

Attachment C

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

**Lance Oil & Gas Company, Inc (LOG)
Kinney Divide Unit Gamma (KDU Gamma)**

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

Well Sites:

The following 39 Applications for Permit to Drill (APDs) and associated infrastructure are authorized

	Lease	Well Name	Well #	TWP	RNG	Sec	QTR
1	WYW146307	KDU GAMMA	12-3	50N	77W	3	SWNW
2	WYW146307	KDU GAMMA	21-3	50N	77W	3	NENW
3	WYW146307	KDU GAMMA	24-3	50N	77W	3	SESW
4	WYW146307	KDU GAMMA	34-3	50N	77W	3	SWSE
5	WYW146307	KDU GAMMA	41-3	50N	77W	3	NENE
6	WYW146307	KDU GAMMA	42-3	50N	77W	3	SENE
7	WYW146307	KDU GAMMA	31-4	50N	77W	4	NWNE
8	WYW146307	KDU GAMMA	32-4	50N	77W	4	SWNE
9	WYW146307	KDU GAMMA	34-4	50N	77W	4	SWSE
10	WYW146307	KDU GAMMA	41-4	50N	77W	4	NENE
11	WYW146307	KDU GAMMA	44-4	50N	77W	4	SESE
12	WYW146313	KDU GAMMA	12-17	51N	77W	17	SWNW
13	WYW146313	KDU GAMMA	23-17	51N	77W	17	NESW
14	WYW146313	KDU GAMMA	41-17	51N	77W	17	NENE
15	WYW146313	KDU GAMMA	11-18	51N	77W	18	NWNW
16	WYW146313	KDU GAMMA	21-18	51N	77W	18	NENW
17	WYW146313	KDU GAMMA	31-18	51N	77W	18	NWNE
18	WYW146313	KDU GAMMA	41-18	51N	77W	18	NENE
19	WYW146313	KDU GAMMA	43-18	51N	77W	18	NESE
20	WYW146313	KDU GAMMA	44-18	51N	77W	18	SESE
21	WYW146313	KDU GAMMA	41-19	51N	77W	19	NENE
22	WYW146312	KDU GAMMA	14-21	51N	77W	21	SWSW
23	WYW146315	KDU GAMMA	14-27	51N	77W	27	SWSW
24	WYW146315	KDU GAMMA	12-28	51N	77W	28	SWNW
25	WYW146315	KDU GAMMA	14-28	51N	77W	28	SWSW
26	WYW146315	KDU GAMMA	21-28	51N	77W	28	NENW

	Lease	Well Name	Well #	TWP	RNG	Sec	QTR
27	WYW146315	KDU GAMMA	24-28	51N	77W	28	SESW
28	WYW146315	KDU GAMMA	31-28	51N	77W	28	NENE
29	WYW146315	KDU GAMMA	32-28	51N	77W	28	SENE
30	WYW146315	KDU GAMMA	43-28	51N	77W	28	NESE
31	WYW146316	KDU GAMMA	41-29	51N	77W	29	NENE
32	WYW146315	KDU GAMMA	21-33	51N	77W	33	NENW
33	WYW146315	KDU GAMMA	32-33	51N	77W	33	SWNE
34	WYW146315	KDU GAMMA	44-33	51N	77W	33	SESE
35	WYW146315	KDU GAMMA	11-34	51N	77W	34	NWNW
36	WYW146315	KDU GAMMA	13-34	51N	77W	34	NWSW
37	WYW146315	KDU GAMMA	21-34	51N	77W	34	NENW
38	WYW146315	KDU GAMMA	23-34	51N	77W	34	NESW
39	WYW146315	KDU GAMMA	44-34	51N	77W	34	SESE

Water Management:

The following water management infrastructure was inspected and approved for use in association with this POD:

Facility Name	NEPA Document	QtrQtr	Sec	T	R	Lease	WDP	QtrQtr	Sec	T	R
Kinney Draw EMIT Water Treatment	Kinney Divide-Highland Unit Adds 1 WY-070-EA06-317	NENE	20	51	77	Fee	018	NWSE	20	51	77
Faddis-Kennedy EMIT Water Treatment	Kinney Divide-Highland Unit Adds 1 WY-070-EA06-317	SESW	31	51	77	Fee	016	NESW	32	51	77

Rights of Way:

The following rights-of-way are authorized with the approval of this POD:

Rights-of-way	Aliquot/Lot	Sec	TWP	RNG	Use/Type	Surface Disturbance (Acres)
WYW-170025	NWSW; 8	4, 5	50N	77W	Engineered road and buried power line	1.860
WYW-170008	NWSW; 8	4, 5	50N	77W	Gas pipeline	1.628
WYW-169471	S2NE, SWNW, N2SW; Lots 5,6 SESW; SWNE, E2NW, N2SE	3, 28, 33	51N	77W	Template access road	14.373

Rights-of-way	Aliquot/Lot	Sec	TWP	RNG	Use/Type	Surface Disturbance (Acres)
WYW-169442 #3	SESE	7	51N	77W	Primitive road, water pipeline and buried power line	0.619
WYW-169443 #2	SESE	7	51N	77W	Gas pipeline	0.488

Denials:

The following 20 Applications for Permit to Drill (APDs) and associated infrastructure are denied.

Well Name	Well #	Environmental Issue
KDU Fed	43-03-5077	Access and utility corridor impacts raptors, nest is within 1/4 mile. EA Section 4.3.2
KDU Fed	13-04-5077	Well location and access/utility corridor impacts bald eagles, roost is within 1/2 mile. EA Section 4.3.2
KDU Fed	21-04-5077	Access route impacts bald eagles, roost is within 1/2 mile. EA Section 4.3.2
KDU Fed	22-04-5077	Access route impacts bald eagles, roost is within 1/2 mile. EA Section 4.3.2
KDU Fed	42-05-5077	Well location and access/utility corridor impacts bald eagles, roost is within 1/2 mile. EA Section 4.3.2
KDU Fed	43-05-5077	Well location and access/utility corridor impacts bald eagles, roost is within 1/2 mile. EA Section 4.3.2
KDU Fed	11-27-5177	Well location and access/utility corridor impacts raptors, nest is within 1/4 mile. The proposed access into Turner Draw through steep slopes, deeply incised drainages, and highly erosive soils does not meet BLM standards. EA Section 4.3.1 and Section 4.3.2
KDU Fed	21-27-5177	Well location and access/utility corridor are within 1/4 mile raptor nest. The proposed access into Turner Draw through steep slopes, deeply incised drainages, and highly erosive soils does not meet BLM standards. EA Section 4.3.1 and Section 4.3.2
KDU Fed	22-27-5177	Well location and access/utility corridor impacts raptors, nest is within 1/4 mile. The proposed access into Turner Draw through steep slopes, deeply incised drainages, and highly erosive soils does not meet BLM standards. EA Section 4.3.1 and Section 4.3.2
KDU Fed	31-27-5177	The proposed access into Turner Draw does not meet BLM standards through steep slopes, deeply incised drainages, and highly erosive soils. EA Section 4.3.1
KDU Fed	32-27-5177	The proposed access into Turner Draw does not meet BLM standards through steep slopes, deeply incised drainages, and highly erosive soils. EA Section 4.3.1
KDU Fed	33-27-5177	The proposed access into Turner Draw does not meet BLM standards through steep slopes, deeply incised drainages, and highly erosive soils. EA Section 4.3.1
KDU Fed	34-27-5177	The proposed access into Turner Draw does not meet BLM standards through steep slopes, deeply incised drainages, and highly erosive soils. EA Section 4.3.1
KDU Fed	42-29-5177	Well location and access/utility corridor impacts bald eagles, roost is within 1/2 mile. EA Section 4.3.2

Well Name	Well #	Environmental Issue
KDU Fed	11-33-5177	Well location and access/utility corridor impacts bald eagles, roost is within 1/2 mile. EA Section 4.3.2
KDU Fed	13-33-5177	Access and utility corridor impacts bald eagles, roost is within 1/2 mile. EA Section 4.3.2
KDU Fed	14-33-5177	Access and utility corridor impacts bald eagles, roost is within 1/2 mile.
KDU Fed	32-34-5177	Slopes >25%, erosive soils, erosion hazard, poor reclamation potential on well location and access route. EA Section 4.3.1
KDU Fed	41-34-5177	The proposed access into Turner Draw through steep slopes, deeply incised drainages, and highly erosive soils does not meet BLM standards. EA Section 4.3.1
KDU Fed	42-34-5177	Well location in a drainage pathway with erosive soils, erosion hazard, poor reclamation potential, in addition The proposed access into Turner Draw through steep slopes, deeply incised drainages, and highly erosive soils does not meet BLM standards. EA Section 4.3.1
Access road into the POD from the north in sections 27 and 34 T51N R77W has no approved connection out to a main road. The proposed access into Turner Draw through steep slopes, deeply incised drainages, and highly erosive soils does not meet BLM standards. The access/utility corridor impacts raptor, nest within 1/4 mile. EA Section 4.3.1		
Utility corridor S4, S5 and S9 T50 R77 is denied. It was not field reviewed. It was added to the map after the onsite. EA Section 4.3.1		
Pump jacks are denied. Pump jacks were not considered during the onsite. EA Section 4.3.1		

SITE SPECIFIC

Site-Specific Conditions of Approval

In addition to the operator committed measures, the BLM is including the following site-specific COAs to alleviate environmental impacts:

Surface Use

1. Submit new POD maps with only approved wells and infrastructure, prior to the pre-construct.
2. Pull staking for all denied wells and infrastructure.
3. Post sign “No oil and gas traffic” on existing 2-track road in the SWSE of Section 7 T51N R77W. Entrance to the 23-18-5177 well is from the south. Put a “do not use” symbol on the map
4. For all wells spudded after November 1, the reserve pit fluids must be removed immediately following completion activities to avoid potential conflicts with raptor timing limitations and the standard COA that reserve pits be closed within 90 days, unless an exception is granted by the BLM Authorized Officer.
5. 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.

6. Primitive roads with utility corridor working width will not exceed 40 feet with a clearing and blading not to exceed 30 feet in width.
7. Pipeline installation and/or corridors without road access working width will not exceed 35 feet with clearing and blading not to exceed 20 feet.
8. All pit spoil must be placed back in the pit once dry. The pit area should usually be mounded slightly to allow for settling and positive surface drainage.
9. 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 KDU Gamma POD is Covert Green.
10. In areas where there are steep slopes and/or fragile soils, improved roads used in conjunction with accessing federal wells must be fully built (including all water control structures such as wingditches, culverts, relief ditches, low water crossings, surfacing, etc.) and functional to BLM standards as outlined in the BLM Manual 9113 prior to drilling of the well. Specifically for this POD approved engineered roads must be fully built prior to accessing the well for drilling. The remaining roads in this POD, not constructed prior to drilling, will be fully built within 30 days of completion of the well they are used to access.
11. Steep Grade signs will be installed to inform travelers of the potential hazard on two of the constructed roads:
 - a. Engineered Road #6: road grade is greater than 12% for 700 linear feet.
 - b. Engineered Road #10: road grade is greater than 12% for 900 linear feet.

Per BLM Manual 9113 .28-Signs and Markers- Signs and markers placed on or adjacent to the roadway to regulate, inform, or guide vehicle occupants must conform to the requirements of BLM Manual 9131 and the Federal Highway Administrations Manual of Uniform Traffic Control Devices.

12. The following well locations and access road/corridor in the project area have been identified to have limited reclamation potential that will 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:

Township/Range	Section	Wells and Infrastructure
T51N R77W	28	21-28 and 31-28 just access road, 43-28 well location
	33	32-33 well location
	34	11-34 just access road, 21-34 and 23-34 both well and access road
T50N R77W	3	21-3 and 41-3 just access road, 42-3 both well and access road
	4	31-4 and 44-4 both well and access road, 44-4 well location

13. 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:

Loamy Ecological Site Seed Mix 10-14" Precipitation Zone

Species	% in Mix	Lbs PLS*
<i>Western Wheatgrass</i> (Pascopyrum smithii)/ <i>Thickspike Wheatgrass</i> (Elymus lanceolatus ssp. lanceolatus)	30	4.8
<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	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) /or <i>American vetch</i> (Vicia americana)	5	0.6
Totals	100%	12 lbs/acre

*PLS = pure live seed. Northern Plains adapted species
Double this rate if broadcast seeding

10-14" Precipitation Zone

Clayey Ecological Site Seed Mix

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)/or <i>American vetch</i> (Vicia americana)	5	0.6
Totals	100%	12 lbs/acre

*PLS = pure live seed. Northern Plains adapted species
Double this rate if broadcast seeding

Wildlife

Bald Eagles

The following conditions will alleviate impacts to bald eagles:

Township/Range	Section	Wells and Infrastructure
T51N R77W	7	All infrastructure
	8	All infrastructure
	17	41-17, 23-17, 12-17 and all infrastructure.
	18	41-18, 31-18, 43-18 and infrastructure in NE and road to north of 43-18.
	19	41-19
	21	14-21 and all infrastructure.
	28	31-28, 21-28, 12-28, 14-28, 24-28. Only infrastructure from well 32-28 to the south is excluded.
	29	41-29
	33	21-33, 32-33 Only infrastructure to the east of 32-33 is excluded.
T50N R77W	4	31-4, 32-4, 34-4, 44-4. Only 41-4 and infrastructure to the east is excluded.

1. No project related actions shall occur within one mile of bald eagle habitat, annually, from 1 November through 1 April, prior to a winter roost survey, or from 1 February through 15 August, prior to a nesting survey. This timing limitation will be in effect unless surveys determine the habitat to be unoccupied. This affects the following wells and infrastructure:
 - a. Surveys to document activity shall be conducted by a biologist following BLM protocol. All survey results shall be submitted in writing to a Buffalo BLM biologist and approved prior to surface disturbing activities.
 - b. If a roost is identified and construction has not been completed, a year-round disturbance-free buffer zone of 0.5 mile will be established. A seasonal minimum disturbance buffer zone of 1 mile will be established for all bald eagle roost sites (1 November – 1 April).
 - c. If a nest is identified and construction has not been completed, a year-round disturbance-free buffer zone of 0.5 mile would be established. A seasonal minimum disturbance buffer zone of 1 mile will be established for all bald eagle nest sites (1 February – 15 August).
2. 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.

Mountain Plover

The following conditions will alleviate impacts to mountain plovers:

1. No surface-disturbing activities shall occur within 0.25 mile of potential mountain plover nesting habitat, annually, from 15 March through 31 July, prior to a nesting survey. This timing limitation will be in effect unless surveys determine the habitat to be unoccupied. This affects the following wells and infrastructure:

Township/Range	Section	Wells and Infrastructure
T51N R77W	21	14-21 and all infrastructure
	29	41-29 and infrastructure in NW

- a. Mountain plover nesting surveys shall be conducted by a biologist following the most current USFWS Mountain Plover Survey Guidelines. All survey results shall be submitted in writing to a Buffalo BLM biologist and approved prior to surface disturbing activities.

- b. If a nest is identified, no surface-disturbing activities shall occur within 0.25 miles from 15 March through 31 July.
- c. No dogs will be permitted at work sites to reduce the potential for harassment of mountain plovers.

Raptors

The following conditions will alleviate impacts to raptors:

- 1. No surface-disturbing activities shall occur within 0.5 mile of all identified raptor nests, from 15 March through 31 July, annually, prior to a nesting survey. This timing limitation will be in effect unless surveys determine the nest to be inactive. This affects the following wells and infrastructure:

Township/Range	Section	Wells and Infrastructure
T51N R77W	17	41-17 and infrastructure in NE
	27	14-27 and all infrastructure in N and SW.
	28	14-28
	32	Infrastructure on N-S road
	33	21-33, 32-33, 44-33, and all infrastructure except in NW.
	34	All infrastructure
T50N R77W	3	All infrastructure
	10	All infrastructure
	9	All infrastructure in NE

- a. Surveys shall be conducted by a biologist following BLM protocol. All survey results shall be submitted in writing to a Buffalo BLM biologist and approved prior to surface disturbing activities.
- b. If an undocumented raptor nest is located during project construction or operation, the Buffalo Field Office (307-684-1100) shall be notified within 24 hours.

Sage-Grouse

The following conditions will alleviate impacts to sage-grouse:

- 1. No surface-disturbing activities shall occur within sage-grouse habitat, from 1 March through 15 June, annually. This affects the following wells and all infrastructure associated with the listed wells:

Township/Range	Section	Wells
T51N R77W	17	12-17, 23-17, 41-17
	18	11-18, 21-18, 31-18, 44-18, 41-18, 43-18
	19	41-19
	21	14-21
	27	14-27
	28	12-28, 14-28, 21-28, 24-28, 31-28, 32-28, 43-28
	33	21-33, 44-33
	34	11-34, 13-34, 21-34, 23-34, 44-34
T50N R77W	3	12-03, 21-03, 24-03, 34-03, 41-03, 42-03
	4	31-04, 32-04, 34-04, 41-04, 44-04

Water Management

- 1. The Operator will not be permitted to use the Barber Creek Treatment Facility for the management of water produced in association with this project. In the water management plan, the operator proposed the use of one water discharge point that had been denied by the WDEQ and is no longer included in

the WYPDES Permit #WY0051276. No other discharge points associated with this facility were proposed to be used in the KDU Gamma water management plan.

Cultural

1. Monitoring by a qualified archaeologist will be required during construction of the #41-17 well pad and adjacent access road. Site 48 JO 4031 is eligible, has been tested, and proposed development is scheduled for non-contributing portions of the site.
2. The federal agency is required to take into consideration the effect of its undertakings on cultural properties, both on federal surface and private lands. This is handled through inventory and review of existing documentation. There still remains some potential for discoveries. If human remains are encountered, procedures require immediate notification of law enforcement agencies and the Bureau of Land Management's authorized personnel. If buried cultural resources or discoveries are located, construction is halted and the BLM consults with the State Historic Preservation Office (SHPO) on mitigation or avoidance.

Programmatic mitigation measures identified in the PRB FEIS ROD

Surface Water

1. Channel Crossings:
 - 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.
 - Channel crossings by pipelines will be constructed so that the pipe is buried at least four feet below the channel bottom.

Wetland/Riparian

1. Any fences used in wetland areas should be placed well back from the wetlands to prevent waterfowl mortalities and should be constructed to standards that allow big game movements.
2. Crossings of wetland/riparian areas by linear features, such as pipelines, roads, and power lines will be avoided to the extent practicable. Where crossings cannot be avoided, impacts will be minimized through use of the following measures:
 - Site-specific mitigation plans will be developed during the APD, POD, or Sundry Notice approval process for all proposed disturbance to wetland/riparian areas.
 - Crossings will be constructed perpendicular to wetland/riparian areas where practical.
 - 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.

- 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.
- No waste material will be deposited below high water lines in riparian areas, flood plains, or in natural drainage ways.
- The lower edge of soil or other material stockpiles will be located outside the active floodplain.
- Drilling mud pits will be located outside of riparian areas, wetlands, and floodplains, where practical.
- Disturbed channels will be re-shaped to their approximate original configuration or stable geomorphological configuration and properly stabilized.
- Reclamation of disturbed wetland/riparian areas will begin immediately after project activities are complete.

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.

Threatened, Endangered, or Sensitive Species

1. The companies will conduct clearance surveys for threatened, endangered or other special-concern species at the optimum time. Inventory for special concern species, other than federally listed species below, is contingent upon landowner concurrence. This will require coordination with the BLM before November 1 annually to review the potential for disturbance and to agree on inventory parameters.

Bald Eagle

1. In the event that a bald eagle (dead or injured) is located during construction or operation, the USFWS' Wyoming Field Office (307-772-2374) and the USFWS' Law Enforcement Office (307-261-6365) will be notified within 24 hours.
2. Special habitats for raptors, including wintering bald eagles, will be identified and considered during the review of the Sundry Notices.

Mountain Plover

1. Work schedules and shift changes will be set to avoid the periods from 30 minutes before to 30 minutes after sunrise and sunset during June and July, when mountain plovers and other wildlife are most active.
2. When above ground markers are used on capped and abandoned wells they will be identified with markers no taller than four feet with perch inhibiting devices on the top to avoid creation of raptor hunting perches within 0.5 mile of nesting areas.
3. Reclamation of areas of previously suitable mountain plover habitat will include the seeding of vegetation to produce suitable habitat for mountain plover.

Transportation

1. The 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 upon completion of POD construction and development.
2. Companies will contact the counties to pursue development of maintenance agreements to ensure county roads are adequately maintained for the projected increase in use.

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.

STANDARD

General

1. All contractors/operators will have a complete copy of the approved APD/POD, including COAs, at the drill site, during the construction of the roads and drill pad, the drilling of the well, completion of the well, and all other related construction activities.
2. 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 NRS Name Here @ NRS Phone number Here 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.
3. Approval of this APD does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease that would entitle the applicant to conduct operations thereon. In addition, approval of this APD does not imply that the operator has legal access to the drilling location. When crossing private surface 43 CFR 3814 regulations must be complied with and when crossing public surface off-lease the operator must have an approved right-of-way.
4. Confine all equipment and vehicles to the access road(s), pad(s), and area(s) specified in the approved APD or POD.
5. 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.
6. This POD is valid for two years from the date of approval or until the oil and gas lease expires/terminates, whichever occurs first. If this well intends to earn a lease extension, diligent operations (actual drilling) must be in progress over the lease expiration date, advance lease rentals must have been paid, and a letter stating drilling operations were in progress must be submitted to this

office no later than five days past the expiration date. If the APD terminates, any surface disturbance created under the application must be reclaimed according to an approved plan.

7. The operator will be in compliance with all applicable local, state and/or federal laws, regulations, and/or statutes.
8. A progress report must be filed a minimum of once a month starting with the month the well was spudded continuing until the well is completed. The report must be filed by the 25th of each month on a Sundry Notice (Form 3160-5). The report will include the spud date, casing information such as size, grade, weight, hole size, and setting depth, amount and type of cement used, top of cement, depth of cementing tools, casing test method, intervals tested, perforated, acidized, fractured and results obtained and the dates all work done.
9. In the event abandonment of the hole is desired, an oral request may be granted by this office but must be timely followed within 5 days with a "Notice of Intention to Abandon" (Form 3160-5). The "Subsequent Report of Abandonment" (Form 3160-5) must be submitted within 30 days after the actual plugging of the well bore, reporting where the plugs were placed, and the current status of the surface restoration.
10. Whether the well is completed as a dry hole or as a producer, two copies of all logs run, core descriptions, core analysis, well-test data, geologic summaries, sample descriptions, and all other surveys or data obtained and compiled during the drilling, work over, and/or completion operations will be filed with Form 3160-4. A gamma ray log shall be run from T.D. to ground surface.
11. The operator is responsible for informing all persons associated with this project that they shall be subject to prosecution for damaging, altering, excavating or removing any archaeological, historical, or vertebrate fossil objects on site. If archaeological, historical, or vertebrate fossil materials are discovered, the operator is to suspend all operations that further disturb such materials and immediately contact the Authorized Officer. Operations are not to resume until written authorization to proceed is issued by the Authorized Officer.
12. Within five (5) working days, the Authorized Officer will evaluate the discovery and inform the operator of actions that will be necessary to prevent loss of significant cultural or scientific values.
13. The operator is responsible for the cost of any mitigation required by the Authorized Officer. The Authorized Officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the Authorized Officer that the required mitigation has been completed, the operator will be allowed to resume operations.
 - a. 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.
 - b. 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.
14. The operator shall be responsible for the prevention of fires on public lands caused by its employees, contractors or subcontractors. During conditions of extreme fire danger, surface use operations may be limited or suspended in specific areas.
 15. All survey monuments found within the area of operations shall be protected. Survey monuments include, but are not limited to: General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U. S. Coast and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any survey monuments, the incident shall be reported in writing to the Authorized Officer.
 16. If any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (due to a contraction in the unit or other lease or unit boundary change) the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental, or other financial obligation determined by the authorized officer.
 17. Gas produced from this well may not be vented or flared beyond an initial authorized test period of 30 days or 50 MMCF following its completion, whichever first occurs, without the prior written approval of the authorized officer. If gas is vented or flared without approval beyond the test period authorized above, you may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted. You shall be required to compensate the lessor for that portion of the gas vented or flared without approval which is determined to have been avoidably lost.
 18. 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 and will include the following information: Operator Name, POD Name, Well Name and location and Date Sampled.

19. By November 1 each year, companies will submit the following information, attached to a Sundry Form 3160-5, where construction and development have taken place in the last year.
 - 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.
 - Two as-built copies of Map D.
20. 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.
21. Operators shall comply with 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).
22. 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.

DRILLING AND PRODUCTION OPERATIONS

1. The spud date will be reported electronically, (see website location above) 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

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:
 - 1.1. The specific type of equipment.
 - 1.2. How this equipment will meet or exceed the requirements of Onshore Order #5.
 - 1.3. 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.

SURFACE USE STANDARD

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^{-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.
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:

Soil Type	Road Grade 2-4%	Road Grade 5-8%	Road Grade 9-12%	Road Grade 13-16%
Highly erosive Granitic or sandy	240	180	140	100
Intermediate Erosive clay or load	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.
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