

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

**SURFACE USE
CONDITIONS OF APPROVAL
EA # WY-070-09-148**

POD Name: Kingwood 3

Operator: Williams Production RMT

List of Wells:

	Well Name	Well #	Qtr/Qtr	Section	TWP	RNG	Lease #
1	KINGWOOD 3 BRUBAKER	41-1	NENE	1	45N	77W	WYW0266651
2	KINGWOOD 3 BRUBAKER	42-1	SENE	1	45N	77W	WYW89851
3	KINGWOOD 3 FEDERAL	12-1*	SWNW	1	45N	77W	WYW89851
4	KINGWOOD 3 FEDERAL	21-1	NENW	1	45N	77W	WYW89851
5	KINGWOOD 3 FEDERAL	14-1	SWSW	1	45N	77W	WYW89851
6	KINGWOOD 3 FEDERAL	23-1	NESW	1	45N	77W	WYW89851
7	KINGWOOD 3 FEDERAL	32-1	SWNE	1	45N	77W	WYW0266651
8	KINGWOOD 3 FEDERAL	34-1	SWSE	1	45N	77W	WYW89851
9	KINGWOOD 3 FEDERAL	23-2	NESW	2	45N	77W	WYW146848
10	KINGWOOD 3 FEDERAL	14-2	SWSW	2	45N	77W	WYW146848
11	KINGWOOD 3 FEDERAL	12-12	SWNW	12	45N	77W	WYW89851
12	KINGWOOD 3 FEDERAL	21-12	NENW	12	45N	77W	WYW89851
13	KINGWOOD 3 FEDERAL	32-12	SWNE	12	45N	77W	WYW89851
14	KINGWOOD 3 FEDERAL	14-12	SWSW	12	45N	77W	WYW146848
15	KINGWOOD 3 FEDERAL	23-12	NESW	12	45N	77W	WYW146848
16	KINGWOOD 3 FEDERAL	41-12	NENE	12	45N	77W	WYW89851
17	KINGWOOD 3 FEDERAL	12-26	SWNW	26	46N	77W	WYW89858
18	KINGWOOD 3 FEDERAL	14-26	SWSW	26	46N	77W	WYW89858
19	KINGWOOD 3 FEDERAL	21-26	NENW	26	46N	77W	WYW89858
20	KINGWOOD 3 FEDERAL	23-26	NESW	26	46N	77W	WYW89858
21	KINGWOOD 3 FEDERAL	32-26	SWNE	26	46N	77W	WYW16066
22	KINGWOOD 3 FEDERAL	41-26	NENE	26	46N	77W	WYW16066
23	KINGWOOD 3 FEDERAL	43-26	NESE	26	46N	77W	WYW40634
24	KINGWOOD 3 FEDERAL	12-27	SWNW	27	46N	77W	WYW89858
25	KINGWOOD 3 FEDERAL	32-27	SWNE	27	46N	77W	WYW89858
26	KINGWOOD 3 FEDERAL	41-27	NENE	27	46N	77W	WYW89858

	Well Name	Well #	Qtr/Qtr	Section	TWP	RNG	Lease #
27	KINGWOOD 3 FEDERAL	23-35	NESW	35	46N	77W	WYW89865
28	KINGWOOD 3 FEDERAL	32-35	SWNE	35	46N	77W	WYW128464
29	KINGWOOD 3 FEDERAL	34-35	SWSE	35	46N	77W	WYW89865
30	KINGWOOD 3 FEDERAL	43-35	NESE	35	46N	77W	WYW89865
31	KINGWOOD 3 FEDERAL	12-35	SWNW	35	46N	77W	WYW128464
32	KINGWOOD 3 FEDERAL	14-35	SWSW	35	46N	77W	WYW89865
33	KINGWOOD 3 FEDERAL	21-35	NENW	35	46N	77W	WYW128464

List of approved Right-of Ways:

WYW-159912 Amendment #2 for road, water pipeline and buried power in: T.45N., R.77W., sections 1, 2, 11, 12, 14 and 15; T. 46N., R. 77W., sections 22, 23, 26, 27, 34 and 35. Utilities will corridor with access routes.

Existing and proposed improved roads (template or engineered); including proposed water pipeline and buried electric: Shall not exceed 50 foot width.

Existing and proposed primitive roads including proposed water pipeline, and buried electric cable: Shall not exceed 30 foot width.

Water pipeline will extend approximately 13.1 miles; buried electric will extend approximately 8.0 miles; all access roads will extend approximately 7.3 miles.

WYW-170042 for 3” to 4” gas pipeline in T. 46N., R. 77W., sections 22, 23, 26, 27, 34, 35; T. 45N., R. 77W., sections 1, 2, 12. The pipeline will extend approximately 7.89 miles and will corridor with access routes.

I. Programmatic mitigation measures identified in the PRB FEIS ROD

Programmatic mitigation measures are those, determined through analysis, which may be appropriate to apply at the time of APD approval if site specific conditions warrant. These mitigation measures can be applied by BLM, as determined necessary at the site-specific NEPA APD stage, as COAs and will be in addition to stipulations applied at the time of lease issuance and any standard COA.

Wildlife

1. For any surface-disturbing activities proposed in sagebrush shrublands, the Companies will conduct clearance surveys for sage grouse breeding activity during the sage grouse’s breeding season before initiating the activities. The surveys must encompass all sagebrush shrublands within 0.5 mile of the proposed activities.
2. 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.
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.

Threatened, Endangered, or Sensitive Species

Bald Eagle

1. Special habitats for raptors, including wintering bald eagles, will be identified and considered during the review of the APD/POD or Sundry Notices.
2. Surveys for active bald eagle nests and winter roost sites will be conducted within suitable habitat. Surface disturbing activities will not be permitted within one mile of suitable habitat prior to survey completion.
3. A disturbance-free buffer zone of 0.5 mile (i.e., no surface occupancy) will be established year-round for all bald eagle nest sites. A seasonal minimal disturbance buffer zone of one mile will be established for all bald eagle nest sites (February 15 – August 15).
4. A disturbance-free buffer zone of 0.5 mile (i.e., no surface occupancy) will be established year-round for all bald eagle winter roost sites. A seasonal minimal disturbance buffer zone of 1 mile will be established for all bald eagle winter roost sites (November 1 – April 1). These buffer zones and timing may be adjusted based on site-specific information through coordination with, and written approval from, the USFWS.
5. Within ½ mile of bald eagle winter roost sites additional measures such as remote monitoring and restricting maintenance visitation to between 9:00 and 3:00 may be necessary to prevent disturbance (November 1 – April 1).
6. Additional mitigation measures may be necessary if the site-specific project is determined by a BLM biologist to have adverse effects to bald eagles or their habitat.

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.

Water Management

Groundwater

1. 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 August 1st 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) 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.

b) 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.

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. 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.
2. No waste material will be deposited in riparian areas, floodplains or in natural drainage ways.
3. Soil or other material stockpiles will be located outside active floodplains.
4. Disturbed channels will be re-shaped to their approximate original configuration or stable geomorphological configuration and properly stabilized.
5. Reclamation of disturbed wetland/riparian areas will begin immediately after project activities are complete.

II. Site Specific Conditions of Approval, Alternative C

General

All changes made at the onsite will be followed. They have been incorporated into the operator's POD.

Surface Use

1. Because of the extent of "poor reclamation potential", shallow soils and steep terrain, the entire POD will have all surface disturbing activities stabilized during and within 30 days of the start of construction.
2. Need to include a "Site Specific Reclamation Plan" for well 23-2 and the access corridor running NE in the draw.
3. Wells 23-1, 42-1, 14-2, 12-26, 32-26, 12-27, 32-27, 14-35 and their access corridors, maintain a 20 foot, undisturbed, vegetated buffer near slopes and draws.
4. The operator will drill or broadcast seed, then rake, on the contour to a depth of less than 0.5 inch, followed by cultipaction to compact the seedbed and minimize 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 seed mix desired by the surface owner, use the following:

10-14" Precipitation Zone

Use this seed mix for all Shallow Loamy/Loamy sites:

Shallow Loamy Ecological Site Seed Mix		
Species	% in Mix	Lbs PLS*
<i>Thickspike Wheatgrass</i> (Elymus lanceolatus ssp. lanceolatus)	50	6.0
<i>Bluebunch wheatgrass</i> (Pseudoroegneria spicata ssp. Spicata)	35	4.2
<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
Totals	100%	12 lbs/acre

Use the following seed mix for all Shallow Sandy/Sand sites:

Shallow Sandy Ecological Site Seed Mix		
Species	% in Mix	Lbs PLS*
<i>Thickspike Wheatgrass</i> (Elymus lanceolatus ssp. lanceolatus)	25	3.0
<i>Bluebunch Wheatgrass</i> (Pseudoroegneria spicata ssp. Spicata)	25	3.0
<i>Prairie sandreed</i> (Calamovilfa longifolia)	35	4.2
<i>Prairie coneflower</i> (Ratibida columnifera)	5	0.6
<i>White or Purple Prairie Clover</i> (Dalea candidum, purpureum)	5	0.6
<i>Blue flax</i> (Linum lewisii)	5	0.6
Totals	100%	12 lbs/acre

*PLS = pure live seed

*Northern Plains adapted species

*Double this rate if broadcast seeding

Civil Engineering

1. The operator will install, 15 mile per hour speed limit signs to inform travelers of the speed limit enforced. The following roads will have a 10 mph design speed posted on both sides of the road to inform travelers of the reduced stopping sight distance and reduced meeting sight distance:
 - a) 14-26-4677
 - b) 14-35-4677
 - c) 41-27-4677

2. Turnouts will be provided on single lane roads for opposing traffic. They will be placed every 1000' or visible in both directions, whichever is less, per BLM Manual 9113 .45 E 7
3. All Low Water Crossings will be upgraded to template design (i.e. spot upgrade for the LWC's). All LWC's will require filter fabric that will be keyed in above the 25-year high water level. The filter fabric will overlap a minimum of 18" at all joints. As well, the rock rip-rap will be keyed into the native ground. The stream bed will be prepared according to the textile manufacturer's specifications.
4. Before any road work starts the top soil must be moved to the side of the road and stored for future use during interim reclamation
5. All engineered road segments must be completed, including any culverts, low water crossings and required surfacing, before the drilling rig or other drilling equipment moves onto the pad.
6. The proposed crown and ditch road that originates in the NE corner of the NW corner of Section 36 and extends through Sections 36, 35, 34, and 27 will have aggregate surfacing material that meets the grading requirement for Grading W as outlined in the Wyoming Highway Department's "Standard Specification for Road and Bridge Construction."

Wildlife

Bald Eagle

- 1) No project related actions shall occur within one mile of The Powder River or Willow Creek from November 1 through April 1, annually, prior to a winter roost survey, or from February 1 through August 15, annually, prior to a nesting survey. All survey results must be submitted in writing to the BFO and approved prior to initiation of surface disturbing activities. This timing limitation will be in effect unless surveys determine the nest/roost to be inactive.
- 2) If a roost is identified and construction has not been completed, a year-round disturbance-free buffer zone of 0.5 mile will be established for all bald eagle winter roost sites. A seasonal minimum disturbance buffer zone of 1 mile will be established for all bald eagle roost sites (November 1 - April 1). Additional measures such as remote monitoring and restricting maintenance visitation to between 9:00 AM and 3:00 PM may be necessary to prevent disturbance.
- 3) If a nest is identified and construction has not been completed, a disturbance-free buffer zone of 0.5 mile will be established 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). The access from Brubaker Bridge across the Powder River to section 21 T46N, R77W will be restricted due to the Brubaker bald eagle nest. There is to be no disturbance to the nesting eagles from project related travel on that route from February 1 to August 15, or until completion, submission, and review of nesting surveys.

Additional mitigation measures may be necessary if the site-specific project is determined by a BLM biologist to have an adverse affect to bald eagles or their habitat.

Greater Sage-Grouse

- 1) No surface disturbing activities are permitted for the following wells and access corridors from 1 March to 15 June for the life of the project. 34-1, 42-1, 14-26, 43-26, 12-35, 21-35.
- 2) A sage-grouse lek survey will be conducted for all known leks within 2 miles of the POD by a biologist following the most current WGFDF protocol. All survey results shall be submitted annually, in writing, to a Buffalo BLM biologist by 31 July. Currently, this includes the Gilkie Ranch, Kauffman Draw, Upper Kauffman Draw, and Cottonwood leks but will also include any new leks discovered over the life of the project.

- 3) If an active lek is identified within 0.25 miles of any project-related activities, no surface disturbing activities will be allowed within 0.25 miles of the lek between 1 March and 15 June.
- 4) Maximum design speed on all operator-constructed and maintained roads (except county roads) will not exceed 25 miles per hour except travel along roads within 0.5 miles of any known leks.

Raptors

- 1) No surface disturbing activity shall occur within 0.5 mile of all identified raptor nests from 1 February through 31 July, annually, prior to a raptor nest occupancy survey. Surveys shall be conducted by a biologist following the most current BLM protocol. All survey results must be submitted in writing to the BFO and approved prior to initiation of surface disturbing activities. A 0.5 mile timing restriction will be applied if a nest is identified as active. This timing limitation will affect the wells and infrastructure depicted on the Arcadis U.S Raptor COA map dated 9/9/9. This map will be updated yearly and submitted by May 15 each year that surface disturbance is to occur during the nesting season (February-August).
- 2) Surveys for new raptor nests shall be conducted, annually, within 0.5 miles of the POD boundary on or after 15 April, and prior to or during the first nest occupancy check.
- 3) Nest occupancy checks shall be completed for all raptor nests identified within a 0.5 mile of any infrastructure associated with the POD for as long as the POD is under construction. Once construction of the POD has ceased, nest occupancy checks shall continue for the first five years on all identified nests within a 0.5 mile of the POD boundary. Survey results will be submitted to a Buffalo BLM biologist in writing no later than 31 July of each survey year.
- 4) 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.

Cultural

All surface disturbing activity in the following areas will be monitored by a BLM cultural resource use permit (CRUP) holder or permitted crew chief. The Bureau has identified these areas as having a high potential for buried cultural deposits. Some portions of the monitoring areas as described may lie outside alluvial deposits and exact monitoring areas are left to the discretion of the archeological monitor. All monitored areas must be plotted on the map provided with the monitoring report. The submission of two copies of a monitoring report to BFO is required within 30 days of the completion of all monitoring work.

1. All surface disturbing activity associated with construction of infrastructure for the 12-27 well (NW Sec 27 46-77) when the disturbance occurs in alluvial deposits of Windmill Draw. This includes the proposed utilities that run from the KU 23-22-4677 well to the 12-27 well.
2. All surface disturbing activity that occurs in alluvial deposits in Sec 2 45-77.
3. All surface disturbing activity associated with construction of the proposed water line in Sections 14 and 15 45-77 when the disturbance occurs in alluvial deposits of Willow Creek.
4. All surface disturbing activities within the site boundary of 48JO1464 will be monitored. Additionally, no surface disturbing activities will occur within 20' (or the edge of existing disturbance, whichever is closer) of the site feature. The CRUP archaeologist will mark the boundary distance and the operator will install temporary fencing to ensure damage to the resource does not occur. This will require that the proposed utilities be installed on the south side of the road.

Please contact Dan Sellers, Natural Resource Specialist, at (307) 684-1132, Bureau of Land Management, Buffalo, if there are any questions concerning these surface use 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 Kingwood 3 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 William's 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 (ES-6-WY-07-F012) 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 Dan Sellers, at (307) 684-1132, 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 1 inch 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. All overhead power lines shall be built to protect raptors, including bald eagles, from accidental electrocution using the most recent edition of “Suggested Practices for Raptor Protection” by the Avian Power Line Interaction Committee (2006 edition or most recent edition) and any additional practices provided by the FWS. It should be noted that raptor protection can be achieved through insulation and/or wire spacing and that there are multiple configurations capable of protecting raptors.
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 roads, pads, and areas 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	200
2 - 4	100
4 - 5	75
> 5	50

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.

