winter roost sites. A seasonal limited activity zone of 1-mile will be established for all bald eagle roost sites (November 1 - April 1). Additional measures such as remote monitoring and restricting maintenance visitation to between 9:00 AM and 3:00 PM may be necessary to prevent disturbance.
  - c. If a bald eagle nest is identified 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).
  - d. Additional mitigation measures may be necessary if the site-specific project is determined by a Bureau biologist to have an adverse affect to bald eagles or their habitat.
4. The Record of Decision for the Powder River Basin EIS 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". 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. Should this project not be completed by November 1, the operator will coordinate with the BLM to determine if additional surveys will be required.

Please contact Jennifer Spegon Natural Resource Specialist, @ (307) 684-1059 Bureau of Land Management, Buffalo, if there are any questions concerning these COAs.

### **III Standard Conditions of Approval**

#### **A. General**

1. If any cultural values [sites, artifacts, human remains (Appendix L FEIS)] are observed during operation of this lease/permit/right-of-way, they will be left intact and the Buffalo Field Manager notified. The authorized officer will conduct an evaluation of the cultural values to establish appropriate mitigation, salvage or treatment. The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the authorized BLM officer (AO). Within five working days the AO will inform the operator as to:
  - whether the materials appear eligible for the National Register of Historic Places;
  - the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,
  - a time-frame for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction measures.
2. If paleontological resources, either large or conspicuous, and/or a significant scientific value are discovered during construction, the find will be reported to the Authorized Officer immediately. Construction will be suspended within 250 feet of said find. An evaluation of

the paleontological discovery will be made by a BLM approved professional paleontologist within five (5) working days, weather permitting, to determine the appropriate action(s) to prevent the potential loss of any significant paleontological values. Operations within 250 feet of such a discovery will not be resumed until written authorization to proceed is issued by the Authorized Officer. The applicant will bear the cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils of significant scientific interest discovered during the operation.

3. The operator shall restrict travel on unimproved two-track roads during periods of inclement weather or spring thaw when the possibility exists for excessive surface resource damage (e.g., rutting in excess of 4-inches, travel outside two-track roadway, etc.).
4. The first producing well drilled to each targeted coal zone will be designated as the POD "Reference Well". Reference wells will not be required for PODs within a 6 mile radius of the first reference well designated by the operator, nor for co-mingled coal zones. The designated reference well must be equipped to be sampled at the well head. A reference well sample will be collected from the wellhead and submitted for analysis; using the list of analytes identified in WDEQ WYPDES Application for Permit to Surface Discharge Produced Water from CBM New Discharges, Renewals, or Major Modifications, within 30 to 60 days of initial water production. Results of the analysis will be submitted to the BFO-BLM authorized Officer as they become available.
5. By November 1 each year, companies will provide georeferenced spatial data depicting as-built locations of all facilities, wells, roads, pipelines, power lines, reservoirs, discharge points, and other related facilities to the BLM for all PODs where construction and development have been completed.
6. 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), their law enforcement office (307-261-6365), and the BLM Buffalo Field Office (307-684-1100) shall be notified within 24 hours. If any dead or injured sensitive species is located during construction or operation, the BLM Buffalo Field Office (307-684-1100) shall be notified within 24 hours.
7. Wildlife species are dynamic and new individuals may have moved into the Nurse Draw POD area after the initial wildlife surveys were completed. The Record of Decision for the PRB 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". 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. Should this project not be completed by January 15, and surface disturbance is planned for that year, a Black Diamond Energy company representative will coordinate with the BLM to discuss required surveys.
8. All other conservation measures and terms and conditions identified in the Powder River Basin Oil and Gas Project Biological Opinion (WY07F0075) shall be complied with.
9. 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.
10. All contractors will have a copy of the pod map and conditions of approval with them at all times.

## **B. Construction**

1. A pre-construction field meeting shall be conducted prior to beginning any dirt work approved under this POD. The operator shall contact the BLM Authorized Officer Jennifer Spegon @ 307-684-1059 at least 4-days prior to beginning operations so that the meeting can be scheduled. The operator is responsible for having all contractors present (dirt contractors, drilling contractor, pipeline contractor, project oversight personnel, etc.) including the overall field operations superintendent, and for providing all contractors copies of the approved POD, project map and BLM Conditions of Approval pertinent to the work that each will be doing.
2. The operator will limit vegetation removal and the degree of surface disturbance wherever possible. Where surface disturbance cannot be avoided, all practicable measures will be utilized to minimize erosion and stabilize disturbed soils.
3. Construction and drilling activity will not be conducted using frozen or saturated soil material during periods when watershed damage or excessive rutting is likely to occur.
4. 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.
5. The operator will not push soil material and overburden over side slopes or into drainages. All soil material disturbed will be placed in an area where it can be retrieved without creating additional undue surface disturbance and where it does not impede watershed and drainage flows.
6. Construct the backslope no steeper than 1½:1, and construct the foreslope no steeper than 2:1, unless otherwise directed by the BLM Authorized Officer.
7. Maintain a minimum 20-foot undisturbed vegetative border between toe-of-fill of pad and/or pit areas and the edge of adjacent drainages, unless otherwise directed by the BLM Authorized Officer.
8. With the overall objective of minimizing surface disturbance and retaining land stability and productivity, the operator shall utilize equipment that is appropriate to the scope and scale of work being done for roads and well pads (utilize equipment no larger than needed for the job).
9. To minimize electrocution potential to raptors, all overhead electrical power lines will be constructed to Avian Power Line Interaction Committee (1996) standards and additional standards identified in the PRB FEIS Biological Opinion (Volume 3, Appendix K, page 43).
10. The operator shall utilize wheel trenchers or ditchers to construct all pipeline trenches, except where extreme topography or other environmental factors preclude their use.
11. Reserve pits will be adequately fenced during and after drilling operations until pit is reclaimed so as to effectively keep out wildlife and livestock. Adequate fencing, in lieu of more stringent requirements by the surface owner, is defined as follows:
  - Construction materials will consist of steel or wood posts. Three or four strand wire (smooth or barbed) fence or hog panel (16-foot length by 50-inch height) or plastic snow fence must be used with connectors such as fence staples, quick-connect clips, hog rings, hose clamps, twisted wire, etc. Electric fences will not be allowed.

- Construction standards: Posts shall be firmly set in ground. If wire is used, it must be taut and evenly spaced, from ground level to top wire, to effectively keep out animals. Hog panels must be tied securely into posts and one another using fence staples, clamps, etc. Plastic snow fencing must be taut and sturdy. Fence must be at least 2-feet from edge of pit. 3 sides fenced before beginning drilling, the fourth side fenced immediately upon completion of drilling and prior to rig release. Fence must be left up and maintained in adequate condition until pit is closed.
12. The reserve pit will be oriented to prevent collection of surface runoff. After the drilling rig is removed, the operator may need to construct a trench on the uphill side of the reserve pit to divert surface drainage around it. If constructed, the trench will be left intact until the pit is closed.
  13. The reserve pit will be lined with an impermeable liner if permeable subsurface material is encountered. An impermeable liner is any liner having a permeability less than  $10^{-7}$  cm/sec. The liner will be installed so that it will not leak and will be chemically compatible with all substances that may be put in the pit. Liners made of any man-made synthetic material will be of sufficient strength and thickness to withstand normal installation and pit use. In gravelly or rocky soils, a suitable bedding material such as sand will be used prior to installing the liner.
  14. The reserve pit will be constructed so that at least half of its total volume is in solid cut material (below natural ground level).
  15. Culverts will be placed on channel bottoms on firm, uniform beds, which have been shaped to accept them, and aligned parallel to the channel to minimize erosion. Backfill will be thoroughly compacted.
  16. The minimum diameter for culverts will be 18 inches. However, all culverts will be appropriately sized in accordance with standards in BLM Manual 9113.
  17. Construction and other project-related traffic will be restricted to approved routes. Cross-country vehicle travel will not be allowed.
  18. Maximum design speed on all operator-constructed and maintained roads will not exceed 25 miles per hour.
  19. Pipeline construction shall not block nor change the natural course of any drainage. Pipelines shall cross perpendicular to drainages. Pipelines shall not be run parallel in drainage bottoms. Suspended pipelines shall provide adequate clearance for maximum runoff.
  20. Pipeline trenches shall be compacted during backfilling. Pipeline trenches shall be routinely inspected and maintained to ensure proper settling, stabilization and reclamation.
  21. During construction, emissions of particulate matter from well pad and road construction would be minimized by application of water or other non-saline dust suppressants with at least 50 percent control efficiency. Dust inhibitors (surfacing materials, non-saline dust suppressants, and water) will be used as necessary on unpaved roads that present a fugitive dust problem. The use of chemical dust suppressants on public surface will require prior approval from the BLM Authorized Officer.
  22. Operators are required to obtain a National Pollution Discharge Elimination System (NPDES) Storm Water Permit from the Wyoming DEQ for any projects that disturb five or more acres (changing to one acre in March 2005). This general construction storm water permit must be obtained from WDEQ prior to any surface disturbing activities and can be obtained by following directions on the WDEQ website at <http://deq.state.wy.us>. Further information can be obtained by contacting Barb Sahl at (307) 777-7570.

23. The operator shall submit a Sundry Notice (Form 3160-5) to BLM for approval prior to construction of any new surface disturbing activities that are not specifically addressed in the approved APD or POD Surface Use Plan.
24. Weed educational material will be reviewed with operators during pre-construction on-site meetings with operators, subcontractors, and landowners and will also be attached to approved APDs and PODs.
25. Companies will contact the counties to pursue development of maintenance agreements to ensure county roads are adequately maintained for the projected increase in use.

### **C. Operations/Maintenance**

1. The operator shall complete coal bed natural gas wells (case, cement and under ream) as soon as possible, but no later than 30 days after drilling operations, unless an extension is given by the BLM Authorized Officer.
2. If in the process of air drilling the wells there is a need to utilize mud, all circulating fluids will be contained either in an approved pit or in an aboveground containment tank. The pit or containment tank will be large enough to safely contain the capacity of all expected fluids without danger of overflow. Fluid and cuttings will not be squeezed out of the pit, and the pit will be reclaimed in an expedient manner.
3. Confine all equipment and vehicles to the access road(s), pad(s), and area(s) specified in the approved APD or POD.
4. All waste, other than human waste and drilling fluids, will be contained in a portable trash cage. This waste will be transported to a State approved waste disposal site immediately upon completion of drilling operations. No trash or empty barrels will be placed in the reserve pit or buried on location. All state and local laws and regulations pertaining to disposal of human and solid waste will be complied with.
5. Rat and mouse holes shall be filled and compacted from the bottom to the top immediately upon release of the drilling rig from the location.
6. The operator will be responsible for prevention and control of noxious weeds and weeds of concern on all areas of surface disturbance associated with this project (well locations, roads, water management facilities, etc.) Use of pesticides shall comply with the applicable Federal and State laws. Pesticides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of Interior. Prior to the use of pesticides on public land, the holder shall obtain from the BLM authorized officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the authorized officer to such use.
7. Sewage shall be placed in a self-contained, chemically treated porta-potty on location.
8. The operator and their contractors shall ensure that all use, production, storage, transport and disposal of hazardous and extremely hazardous materials associated with the drilling, completion and production of these wells will be in accordance with all applicable existing or hereafter promulgated federal, state and local government rules, regulations and guidelines. All project-related activities involving hazardous materials will be conducted in a manner to minimize potential environmental impacts. In accordance with OSHA requirements, a file will be maintained onsite containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds and/or substances which are used in the course of construction, drilling, completion and production operations.

9. Produced fluids shall be put in test tanks on location during completion work. Produced water will be put in the reserve pit during completion work per Onshore Order #7.
10. The only fluids/waste materials which are authorized to go into the reserve pit are RCRA exempt exploration and production wastes. These include:

- drilling muds & cuttings
- rigwash
- excess cement and certain completion & stimulation fluids defined by EPA as exempt

It does not include drilling rig waste, such as:

- spent hydraulic fluids
- used engine oil
- used oil filter
- empty cement, drilling mud, or other product sacks
- empty paint, pipe dope, chemical or other product containers
- excess chemicals or chemical rinsate

Any evidence of non-exempt wastes being put into the reserve pit may result in the BLM Authorized Officer requiring specific testing and closure requirements.

11. Reserve pits will be closed as soon as possible, but no later than 90 days from time of drilling/well completion, unless the BLM Authorized Officer gives an extension. Squeezing of pit fluids and cuttings is prohibited. Pits must be dry of fluids or they must be removed via vac-truck or other environmentally acceptable method prior to backfilling, re-contouring and replacement of topsoil. Mud and cuttings left in pit must be buried at least 3-feet below re-contoured grade. The operator will be responsible for re-contouring any subsidence areas that develop from closing a pit before it is sufficiently dry.
12. Operators are advised that prior to installation of any oil and gas well production equipment which has the potential to emit air contaminants, the owner or operator of the equipment must notify the Wyoming Department of Environmental Quality, Air Quality Division (phone 307-777-7391) to determine permit requirements. Examples of pertinent well production equipment include fuel-fired equipment (e.g., diesel generators), separators, storage tanks, engines and dehydrators.
13. If this well is drilled during the fire season (June-October), the operator shall institute all necessary precautions to ensure that fire hazard is minimized, including but not limited to mowing vegetation on the access route(s) and well location(s), keeping fire fighting equipment readily available when drilling, etc.

#### **D. Dry Hole/Reclamation**

1. All disturbed lands associated with this project, including the pipelines, access roads, water management facilities, etc will be expediently reclaimed and reseeded in accordance with the surface use plan and any pertinent site-specific COAs.
2. Disturbed lands will be re-contoured back to conform with existing undisturbed topography. No depressions will be left that trap water or form ponds.
3. The fluids and mud must be dry in the reserve pit before re-contouring pit area. The operator will be responsible for re-contouring of any subsidence areas that develop from closing a pit before it is completely dry. The plastic pit liner (if any) will be cut off below grade and

- properly disposed of at a state authorized landfill before beginning to re-contour the site.
4. Before the location has been reshaped and prior to redistributing the topsoil, the operator will rip or scarify the drilling platform and access road on the contour, to a depth of at least 12 inches. The rippers are to be no farther than 24 inches apart.
  5. Distribute the topsoil evenly over the entire location and other disturbed areas. Prepare the seedbed by disking to a depth of 4-to-6 inches following the contour.
  6. Phased reclamation plans will be submitted to BLM for approval prior to individual POD facility abandonment via a Notice of Intent (NOI) Sundry Notice. Individual facilities, such as well locations, pipelines, discharge points, impoundments, etc. need to be addressed in these plans as they are no longer needed. Individual items that will need to be addressed in reclamation plans include:
    - Pit closure (Close ASAP after suitably dry, but no later than 90 days from time of drilling unless an extension is given by BLM Authorized Officer.) BLM may require closure prior to 90 days in some cases due to land use or environmental concerns.
    - Configuration of reshaped topography, drainage systems, and other surface manipulations
    - Waste disposal
    - Revegetation methods, including specific seed mix (pounds pure live seed/acre) and soil treatments (seedbed preparation, fertilization, mulching, etc.). On private surface, the landowner should be consulted for the specific seed mix.
    - Other practices that will be used to reclaim and stabilize all disturbed areas, such as water bars, erosion fabric, hydro-mulching, etc.
    - An estimate of the timetables for beginning and completing various reclamation operations relative to weather and local land uses.
    - Methods and measures that will be used to control noxious weeds, addressing both ingress and egress to the individual well or POD.
    - Decommissioning/removal of all surface facilities
    - Closure and reclamation of areas utilized or impacted by produced CBM water, including discharge points, reservoirs, off-channel pits, land application areas, livestock/wildlife watering facilities, surface discharge stream channels, etc
  7. BLM will not release the performance bond until all disturbed areas associated with the APD/POD have been successfully revegetated (evaluation will be made after the second complete growing season) and has met all other reclamation goals of the surface owner and surface management agency.
  8. A Notice of Intent to Abandon and a Subsequent Report of Abandonment must be submitted for abandonment approval.
  9. For performance bond release approval, a Final Abandonment Notice (with a surface owner release letter on split-estate) must be submitted prior to a final abandonment evaluation by BLM.
  10. Soil fertility testing and the addition of soil amendments may be required to stabilize some disturbed lands.
  11. Any mulch utilized for reclamation needs to be certified weed free.
  12. Waterbars are to be constructed at least one (1) foot deep, on the contour with approximately two (2) feet of drop per 100 feet of waterbar to ensure drainage, and extended into established vegetation. All waterbars are to be constructed with the berm on the downhill side to prevent

the soft material from silting in the trench. The initial waterbar should be constructed at the top of the backslope. Subsequent waterbars should follow the following general spacing guidelines:

Slope (percent)	Spacing Interval (feet)
≤ 2 - 4	310
5 - 8	260
9 - 12	200

#### **E. Producing Well**

1. Landscape those areas not required for production to the surrounding topography as soon as possible. The fluids and mud must be dry in the reserve pit before re-contouring pit area. The operator will be responsible for re-contouring and reseeding of any subsidence areas that develop from closing a pit before it is completely dry.
2. Reduce the backslope to 2:1 and the foreslope to 3:1, unless otherwise directed by the BLM Authorized Officer. Reduce slopes by pulling fill material up from foreslope into the toe of cut slopes.
3. Production facilities (including dikes) must be placed on the cut portion of the location and a minimum of 15 feet from the toe of the back cut unless otherwise approved by the BLM Authorized Officer.
4. Any spilled or leaked oil, produced water or treatment chemicals must be reported in accordance with NTL-3A and immediately cleaned up in accordance with BLM requirements. This includes clean-up and proper disposition of soils contaminated as a result of such spills/leaks.
5. Distribute stockpiled topsoil evenly over those areas not required for production and reseed as recommended.
6. Upgrade and maintain access roads and drainage control (e.g., culverts, drainage dips, ditching, crowning, surfacing, etc.) as necessary and as directed by the BLM Authorized Officer to prevent soil erosion and accommodate safe, environmentally-sound access.
7. Prior to construction of production facilities not specifically addressed in the APD/POD, the operator shall submit a Sundry Notice to the BLM Authorized Officer for approval.
8. If not already required prior to constructing and drilling the well location, the operator shall immediately upgrade the entire access road to BLM standards (including topsoiling, crowning, ditching, drainage culverts, surfacing, etc.) to ensure safe, environmentally-sound, year-round access. This requirement does not supercede or apply where specific road requirements are addressed in the APD/POD surface use plan (e.g., two track road, spot upgrade, etc.)
9. Waterbars shall be installed on all reclaimed pipeline corridors per the guidelines in D #12.