

**CONDITIONS OF APPROVAL FOR THE APPLICATION**  
**FOR PERMIT TO DRILL**

POD Name: Cabin Creek VI Federal POD

Operator: Pinnacle Gas Resources, Inc.

Field Office: Buffalo Field Office  
Address: 1425 Fort Street  
Buffalo, Wyoming 82834  
Office Telephone Number: 307-684-1100

List of Wells:

	<b>Well Name</b>	<b>Well #</b>	<b>TWP</b>	<b>RNG</b>	<b>Section</b>	<b>Qtr/Qtr</b>	<b>Lease #</b>
1	CABIN CREEK VI CB	01-01	57N	77W	1	NENE	WYW144217
2	CABIN CREEK VI CB	03-01	57N	77W	1	NENW	WYW144217
3	CABIN CREEK VI CB	07-01	57N	77W	1	SWNE	WYW144217
4	CABIN CREEK VI CB	11-01	57N	77W	1	NESW	WYW144217
5	CABIN CREEK VI CB	13-01	57N	77W	1	SWSW	WYW144217
6	CABIN CREEK VI CB	01-02	57N	77W	2	NENE	WYW144217
7	CABIN CREEK VI CB	03-02	57N	77W	2	NENW	WYW144217
8	CABIN CREEK VI CB	05-02	57N	77W	2	SWNW	WYW144217
9	CABIN CREEK VI CB	07-02	57N	77W	2	SWNE	WYW144217
10	CABIN CREEK VI CB	09-02	57N	77W	2	NESE	WYW144217
11	CABIN CREEK VI CB	11-02	57N	77W	2	NESW	WYW144217
12	CABIN CREEK VI CB	13-02	57N	77W	2	SWSW	WYW144217
13	CABIN CREEK VI CB	15-02	57N	77W	2	SWSE	WYW144217
14	CABIN CREEK VI CB	03-03	57N	77W	3	NENW	WYW144217
15	CABIN CREEK VI CB	11-03	57N	77W	3	NESW	WYW144217
16	CABIN CREEK VI CB	12-03	57N	77W	3	NWSW	WYW144217
17	CABIN CREEK VI CB	07-04	57N	77W	4	SWNE	WYW141874
18	CABIN CREEK VI CB	09-10	57N	77W	10	NESE	WYW144217
19	CABIN CREEK VI CB	15-10	57N	77W	10	SWSE	WYW144217
20	CABIN CREEK VI CB	01-11	57N	77W	11	NENE	WYW144218
21	CABIN CREEK VI CB	03-11	57N	77W	11	NENW	WYW144218
22	CABIN CREEK VI CB	05-11	57N	77W	11	SWNW	WYW144218
23	CABIN CREEK VI CB	07-11	57N	77W	11	SWNE	WYW144218
24	CABIN CREEK VI CB	09-11	57N	77W	11	NESE	WYW144218
25	CABIN CREEK VI CB	13-11	57N	77W	11	SWSW	WYW144218
26	CABIN CREEK VI CB	03-12	57N	77W	12	NENW	WYW144218
27	CABIN CREEK VI CB	05-12	57N	77W	12	SWNW	WYW144218

	<b>Well Name</b>	<b>Well #</b>	<b>TWP</b>	<b>RNG</b>	<b>Section</b>	<b>Qtr/Qtr</b>	<b>Lease #</b>
28	CABIN CREEK VI CB	07-12	57N	77W	12	SWNE	WYW144218
29	CABIN CREEK VI CB	13-25	58N	77W	25	SWSW	WYW147351
30	CABIN CREEK VI CB	07-26	58N	77W	26	SWNE	WYW144225
31	CABIN CREEK VI CB	09-27	58N	77W	27	NESE	WYW144225
32	CABIN CREEK VI CB	15-27	58N	77W	27	SWSE	WYW144225
33	CABIN CREEK VI CB	07-34	58N	77W	34	SWNE	WYW144225
34	CABIN CREEK VI CB	09-34	58N	77W	34	NESE	WYW144225
35	CABIN CREEK VI CB	01-35	58N	77W	35	NENE	WYW144225
36	CABIN CREEK VI CB	03-35	58N	77W	35	NENW	WYW144225
37	CABIN CREEK VI CB	05-35	58N	77W	35	SWNW	WYW144225
38	CABIN CREEK VI CB	07-35	58N	77W	35	SWNE	WYW144225
39	CABIN CREEK VI CB	09-35	58N	77W	35	NESE	WYW144225
40	CABIN CREEK VI CB	11-35	58N	77W	35	NESW	WYW144225

**I Site Specific Conditions of Approval**

1. No surface disturbing activities will be authorized on federal lands prior to the approval of a Pesticide Use Permit (PUP) unless Pinnacle Gas Resources Inc. provides documentation and the BLM Authorized Officer approves of:
  - Current year weed survey with photos showing that no state listed invasive and/or noxious species are present in the areas to be disturbed.
  
2. All drainage ditches and culverts shall be kept clear and free flowing, and will also be maintained in accordance with the original construction standards. If any additional erosion occurs during the life of the project, the company needs to control it through additional culverts or wing ditches.
  
3. 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.
  
4. The following road 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:

11-02-5777
  
5. For all wells spudded after November 1, the reserve pit fluids must be removed and the pits closed prior to spring wildlife restrictions, unless an exception is granted by the BLM authorized officer.
  
6. All pit spoil must be placed back in the pit once dry. If necessary, the pit area should be mounded slightly or restored to the original contour to allow for settling and positive surface drainage.
  
7. No salvaged trees will be pushed up against live trees or buried in the spoil material.
  
8. All trees salvaged from the construction of the well locations/access roads will be clearly segregated from the spoil material, to prevent burying of trees in the spoil material.

9. All salvaged trees will either be chipped and used in reclamation of the well location/access road, hauled off, used for erosion control, or per the surface owner's wishes.
10. Improved roads with utility corridor working width will not exceed 50 feet with a clearing and blading not to exceed 40 feet in width unless a specific design is included in the plan and profile section of the master surface use plan.
11. Primitive roads with utility corridor working width will not exceed 40 feet with a clearing and blading not to exceed 30 feet in width.
12. Pipeline installation and/or corridors without road access working width will not exceed 35 feet with clearing and blading not to exceed 20 feet.
13. Mowing at the well site where a constructed pad is not approved as designed will be minimized to a diameter of 75 feet or less from the well stake.
14. 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 Cabin Creek VI Federal POD is Covert Green.
15. The following well locations and access road/corridor in the project area have been identified to have limited reclamation potential, and require disturbed areas to be stabilized (stabilization efforts may include mulching, matting, soil amendments, etc.) in a manner which eliminates accelerated erosion until a self-perpetuating native plant community has stabilized the site in accordance with the Wyoming Reclamation Policy. Stabilization efforts shall be finished within 30 days of the initiation of construction activities.

	<b>Well Name</b>	<b>Well #</b>	<b>TWP</b>	<b>RNG</b>	<b>Section</b>	<b>Qtr/Qtr</b>	<b>Lease #</b>
1	CABIN CREEK VI CB	05-02	57N	77W	2	SWNW	WYW144217
2	CABIN CREEK VI CB	11-02	57N	77W	2	NESW	WYW144217
3	CABIN CREEK VI CB	15-02	57N	77W	2	SWSE	WYW144217
4	CABIN CREEK VI CB	05-12	57N	77W	12	SWNW	WYW144218
5	CABIN CREEK VI CB	05-34	58N	77W	34	SWNW	WYW144225

16. The operator will seed on the contour to a depth of no more than 0.5 inch. To maintain quality and purity, 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:

**15-19" Precipitation Zone  
Loamy Ecological Site Seed Mix**

<b>Species - Cultivar</b>	<b>% in Mix</b>	<b>Lbs PLS*</b>
Western Wheatgrass - <i>Rosana</i>	20	2.4
Idaho fescue – <i>Joseph OR Spike</i> fescue	30	3.6
Green needlegrass - <i>Lodorm</i>	30	3.6
Rocky Mountain beeplant ( <i>Cleome serrulata</i> )	10	1.2
White – <i>Antelope</i> or Purple Prairie Clover - <i>Bismarck</i>	5	0.6
Lewis - <i>Appar</i> , Blue, or Scarlet flax	5	0.6
<b>Totals</b>	<b>100%</b>	<b>12 lbs/acre</b>

\*PLs = pure live seed. Northern Plains adapted species double this rate if broadcast seeding.

**Realty**

1. The approval of this project does not grant authority to use off lease Federal lands. No surface disturbing activity, or use of off-lease federal lands, is allowed on affected leases until right-of-way grants become effective which is the date signed by the authorized officer.

**Wildlife**

**Raptors:**

No surface disturbing activity shall occur within 0.5 mile of all identified raptor nests from February 1 through July 31, annually, prior to a raptor nest occupancy survey. 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 following:

<b>BLM Nest ID</b>	<b>Infrastructure</b>
554	Well 5-34, access and utility corridor.
5285	Well 13-34, access and utility corridor. Meter drop in Section 4.
5287	Well 13-34, access and utility corridor. Meter drop in Section 4.
5288	Wells 12-3 and 13-34, access and utility corridors. Meter drop in Section 4.
5308	Well 12-3, access and utility corridor.
5309	Wells 12-3, 15-3, 11-3, access and utility corridors.
5701	Well 5-34, access and utility corridors.
5704	Wells 7-35, 5-35, 1-35, access and utility corridors.
5705	Wells 1-35, 7-35, 9-26, 13-25, access and utility corridors.
5706	Wells 13-25, 9-26, 1-35, access and utility corridors.
5707	Well 9-35, Meter drop and stock tank in Section 35.
5708	Wells 5-2, 13-2, 11-3, 15-3, 3-11, access and utility corridors.
5709	Wells 5-2, 3-3, 9-34, 13-35, access and utility corridors. Stock tank in Section 3.
5710	Wells 3-3, 5-34, 7-34, 9-34, 13-34, access and utility corridors.
5712	Well 15-27 access and utility corridor.
5713	Wells 5-26, 7-26, access and utility corridors. Stock tank in Section 26.

Surveys for new raptor nests shall be conducted, annually, within 0.5 miles of the POD boundary on or after April 15, and prior to or during the first nest occupancy check.

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 July 31 of each survey year.

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.

Well metering, maintenance and other site visits within 0.5 miles of raptor nests should be minimized during the breeding season (February 1 – July 31).

#### **Sage-Grouse:**

The following conditions will reduce impacts to sage-grouse:

2. No surface disturbing activities are permitted within the Cabin Creek VI POD boundary between March 1 and June 15 to protect nesting and brood-rearing sage-grouse. This condition will be implemented on an annual basis for the life of the project. This timing limitation applies to the entire project area.
3. Disruptive activity is restricted on or within a 0.25 mile radius of the perimeter of occupied or undetermined sage-grouse leks from 6:00 pm to 8:00 am from March 15-May 15. “Disruptive activities are those that “...require people and/or activity to be in nesting habitats for a duration of 1 hour or more during a 24 hour period...” (BLM 2009). This condition applies to the Remington sage-grouse lek located within 0.25 mile of the access road passing through T57N, R76W, section 19.

#### **Sharp-Tailed Grouse:**

The following conditions will alleviate impacts to sharp-tailed grouse:

1. Disruptive activities are prohibited within 0.25 mile of the Fence Creek Road sharp-tailed grouse lek located NWSW section 29 T58N, R77W between April 1 and May 31, prior to completion of a grouse lek survey. This condition will be implemented on an annual basis for the life of the project. This timing limitation will affect the access road passing within 0.25 mile of the lek.

#### **Water Management**

1. Sundry notices will be provided to BLM for approval if the secondary impoundments will be added to the water management infrastructure. Impoundments located over Federal mineral will be bonded for the amount of the reclamation estimate with the Wyoming State Office of the BLM. Impoundments over fee mineral will require proof of impoundment reclamation bonding with the WDEQ or WOGCC.
2. The proposed injection well 13-11 Inj SWSW Sec 11 T57N R77W, is not approved with this action. If the operator intends to install this well for water management, a new APD must be provided to the BLM for approval.
3. The operator will provide a copy of the approved Wyoming State Engineer’s Office (WSEO) SW-3 permit and the modification for the impoundment located in the SWSE Section 31 T57N R76W as well as proof of bonding with the WDEQ.
4. WYPDES Permit #WY0055204 requires full containment in the impoundment located at SWSE Section 31 T57N R76W. Therefore, the impoundment will not be allowed to discharge except as a result of a storm event.

#### **Cultural**

All surface disturbing activity in the following areas will be monitored by BLM cultural resource use Permit (CRUP) holder or permitted crew chief. These areas were identified as having poor surface visibility during the class III inventory by Cultural Resource Analysts Inc. 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 the construction of the following wells and associated infrastructure: T57N R77W: 13-01, 3-10, 07-10, 09-10, 15-10, 09-11, 13-11, 11-12; T58N R77W: 11-25, 07-26, 09-33, 07-34, 03-35, 05-35, 13-35
2. All surface disturbing activity associated with the construction of the following wells: T57N R77W: 11-01, 07-11, 01-12, 05-12, 07-12
3. All surface disturbing activity associated with the construction of the following infrastructure: T58N R77W: Infrastructure leading to 05-25, 11-26, 11-34 wells. Infrastructure along Fence Creek RD in sections 33, 34, and 35; T58N R77W: Infrastructure along Fence Creek RD in section 3
4. All surface disturbance activity associated with the construction of the Pee Gee #1 and C. Ritchie #1 reservoirs.

## **II Programmatic Conditions of Approval**

### **A. 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.

### **B. 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. All stock tanks shall include a ramp to enable trapped small birds and mammals to escape. See Idaho BLM Technical Bulletin 89-1 entitled Wildlife Watering and Escape Ramps on Livestock Water Developments: Suggestions and Recommendations.

### **C. 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% 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.

## **DRILLING AND PRODUCTION OPERATIONS**

1. The spud date will be reported electronically, (see website location below) to the Authorized Officer 24 HOURS BEFORE SPUDDING, unless otherwise required in site specific conditions of approval.

Spud Notice Site:

[http://www.wy.blm.gov/minerals/og/og\\_notices/spud\\_notice.php](http://www.wy.blm.gov/minerals/og/og_notices/spud_notice.php)

2. 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.

### **Well Control Equipment**

1. The well control equipment approved in this project lists the minimum requirements.
2. The flow line shall be a minimum of 30 feet from the well bore and securely anchored. The 30-foot length of line is a minimum and operators must make consideration for increasing this length for topography and/or wind direction.
3. The flow line shall be a straight run.
4. The flow line must be constructed from non-flammable material.
5. All cuttings and circulating medium shall be directed to and contained in a reserve pit.
6. The nearest edge of the pits shall be a minimum of 25' from the rig.
7. A minimum of 2' of freeboard shall be maintained in the pits at all times.
8. The authorized officer may modify these requirements at any time if it is determined that increased pressure control is deemed necessary.
9. Verbal notification shall be given to the Authorized Officer at least 24 hours before formation tests, BOP tests, running and cementing casing, and drilling over lease expiration dates.

### **Casing Program**

1. The minimum requirement for casing centralizers is as follows: all casing strings will have centralizers on the bottom three joints (i.e. a minimum of one centralizer per joint starting with the shoe joint).
2. In addition, the production casing string shall be centralized with API approved centralizers using the following specifications:
  - 2.1. One centralizer per~120' (specifically every third or fourth joint depending on joint length).
  - 2.2. One centralizer 25' above surface casing shoe.
3. Surface casing length shall follow current requirements set forth by the WOGCC. Increased surface casing may be required so that the surface casing shoe may be set into a competent formation.

### **Cement Program**

1. If there are indications of inadequate primary cementing of the surface, intermediate, or production casing strings; such as but not limited to no returns to surface, cement channeling, fallback or mechanical failure of equipment, the operator will evaluate the adequacy of the cementing operations. This evaluation will consist of running a cement bond log (CBL) or an alternate method approved by the Authorized Officer (AO) no sooner than 12 hours and no later than 24 hours from the time the cement was first pumped.
2. If the evaluation indicates inadequate cementing, the operator shall contact a BLM Buffalo Field Office Petroleum Engineer for approval of remedial cementing work. Remedial cementing will consist of, but may not be limited to:

- 2.1. Perforating and squeezing cement to ground surface should the top of cement (TOC) be below the surface casing shoe. This shall be done within 36 hours of the completion of pumping the primary cement job.
  - 2.2. One-inching cement to ground surface should the top of cement (TOC) be above the surface casing shoe.
  - 2.3. Fallback that is found to be less than 30' from ground surface may be topped off with cement slurry.
3. The adequacy of the remedial cementing operations shall be verified by a cement bond log (CBL) or an alternate method approved by the Authorized Officer (AO). All remedial work shall be completed and verified prior to drilling out the casing shoe or perforating the casing for purposes other than remedial cementing.
  4. The cement mix water used must be the same water used to develop the cement program and be of adequate quality, so as not to degrade the setting properties. Waters containing high carbonates or bicarbonates (greater than 2,000 ppm) should be avoided.

### **Production Equipment**

1. All gas measurement equipment that deviates from Onshore Order #5 (or WY NTL 2004-1 in the case of electronic flow computers) shall be approved via a Notice of Intent sundry (Form No. 3160-5) prior to installation and use. This includes any type of primary device other than a standard orifice plate meter. Requests for a variance from the minimum standards of Onshore Order #5 must list:
  - The specific type of equipment.
  - How this equipment will meet or exceed the requirements of Onshore Order #5.
  - The location, specific well and lease number where the equipment will be used.
2. An appropriate pressure gauge is required to be installed on each casing annulus to monitor this pressure.
3. Other actions such as off-lease measurement, commingling, allocation, etc. shall be approved via a Notice of Intent sundry (Form No. 3160-5). Submission of additional information in the POD shall not be construed as permission for these items. If the operator wishes to utilize off-lease gas measurement for wells approved in this POD, they are required to obtain approval via a Notice of Intent sundry (Form No. 3160-5) prior to any gas production. A map shall be attached to the sundry that delineates where the individual wells will be measured for federal royalty. Unless this POD is committed to a Federal Oil & Gas Unit or Agreement, the production from all Federal wells shall be measured for Federal royalty prior to being combined with production from any other Federal, Indian, or non-Federal leases.

### **Well and POD Building Identification**

1. From the time a well pad is constructed or a well is spudded (if no well pad needed), until abandonment, all well locations must be properly identified with a legible sign. The sign will include the well name and number, operator name, lease number, and the surveyed location.
2. At each POD building site where federal wells are metered, the operator is required to maintain a legible sign displayed in a conspicuous place. This sign is required to be in place at the time metering goes online.

The sign shall include: POD name, Operator, Federal well names and numbers, Federal lease numbers being metered at the POD building, and surveyed location of the building.

**Protection of Fresh Water Resources**

1. All oil and gas operations shall be conducted in a manner to prevent the pollution of all freshwater resources. All fresh waters and waters of present or probable future value for domestic, municipal, commercial, stock or agricultural purposes will be confined to their respective strata and shall be adequately protected. Special precautions will be taken to guard against any loss of artesian water from the strata in which it occurs and the contamination of fresh water by objectionable water, oil, condensate, gas or other deleterious substance to such fresh water.

**Miscellaneous Conditions**

1. Any changes to the approved drilling plan and/or these conditions of approval shall be approved by the BLM-Buffalo Field Office Petroleum Engineer prior to being implemented.

After hour's numbers:

Petroleum Engineer: Mike Worden	Home Telephone: 307-217-2995
Petroleum Engineer: Matthew Warren	Home Telephone: 307-620-0103
Petroleum Engineer: James Evans	Home Telephone: 307-331-5421

2. If any cores are collected, a copy of all analysis performed shall be submitted to the BLM-Buffalo Field Office Petroleum Engineer.

**III Surface Use Standard COA's**

**A. Construction**

1. Prior to construction, the operator will remove all staking (engineered road, pads, well stakes, etc.) for those areas which were not approved with the POD/APD.
2. All roads, well pads, rig slots, culverts, spot upgrades and locations where engineered construction will occur will be completely slope staked for review prior to construction.
3. Topsoil will be segregated for all excavation including the entire disturbance area for constructed pads and excavated areas for rig leveling, reserve pits, constructed roads, spot upgrades, reservoir upgrades, outfalls and utility trenches and redistributed for interim reclamation activities. This requirement will not be applied for pipelines installed with wheel trenchers.
4. 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.
5. Maintain a minimum 20-foot undisturbed vegetative border between disturbance areas and the edge of adjacent drainages, unless otherwise directed by the BLM Authorized Officer.
6. 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.
7. 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.
  8. The reserve pit will be lined with an impermeable liner if permeable subsurface material is encountered. An impermeable liner is any liner having permeability less than 10<sup>-7</sup> 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.
  9. The reserve pit will be constructed so that at least half of its total volume is in solid cut material (below natural ground level).
  10. The culvert locations will be staked prior to construction. The culvert invert grade and finished road grade will be clearly indicated on the stakes. Culverts will be installed on natural ground, or on a designed flow line of a ditch. The minimum cover over culverts will be 12” or one-half the diameter whichever is greater. Drainage laterals in the form of culverts or waterbars shall be placed according to the following spacing:

<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>
Highly erosive Granitic or sandy	240	180	140	100
Intermediate Erosive clay or loam	310	260	200	150
Low erosive shale or gravel	400	325	250	175

11. Provide 4” of aggregate where grades exceed 8%. Surface material must meet requirements set forth in Wyoming Supplement to BLM Road Manual 9113.
12. The minimum diameter for culverts will be 18 inches. However, all culverts will be appropriately sized in accordance with standards in BLM Manual 9113 or at the discretion of the Authorized Officer.
13. Maximum speed on all operator-constructed and maintained roads will not exceed 25 miles per hour.
14. Pipeline construction shall not block nor change the natural course of any drainage. Pipelines shall cross perpendicular to drainages. Suspended pipelines shall provide adequate clearance for maximum runoff.
15. 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.

16. All overhead power lines will be constructed to Avian Power Line Interaction Committee (2006 edition or most recent edition) by the standards and additional standards identified in the PRB FEIS Biological Opinion (Volume 3, Appendix K, page 43).

## **B. Operations/Maintenance**

1. 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. Operators and their contractors will comply with all state and local laws and regulations pertaining to disposal of human and solid waste will be complied with.
2. Sewage shall be placed in a self-contained, chemically treated porta-potty on location.
3. 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.
4. 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.
5. 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.

6. 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. 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.

7. 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.
8. 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.
9. Prior to the use of pesticides on public land, the holder shall obtain from the BLM authorized officer a pesticide use permit (PUP). The PUP must include a 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.

### **C. 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. 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.
3. Distribute stockpiled topsoil evenly over those areas not required for production (ie., cut/fill slopes, road ditches, pipelines, etc.) and reseed with approved seed mix.
4. 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.

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

1. 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.
2. A Notice of Intent to Abandon and a Subsequent Report of Abandonment must be submitted for abandonment approval.
3. 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.
4. 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:
  - 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 CBNG water, including discharge points, reservoirs, off-channel pits, land application areas, livestock/wildlife watering facilities, surface discharge stream channels, etc.
  - Refer to BLM Impoundment Reclamation Guidance for further information on reclaiming impoundments.
  - Refer to the Wyoming Reclamation Policy for further guidance on reclamation.
5. All disturbed lands associated with this project, including the pipelines, access roads, water management facilities, etc will be reclaimed and reseeded within 180 days of well plugging. The reclamation work must be in accordance with the surface use plan and any pertinent site-specific COAs.
  6. Disturbed lands will be re-contoured back to conform with existing undisturbed topography. No depressions will be left that trap water or form ponds.
  7. 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.
  8. Before the location has been reshaped and prior to redistributing the topsoil, the operator will rip or scarify the drilling area and access road on the contour to 4" below the compacted layer. The rippers are to be no farther than 24 inches apart.
  9. Distribute the topsoil evenly over all disturbed areas. Prepare the seedbed and seed with approved seed mix.
  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