

CONDITIONS OF APPROVAL
FOR THE
CBNG APPLICATIONS FOR PERMIT TO DRILL
WY-070-390CX3-15-174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184 and 185

Plan of Development (POD) Name: Kinney Divide Unit Gamma Resubmit (KDUGR) POD
 Operator: Anadarko E&P Onshore LLC

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

List of Wells:

#	Well Name	Well #	Qtr/Lot	Sec	Twp	Rng	Lease
1	KDU GAMMA FED	23-17-5177	Lot 4	17	51N	77W	WYW146313
2	KDU GAMMA FED	12-17-5177	SWNW	17	51N	77W	WYW146313
3	KDU GAMMA FED	11-18-5177	NWNW	18	51N	77W	WYW146313
4	KDU GAMMA FED	31-18-5177	NWNE	18	51N	77W	WYW146313
5	KDU GAMMA FED	43-18-5177	NESE	18	51N	77W	WYW146313
6	KDU GAMMA FED	41-18-5177	NENE	18	51N	77W	WYW146313
7	KDU GAMMA FED	21-18-5177	NWNW	18	51N	77W	WYW146313
8	KDU GAMMA FED	44-18-5177	SWSW	18	51N	77W	WYW146313
9	KDU GAMMA FED	41-19-5177	NENE	19	51N	77W	WYW146313
10	KDU GAMMA FED	14-21-5177	Lot 7	21	51N	77W	WYW146312
11	KDU GAMMA FED	32-28-5177	Lot 3	28	51N	77W	WYW146313
12	KDU GAMMA FED	31-28-5177	NWNE	28	51N	77W	WYW146315

Spud dates will be reported electronically, to the Authorized Officer 24 HOURS BEFORE SPUDDING, unless otherwise required in site specific conditions of approval;
http://www.wy.blm.gov/minerals/og/og_notices/spud_notice.php

OPERATOR COMMITTED MEASURES

Wildlife

1. Anadarko commits to completion of well maintenance operations outside of the Greater Sage-Grouse nesting and brood rearing season (March 15- June 30); See page 19 of the SUPO.

Noxious Weed Control

1. Anadarko commits to control of noxious weeds on disturbed areas associated with these 16 federal wells and associated access roads, utility corridors and well pads.

Reclamation

1. Anadarko commits to expedient and timely reclamation of KDUGR POD during all phases of the development.

PROGRAMMATIC CONDITIONS OF APPROVAL

Wildlife

1. The Companies will locate facilities so that noise from the facilities at any nearby sage grouse or sharp-tailed grouse display grounds does not exceed 49 decibels (10 dBA above background noise) at the display ground.

2. All stock tanks shall include a ramp to enable trapped small birds and mammals to escape. See Idaho BLM Technical Bulletin 89-4 entitled Wildlife Watering and Escape Ramps on Livestock Water Developments: Suggestions and Recommendations.

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.

Transportation

1. The companies will provide georeferenced special 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.

SITE-SPECIFIC CONDITIONS OF APPROVAL

Surface Use

1. Topsoil stored for a period greater than 90 days will not exceed piles of 3 feet in depth and will be seeded with the BLM-approved seed mix to prevent wind and water erosion.
2. The operator will notify BLM at least 24 hours prior to well pad/slot construction. Contact Jim Verplancke, NRS by phone at (307)684-1057 or by email at jverplan@blm.gov.
3. Erosion control fabric used for reclamation of steep slopes should be photodegradable or biodegradable. Non-photodegradable/biodegradable erosion control fabric will be removed from the federal leases following establishment of a self-perpetuating native plant community and sustained soil stability.
4. In the absence of manufacture's specifications included in the operator's MSUP, erosion control fabric will be installed as follows:
 - a. The fabric will be 'keyed' into the slope by digging a small trench at the top of the slope;
 - b. Lay the top end of the material into the trench to line it;
 - c. To line it the edge is folded underneath itself and then it is secured using staples;
 - d. The trench is then filled in to the previous soil level; and
 - e. Fabric should be overlapped no less than 0.3 meter on edges and stapled on 1 meter spacing and at every seam.
5. Stabilization of steep slopes greater than 4H:1V will include but is not limited to the following components to minimize soil erosion and loss of seed:
 - a. Surface roughening/pocking or scarification perpendicular to the slope;
 - b. Install slope breakers such as waddles and water bars at the appropriate spacing;
 - c. Seed with appropriate seed mix; and
 - d. Apply straw mulch or bio/photodegradable erosion control fabric on highly erodible soils.
6. Straw/Excelsior wattles are most effective as erosion control if applied on slopes less than 3H:1V. In the absence of manufacture's specifications included in the operator's MSUP, the minimum spacing requirements will be as follows:

Slope	6-inch waddle	9-inch waddle	12-inch waddle
≤4H:1V	20 feet	40 feet	60 feet
3H:1V	15 feet	30 feet	45 feet
2H:1V	10 feet	20 feet	30 feet
1.5H:1V	5 feet	10 feet	15 feet

7. Soil compaction will be remediated on all compacted surfaces and prior to the redistribution of topsoil on disturbed surfaces to the depth of compaction by methods that prevent mixing of the soil horizons. BLM's recommended methods are subsoiling, paraplowing, or ripping with a winged shank. Scarification is acceptable on areas identified as very shallow or shallow soils in the MSUP.
8. All pit spoil must be placed back in the pit once the pit is dry or fluids are removed. Subsoil must then be replaced in the reserve pit before topsoiling. Under no circumstances would any by-products from drilling or subsoil to be spread on top of topsoil. The pit area should usually be mounded slightly or restored to the original contour to allow for settling and positive surface drainage.
9. The KDUGR Project area is dominated by 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, et. cetera) and functional to BLM standards as outlined in the BLM Manual 9113 prior to drilling of the well. This applies to the ENTIRE KDUGR project area. This measure will help to improve the overall safety and reduce erosion and sedimentation relative to the use of incomplete roads at insufficient stages of completion.
10. The KDUGR project area is dominated by soils that have been identified to have poor reclamation suitability that will require disturbed areas to be stabilized (stabilization efforts may include mulching, matting, soil amendments, et. cetera) 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. This applies to the ENTIRE Project area including all linear features (i.e. improved roads and utility corridors) within the ENTIRE KDUGR Project area.
11. The operator is responsible for having the licensed professional engineer(s) certify that the actual construction of the road meets the design criteria and is constructed to BLM standards.
12. For safety of travel, to reduce rutting and increase traction, place a minimum average of 4 inches of aggregate on road segments where grades exceed 8%.
13. Channel crossings by road 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.
14. On cut-slope sections of road and other sections of road where topography on one side of the road does not allow the use of lead-out (wing) ditches to relieve road ditch flow, laterals in the form of culverts, water bars, or drainage dips shall be placed according to the following minimum spacing:

Lateral Spacing (Feet)				
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 clay/silt/sand	310	260	200	150
Low erosive shale or gravel	400	325	250	200

NOTE: Sometimes laterals and lead-out ditches are constructed following spacing guidelines without regard to best placement of these structures. For this reason, experienced personnel who see how the road operates for years after construction or, preferably, road design engineers, should direct the placement of these structures to ensure that a sufficient number are constructed and that they are placed in locations that do not worsen hillside erosion below the discharge point. Over about the last 5-7 years, laterals and lead-out ditches have often been inadequately utilized, with contractors instead relying on coir logs to slow down ditch flow to non-erosive velocities. Coir logs should only be used in addition to properly placed laterals and lead-out ditches to help vegetation to get established.

15. Laterals shall be constructed with a durable ditch block just downstream of the inlet and the flow through laterals shall be discharged into a lead-out ditch as soon as is practicable. For culverts used as laterals, thick-walled plastic SDR9 pipe (or pipe with similar crushing resistance characteristics) 12 inches or larger in diameter may be used in-lieu of 18-inch CMP. Minimum cover for these pipes shall be 6 inches (minimum cover for CMP is 12 inches or one-half the diameter, whichever is greater).
16. To the extent that is beneficial and feasible, lead-out ditches shall be placed between laterals and uphill of the most uphill lateral in order to reduce flow in the road ditch at the exit of the next downhill lateral, especially on steeper slopes.
17. Where laterals are not needed, the road shall be constructed to ensure that flow does not concentrate and water does not pond next to the road. As is necessary, lead-out ditches shall be constructed to ensure that water is dispersed away from the road according to the minimum spacing given for laterals.
18. Road runoff shall **not** be directed into pre-existing eroded features (including small steep hillside channels with no discernible floodplain or riparian vegetation), but instead will be put to beneficial use by routing lead-out ditches away from eroded features and onto stable soils. Lead-out ditches and laterals shall be constructed as close as practicable to crossings (e.g. on the crossing approaches or just before the approach) in order to reduce the amount of ditch water and sediment directly entering drainages.
19. 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.
20. No salvaged trees will be pushed up against live trees or buried in the spoil material.
21. 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.

22. Improved roads with utility corridor clearing and blading width will not exceed 50 feet in width unless a specific design is included in the plan and profile section of the road design diagrams dated December 17, 2014.
23. Utility corridors adjacent existing roads working width will not exceed 45 feet from the centerline of the road with a clearing and blading not to exceed 35 feet in width unless a specific design is included in the plan and profile section of the master surface use plan and/or as specified on KDUGR project map dated April 17, 2015.
24. Pipeline installation and/or corridors without road access working width will not exceed 45 feet with a clearing and blading not to exceed 35 feet in width unless a specific design is included in the plan and profile section of the master surface use plan and/or as specified on KDUGR project map dated April 17, 2015.
25. Mowing at the well site where a constructed pad is not approved as designed will be minimized to the defined work space delineated on the well site diagram for the APD, or less, within sites where sage brush is the dominant vegetation type.
26. Thick walled plastic SDR9 pipe (or pipe with similar characteristics that will resist crushing with a minimum cover) may be used for ditch relief culverts. 9” or larger sizes must be used and a ditch block will be constructed as shown on a typical detail. 12” of cover will not be required for these pipes. They are not to be used for established drainages crossing the road.
27. Anadarko has developed seed mixes for each soil type identified within the project area consistent with the NRCS ecological site description, the reference plant community and desired species richness with the intent of maximizing revegetation potential. See page 16 of the KDUGR General Reclamation Plan. 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 percent and a minimum purity of 90 percent will be used.

Wildlife

Greater Sage-Grouse

1. No surface disturbing are permitted during Greater Sage-Grouse breeding and nesting period (March 15 – June 30). This timing limitation will affect disruptive activities within the entire KDUGR project area.
2. For and surface disturbing activities proposed in sagebrush lands, the operator will conduct clearance surveys for Greater Sage-Grouse breeding activity during the sage-grouse’s breeding season (April 1-May 7) before initiating the activities. The surveys must encompass all sagebrush shrublands within 0.5 miles of the proposed activities. All survey results shall be submitted in writing to a BFO BLM biologist no later than July 31 of the current year. This condition applies to the entire project area and will be implemented on an annual basis for the duration of the surface disturbing activities.
 - a. If a previously unknown lek is identified during surveys (April 1-May 7), a BFO BLM biologist shall be notified.

Bald Eagles

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 KDU Fed 12-17-5177, KDU Fed 23-17-5177,

KDU Fed 31-18-5177, KDU Fed 41-18-5177, KDU Fed 43-18-5177, KDU Fed 41-21-5177 and KDU Fed 31-28-5177 as well as access roads and infrastructure to be located NENE, SENE, E2NENE Section 18; SW, NWNW, SWNW Section 17; SWSW Section 21; NWNW, NWNE, NENE Section 28.

- 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 effect to bald eagles or their habitat.

Mountain Plover

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 KDU Fed 14-21-5177 well access road and infrastructure.
 - 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.

Migratory Birds

1. Removal of habitat supporting BLM sensitive migratory bird species is prohibited during the migratory bird nesting season (May 1 – July 31) unless an avian nesting survey performed by a biologist confirms an absence of nesting birds in the disturbance area. This will affect surface disturbing activities within the ENTIRE project area.
 - a. Results of the nesting survey must be submitted in writing to a Buffalo BLM biologist prior to commencement of activities.
 - b. If the survey shows an absence of nesting birds, then surface disturbance can proceed during the nesting season within 10 days of the survey to avoid harming new nesting arrivals. After 10 days has lapsed, a new survey will be required. Exceptions will be evaluated by a BLM biologist allowing for alternate timelines or specific activities to occur.
 - c. If the survey shows nesting birds are present and or if the permitted activity would likely cause “take”, then the activity will be delayed until the nestlings fledged.
 - d. Exceptions will be evaluated by a BLM biologist on a case by case basis.
2. Migratory birds shall be effectively excluded from all facilities that pose a mortality risk, including, but not limited to exhaust stacks, secondary containment, and standing water or chemicals where escape may be difficult or wildlife toxicants are present.

Sharp-tailed Grouse

1. A survey is required for sharp-tailed grouse between April 1 and May 7, annually, within the project area. This condition will be implemented on an annual basis for the duration of surface disturbing activities.
 - a. If an active lek is identified during survey, the 0.64 mile timing restriction (March 1-June 15) will be applied and surface-disturbing activities will not be permitted until after the nesting season. The required sharp-tailed grouse survey will be conducted by a biologist following WGFD protocol. All survey results shall be submitted in writing to a Buffalo BLM biologist and approved prior to surface-disturbing activities.

Raptors

1. 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 for the current breeding season. This timing limitation will affect surface disturbing activities located NWNE section 20 T51N R77W.
 - a. Surveys to document nest occupancy shall be conducted by a biologist following BLM protocol, between April 15 and June 30. All survey results shall be submitted in writing to a Buffalo BLM biologist and approved prior to surface-disturbing activities. Surveys outside this window may not depict nesting activity. If a survey identifies active raptor nests, a 0.5 mile timing buffer will be implemented. The timing buffer restricts surface-disturbing activities within 0.5 mile of occupied raptor nests from February 1 to July 31.
 - 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.

STANDARD CONDITIONS OF APPROVAL

General

1. If any cultural values [sites, artifacts, human remains (Appendix L FEIS)] are observed during operation of this lease/permit/right-of-way, they will be left intact and the Buffalo Field Manager notified. The authorized officer will conduct an evaluation of the cultural values to establish appropriate mitigation, salvage or treatment. The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the authorized BLM officer (AO). Within five working days the AO will inform the operator as to:
 - a. whether the materials appear eligible for the National Register of Historic Places;
 - b. the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,
 - c. a time-frame for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction measures.
2. If paleontological resources, either large or conspicuous, and/or a significant scientific value are discovered during construction, the find will be reported to the Authorized Officer immediately. Construction will be suspended within 250 feet of said find. An evaluation of the paleontological discovery will be made by a BLM approved professional paleontologist within five (5) working days, weather permitting, to determine the appropriate action(s) to prevent the potential loss of any significant paleontological values. Operations within 250 feet of such a discovery will not be resumed until written authorization to proceed is issued by the Authorized Officer. The applicant will bear the

cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils of significant scientific interest discovered during the operation.

3. Please contact Jim Verplancke, Natural Resource Specialist, at (307) 684-1057, Bureau of Land Management, Buffalo, if there are any questions concerning the following surface use COAs.
4. The first well drilled to each targeted coal zone will be designated as the POD reference well. Designated reference wells must have the ability to be sampled at the wellhead. Water quality samples will be collected by the operator and submitted for analysis using WDEQ NPDES criteria within 30-60 days of initial water production. Results of the analysis will be submitted to the BFO-BLM Authorized Officer as soon as they become available.

DRILLING AND PRODUCTION OPERATIONS

1. The operator shall complete wells (case, cement and under ream) as soon as possible, but no later than 30 days after drilling operations, unless an extension is given by the BLM Authorized Officer.
2. If in the process of air drilling the wells there is a need to utilize mud, all circulating fluids will be contained either in an approved pit or in an aboveground containment tank. The pit or containment tank will be large enough to safely contain the capacity of all expected fluids without danger of overflow. Fluid and cuttings will not be squeezed out of the pit, and the pit will be reclaimed in an expedient manner.

Well Control Equipment

1. 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.
2. The flow line shall be a straight run.
3. The flow line must be constructed from non-flammable material.
4. All cuttings and circulating medium shall be directed to and contained in a reserve pit.
5. The nearest edge of the pits shall be a minimum of 25' from the rig.
6. A minimum of 2' of freeboard shall be maintained in the pits at all times.
7. The authorized officer may modify these requirements at any time if it is determined that increased pressure control is deemed necessary.
8. 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.

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.
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 of the same water quality used to develop the cement program.

Production Equipment

1. 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.

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:

Supervisory Petroleum Engineer: Matthew Warren, Cell Telephone: 307-620-0103 or Petroleum Engineer: William Robbie, Cell Telephone: 307-670-3203.

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

STANDARD

General

1. A pre-construction field meeting shall be conducted prior to beginning any dirt work approved under this POD. The operator shall contact the BLM Authorized Officer NRS Jim Verplancke, at 307-684-1057 at least 4-days prior to beginning operations so that the meeting can be scheduled. The operator

is responsible for having all contractors present (dirt contractors, drilling contractor, pipeline contractor, project oversight personnel, etc.) including the overall field operations superintendent, and for providing all contractors copies of the approved POD, project map and BLM Conditions of Approval pertinent to the work that each will be doing.

2. 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:
 - a. whether the materials appear eligible for the National Register of Historic Places;
 - b. the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,
 - c. 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.
3. 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.
4. Please contact Jim Verplancke, Natural Resource Specialist, at (307) 684-1100, Bureau of Land Management, Buffalo, if there are any questions concerning the following surface use COAs.
5. The first well drilled to each targeted coal zone will be designated as the POD reference well. Designated reference wells must have the ability to be sampled at the wellhead. Water quality samples will be collected by the operator and submitted for analysis using WDEQ NPDES criteria within 30-60 days of initial water production. Results of the analysis will be submitted to the BFO-BLM Authorized Officer as soon as they become available.

SURFACE USE STANDARD

Construction

1. Construction and drilling activity will not be conducted using frozen or saturated soil material during periods when watershed damage or excessive rutting is likely to occur.
2. Remove all available topsoil from constructed well locations including areas of cut and fill, and stockpile at the site. Topsoil will also be salvaged for use in reclamation on all other areas of surface disturbance (roads, pipelines, etc.). Clearly segregate topsoil from excess spoil material. Any topsoil

stockpiled for one year or longer will be signed and stabilized with annual ryegrass or other suitable cover crop.

3. 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.
4. Construct the backslope no steeper than ½:1, and construct the foreslope no steeper than 2:1, unless otherwise directed by the BLM Authorized Officer.
5. Maintain a minimum 20-foot undisturbed vegetative border between toe-of-fill of pad and/or pit areas and the edge of adjacent drainages, unless otherwise directed by the BLM Authorized Officer.
6. To minimize electrocution potential to birds of prey, all overhead electrical power lines will be constructed to standards identified by the Avian Power Line Interaction Committee (2006).
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. 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 taunt 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 taunt 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.
11. Reserve pits will be closed as soon as possible, but no later than 90 days from time of drilling/well completion, unless the BLM Authorized Officer gives an extension. Squeezing of pit fluids and cuttings is prohibited. Pits must be dry of fluids or they must be removed via vac truck or other environmentally acceptable method prior to backfilling, recontouring and replacement of topsoil. Mud and cuttings left in pit must be buried at least 3-feet below recontoured grade. The operator will be responsible for recontouring any subsidence areas that develop from closing a pit before it is sufficiently dry.

12. Culverts will be placed on channel bottoms on firm, uniform beds, which have been shaped to accept them, and aligned parallel to the channel to minimize erosion. Backfill will be thoroughly compacted.
13. The minimum diameter for culverts will be 18 inches. However, all culverts will be appropriately sized in accordance with standards in BLM Manual 9113.
14. Construction and other project-related traffic will be restricted to approved routes. Cross-country vehicle travel will not be allowed.
15. Maximum design speed on all operator constructed and maintained roads will not exceed 25 miles per hour.
16. Pipeline construction shall not block nor change the natural course of any drainage. Pipelines shall cross perpendicular to drainages. Pipelines shall not be run parallel in drainage bottoms. Suspended pipelines shall provide adequate clearance for maximum runoff.
17. Pipeline trenches shall be compacted during backfilling. Pipeline trenches shall be routinely inspected and maintained to ensure proper settling, stabilization and reclamation.
18. 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.
19. Operators are required to obtain a National Pollution Discharge Elimination System (NPDES) Storm Water Permit from the Wyoming DEQ for any projects that disturb five or more acres (changing to one acre in March 2005). This general construction storm water permit must be obtained from WDEQ prior to any surface disturbing activities and can be obtained by following directions on the WDEQ website at <http://deq.state.wy.us>. Further information can be obtained by contacting Barb Sahl at (307) 777-7570.
20. The operator shall submit a Sundry Notice (Form 3160-5) to BLM for approval prior to construction of any new surface disturbing activities that are not specifically addressed in the approved APD or POD Surface Use Plan.

Operations/Maintenance

1. Confine all equipment and vehicles to the access road(s), pad(s), and area(s) specified in the approved APD or POD.
2. 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.
3. The operator will be responsible for prevention and control of noxious weeds and weeds of concern on all areas of surface disturbance associated with this project (well locations, roads, water management facilities, etc.) Use of pesticides shall comply with the applicable Federal and State laws. Pesticides shall be used only in accordance with their registered uses and within limitations imposed

by the Secretary of Interior. Prior to the use of pesticides on public land, the holder shall obtain from the BLM authorized officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the authorized officer to such use.

4. 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 KDUE2 POD is Covert Green.
5. Sewage shall be placed in a self-contained, chemically treated porta-potty on location.
6. 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.
7. 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.
8. 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 exemptIt 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 rinsateAny evidence of non-exempt wastes being put into the reserve pit may result in the BLM Authorized Officer requiring specific testing and closure requirements.
9. The operator shall restrict travel on unimproved two-track roads during periods of inclement weather or spring thaw when the possibility exists for excessive surface resource damage (e.g., rutting in excess of 4-inches, travel outside two-track roadway, etc.).

Producing Well

1. Landscape those areas not required for production to the surrounding topography as soon as possible. The Fluids and mud must be dry in the reserve pit before re-contouring pit area. The operator will be responsible for re-contouring and reseeding of any subsidence areas that develop from closing a pit before it is completely dry.

2. Reduce the backslope to 2:1 and the foreslope to 3:1, unless otherwise directed by the BLM Authorized Officer. Reduce slopes by pulling fill material up from foreslope into the toe of cut slopes.
3. 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.
4. 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.
5. 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.
6. Prior to construction of production facilities not specifically addressed in the APD/POD, the operator shall submit a Sundry Notice to the BLM Authorized Officer for approval.
7. Waterbars shall be installed on all reclaimed pipeline corridors per the guidelines in A.4.2.4 #6.

Reclamation/Dry Hole

1. All disturbed lands associated with this project, including the pipelines, access roads, water management facilities, etc. will be expediently reclaimed and reseeded in accordance with the surface use plan and any pertinent site-specific COAs.
2. Disturbed lands will be re-contoured back to conform to existing undisturbed topography. No depressions will be left that trap water or form ponds.
3. The fluids and mud must be dry in the reserve pit before re-contouring pit area. The operator will be responsible for re-contouring of any subsidence areas that develop from closing a pit before it is completely dry. The plastic pit liner (if any) will be cut off below grade and properly disposed of at a state authorized landfill before beginning to re-contour the site.
4. Before the location has been reshaped and prior to redistributing the topsoil, the operator will rip or scarify the drilling area and access road on the contour, to a depth of at least 12 inches. The rippers are to be no farther than 24 inches apart.
5. Distribute the topsoil evenly over the entire location and other disturbed areas. Prepare the seedbed by disking following the contour.
6. 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

7. BLM will not release the performance bond until the area has been successfully revegetated (evaluation will be made after the second complete growing season) and has met all other reclamation goals of the surface owner and surface management agency.
8. A Notice of Intent to Abandon and a Subsequent Report of Abandonment must be submitted for abandonment approval.
9. For performance bond release approval, a Final Abandonment Notice (with a surface owner release letter on split-estate) must be submitted prior to a final abandonment evaluation by BLM.
10. Phased reclamation plans will be submitted to BLM for approval prior to individual POD facility abandonment via a Notice of Intent (NOI) Sundry Notice. Individual facilities, such as well locations, pipelines, discharge points, impoundments, etc. need to be addressed in these plans as they are no longer needed. Individual items that will need to be addressed in reclamation plans include:
 - Pit closure (Close ASAP after suitably dry, but no later than 90 days from time of drilling unless an extension is given by BLM Authorized Officer.) BLM may require closure prior to 90 days in some cases due to land use or environmental concerns.
 - Configuration of reshaped topography, drainage systems, and other surface manipulations
 - Waste disposal
 - Revegetation methods, including specific seed mix (pounds pure live seed/acre) and soil treatments (seedbed preparation, fertilization, mulching, etc.). On private surface, the landowner should be consulted for the specific seed mix.
 - Other practices that will be used to reclaim and stabilize all disturbed areas, such as water bars, erosion fabric, hydro-mulching, etc.
 - An estimate of the timetables for beginning and completing various reclamation operations relative to weather and local land uses.
 - Methods and measures that will be used to control noxious weeds, addressing both ingress and egress to the individual well or POD.
 - Decommissioning/removal of all surface facilities
 - Closure and reclamation of areas utilized or impacted by produced CBM water, including discharge points, reservoirs, off-channel pits, land application areas, livestock/wildlife watering facilities, surface discharge stream channels, etc.
11. Soil fertility testing and the addition of soil amendments may be required to stabilize some disturbed lands.
12. Any mulch utilized for reclamation needs to be certified weed free.