

APPENDIX C: BEST MANAGEMENT PRACTICES AND CONDITIONS OF APPROVAL

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BEST MANAGEMENT PRACTICES

BLM describes best management practices (BMPs) as “state-of-the-art mitigation measures applied to oil and natural gas drilling and production to help ensure that energy development is conducted in an environmentally responsible manner.” The aim of BMPs is to protect wildlife, air quality, landscapes, and other natural resources as energy resources are developed. BMPs tend to be general principles for resource protection and are not in themselves regulatory in nature.

BLM’s policy is that all “Field Offices consider BMPs in National Environmental Policy Act (NEPA) documents to mitigate anticipated impacts to surface and subsurface resources, and also to encourage Operators to actively consider BMPs during the application process.” (Instruction Memorandum No. 2004-194; June 22, 2004) Substantial information on BMPs can be found on BLM’s national website at: http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices.html.

Another important source of information on BMPs is the publication *Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development* (commonly referred to as The Gold Book), which was developed to assist Operators on the requirements for obtaining permit approval and conducting environmentally responsible oil and gas operations on Federal lands. It is available online at: http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/gold_book.html

BMPs that may have particular application to the Rawlins Field Office can be found in the following parts of the Rawlins Resource Management Plan (RMP) (BLM 2008):

- Appendix 1—Wyoming Bureau of Land Management Mitigation Guidelines for Surface Disturbing and Disruptive Activities
- Appendix 13—Reducing Nonpoint Source Pollution with Best Management Practices
- Appendix 15—Best Management Practices for Reducing Surface Disturbance and Disruptive Activities
- Appendix 16—Mountain Plover Management Guidelines: Occupied Habitat Protection Measures
- Appendix 24—Mitigation Guidelines for Special Status Plants

These appendices and the entire Rawlins RMP Record of Decision can be found at:

http://www.blm.gov/wy/st/en/programs/Planning/rmps/rawlins/rod_armp.html

BMPs are often expressed in natural gas leaseholders’ plans of development, in reclamation plans, or, attached to approved Applications for Permit to Drill, as Conditions of Approval, which are described below.

APD CONDITIONS OF APPROVAL

In the process of acquiring permission to drill to a federal oil and gas lease, leaseholders submit an Application for Permit to Drill (APD) to the BLM Field Office that manages the public lands where their lease is located. Included with the APD are:

- a drilling plan that contains a description of the leaseholder’s drilling program, geologic data, expected hazards and proposed mitigation measures to address such hazards;
- a surface use plan of operations that describes the locations of the drillpad and the access road, details of pad construction, and methods for containment and disposal of waste material; and
- a reclamation plan, which includes a weed management plan.

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When the BLM has completed the necessary environmental and technical review of the proposal contained in the APD, the BLM may approve the APD (or right-of-way application) as submitted or, more typically, approve the APD subject to Conditions of Approval (COAs) (or terms and conditions in the case of a right-of-way grant).

COAs are attached to an approved APD to ensure environmental protection, safety, and/or conservation of the mineral resource. They arise from a variety of controlling authorities such as the Federal Land Policy and Management Act (FLPMA), the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA) and the National Historic Preservation Act (NHPA). The COAs attached to an APD can be general in nature or site-specific, and thus will vary from one BLM Field Office to another. Typically, a Field Office develops COAs over a number of years of active management of oil and gas development. Often the Field Office RMP provides either a listing of potential COAs or the BMPs that might guide development of site-specific COAs in that area. They can address topics as wide-ranging as protection of wildlife habitat or archeological and paleontological sites, noise reduction, wildfire suppression, or management of invasive species. A BLM study of a number of Field Offices that manage oil and gas development identified 175 different types of COAs that are used to mitigate surface-disturbing activities. (BLM 2006c) Following is a master list of COAs that are used in the Rawlins Field Office when considering APDs. The list is adapted as needed for site-specific use. Many of the items listed will not be used on a specific APD if not warranted. If, on the other hand, conditions call for requirements that are not on the list, BLM specialists can add new COAs. The list is presented in the standard format used for attachment to an approved APD.

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

Operator	XYZ Natural Resources, LLP	Well Name/No.	Magic Mountain Federal 123
Lease No.	WYW-999999	Legal Description	NE¼, NE¼, Sec. 37, T 00 N, R 99 W

GOVERNMENT ADDRESS

USDI, BUREAU OF LAND MANAGEMENT	FIELD OFFICE	Rawlins
	ADDRESS	1300 North Third Street P.O. Box 2407 Rawlins, WY 82301
	OFFICE PHONE	(307) 328-4200
	OFFICE HOURS	7:45 a.m. to 4:30 p.m. (Monday - Friday)

ACTIONS REQUIRING BLM NOTIFICATION

For construction, reclamation, and spud notices, submit via the internet at: www.wy.blm.gov/rfo/og.htm

For running casing, cementing, BOPE tests, drill stem tests or other notices, call the following number 24 hours in advance of commencing operations and leave voice message with call back number. **(307) 328-4276 (voice mail)**

AUTHORIZED OFFICER REPRESENTATIVE CONTACTS

If you seek immediate approval or emergency assistance on any action that is related to the APD **Surface Use Plan**, contact the Natural Resource Specialist listed below.

If you seek immediate approval or emergency assistance on any action that is related to the APD **Drilling Plan** or other down hole issues, you should contact the Petroleum Engineer listed below.

Natural Resource Specialist

Petroleum Engineer (Primary Contact)

In the event the Petroleum Engineer named above is unavailable, please contact **one** of the following:

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Petroleum Engineer (Second Contact)

Petroleum Engineer (Third Contact)

Work Phone (307) 332-9999

Home Phone (307) 332-9999

A COMPLETE COPY OF THE APPLICATION FOR PERMIT TO DRILL, THE CONDITIONS OF APPROVAL, and APPLICABLE MAPS MUST BE FURNISHED TO YOUR FIELD REPRESENTATIVE AND BE AVAILABLE ON SITE DURING CONSTRUCTION AND DRILLING ACTIVITIES.

Rev. 2007-05-01

GENERAL

1. Approval of this Application for Permit to Drill (APD) does not warrant that any party holds equitable or legal title.
2. All lease exploration, development, construction, production, operations, and reclamation activity shall be conducted in a manner which conforms to all applicable federal, state, and local laws and regulations.
3. All lease operations are subject to the terms of the lease and its stipulations, the regulations of 43 CFR Part 3 100, Onshore Oil and Gas Orders, Notices to Lessees (NTL's), the approved APD, and any written instructions or Orders of the Bureau of Land Management (BLM) Authorized Officer (AO).
4. The approval of this APD does not grant authority to use off-lease federal lands. Facilities approved by this APD and/or Sundry Notices that are no longer included within the lease, due to a change in the lease or unit boundary, will be authorized with a right-of-way. Similarly, should unit or lease boundaries change during the life of the project, the Operator will be responsible for acquiring necessary rights-of-way for affected facilities. Failure to do so may cause the operation to be shut-in.
5. This permit is valid for a period of two years from the date of APD approval or until lease expiration or termination, whichever is sooner. APD extensions may be requested and granted for up to two additional years, but not to exceed a total sum of four years from the initial APD approval date. Should a permit extension be requested, it must be submitted prior to the permit expiration date via a Sundry Notice (Form 3160-5) to the AO for approval. If the permit terminates, any surface disturbance created under the application shall be reclaimed in accordance with the approved reclamation plan found herein.
6. The Operator shall submit a Sundry Notice (Form 3160-5) to the AO for approval prior to beginning any new surface-disturbing activities or operations that are not specifically addressed and approved by this APD.
7. The Operator may submit to the AO's Representative written requests (including documentation, supporting analysis and an acceptable plan for mitigation of anticipated impacts) for exception, waiver, or modification to this approved APD, associated Conditions of Approval (COA), or other requirements. Such written approval shall be obtained prior to commencement of operations that cause any deviation from the approved APD and associated limitations. Emergency approval may be obtained orally, but such approval does not waive the written reporting requirement.

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8. At least **48 hours prior to** beginning any APD-related construction (e.g. access road, well pad, pipeline) and/or reclamation activities (e.g. dirt-work, seeding) the Operator shall notify the BLM via internet notice.
9. All construction of the well pad, flare pit, reserve pit, roads, flow lines, production facilities, and all associated infrastructure on federal lands shall be monitored onsite by a licensed professional engineer OR designated qualified inspector (to be named at the time of construction notification) who will serve as the Operator's Compliance Coordinator to ensure construction meets the BLM-approved plans.
10. Within **24 hours** of spudding the well, the spud date shall be submitted to the BLM via internet notice. A follow-up report on Form 3 160-5 confirming the date and time of the actual spud shall be submitted to this office within 5 working days from date of spud.
11. At least **24 hours in advance** of all BOP tests, running and cementing all casing strings (other than conductor casing), pluggings, DST's and/or other formation tests, and drilling over lease expiration dates, notification shall be submitted to the BLM via internet notice.
12. Prior to construction, the Operator shall submit a production facility layout for approval (Onshore Order 1, Section 111. D.4.d. and D.4.i., or Section VIII. A.) that includes permitted location boundaries, production facility placement, access road inlet, and cut/fill slopes.
13. A site facility diagram (Onshore Order 3, Section 111. I. and 43 CFR 3 162.7-5(d)) for the purpose of a site security plan (Onshore Order 3, Section 111. H. and 43 CFR 3 162.7-5(c)) shall be filed no later than 60 calendar days following first production.
14. Use of any tank heater/burners in production storage tanks must be approved by the AO prior to installation and/or use. Failure to obtain approval for installation/use of tank heater/burners in any production storage tanks may result in a Written Order (WO), Incidence of Non-compliance (INC), assessments and/or potentially a Shut-In Order.
15. No below or partially below ground fluid storage/containment tanks or vessels are to be used without prior approval of the AO. Below or partially below ground fluid storage/containment tanks or vessels shall require systems for the prevention, containment, detection, and monitoring of any below ground leakage (e.g. secondary containment and leak detection/monitoring systems, etc.). A production facility layout depicting the proposed vessel construction and installation/location must be submitted for prior approval via APD or Sundry. As applicable, all subsurface vessels must comply with the Wyoming Storage Tank Act of 2007 (W.S. 35-1 1-14-29) and/or the Wyoming DEQ Underground Injection Control (UIC) Program.
16. No pipelines or flow-lines or related rights-of-way are approved with the APD. Well pipelines or flow-lines and related rights-of-way, including plans of development, must be submitted for approval via Sundry Notice or Right-of-Way Application (SF-299) as applicable, prior to construction.
17. The BLM AO may request and schedule a meeting with the Operator or Operators representative to discuss the APD and terms and COAs. Such meeting would be held in the BLM offices, within 30 days of the APD approval.
18. The BLM AO may request to schedule a meeting with the Operator or Operators representative (dirt contractor, construction contractor, surveyors, etc.) to discuss construction and related requirements. Such meetings would be held in the BLM office and in the field within 60-90 days prior to surface disturbance and construction. The BLM AO may require surveys and re-stacking of all project construction and disturbance prior to field inspection.

OPERATIONS

1. Upon request, Operator must be prepared to provide copies of applications for, and approved copies of, federal, state, and local operating permits.
2. All survey monuments found in the area of operations shall be protected. Survey monuments include, but are not limited to: General Land Office and BLM Cadastral Survey Corners, reference corners, witness points, U.S. Coastal 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 of the above, the Operator shall immediately report the incident, in writing, to the AO and the respective installing authority if known. Where General Land Office or BLM Right-of-way monuments or references are obliterated during operations, the Operator shall secure the services of a registered land surveyor or a BLM cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the "Manual of Surveying Instructions for the Survey of the Public Lands in the United States," latest edition. The Operator shall record such survey in the appropriate county and send a copy to the AO. If the Bureau cadastral surveyors or other federal surveyors are used to restore the disturbed survey monument, the Operator shall be responsible for the survey cost.
3. If any cultural values (sites, artifacts, human remains) are observed during operation of this lease/permit/right-of-way, they will be left intact and the AO notified. The AO 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 AO. Within seven (7) days after the Operator contacted the BLM, 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.
4. The Operator will be responsible for the cost of any mitigation required by the AO. 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 be allowed to resume operations.
5. If paleontological resources, either large or conspicuous, and/or of a significant scientific value are discovered during construction, the find will be reported to the AO 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 AO. The Operator 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.
6. The Operator will be responsible for informing all persons associated with this project that they will be subject to prosecution for damaging, altering, excavating or removing any archaeological, historical, or vertebrate fossil objects or site. If archaeological, historical, or vertebrate fossil materials are discovered, the Operator shall suspend all operations that further disturb such materials and

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immediately contact the AO. Operations shall not resume until written authorization to proceed is issued by the AO.

7. Within five (5) working days, the AO will evaluate the discovery and inform the Operator of actions that will be necessary to prevent loss of significant cultural or scientific values.
8. The Operator shall be responsible for the cost of any mitigation required by the AO. 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 shall be allowed to resume operations.
9. If any dead or injured threatened, endangered, proposed, or candidate animal species is located during construction or operation, the U.S. Fish and Wildlife Service's Wyoming Field Office (307-772-2374), its law enforcement office (307-261 -6365), and the BLM Rawlins Field Office (307-328-4200) shall be notified within 24 hours. If any dead or injured sensitive species is located during construction or operation, the Rawlins Field Office shall also be notified within 24 hours.
10. If dead or injured raptors, big game, migratory birds, or unusual wildlife are observed on the project area, Operator personnel will contact the appropriate BLM and WGFD offices. Under no circumstances will dead or injured wildlife be approached or handled by Operator personnel.
11. Operators shall notify the BLM immediately if raptors are found nesting on or within 1,200 feet of project facilities and assist the BLM as necessary in erecting artificial nesting structures (ANSs) as appropriate. The use of ANSs will be considered as a last resort for raptor protection. If nest manipulation or a situation requiring a "taking" of a raptor nest becomes necessary, a special permit will be obtained from the Denver USDI-FWS Office, Permit Section and will be initiated with sufficient lead time to allow for development of mitigation. Required corresponding permits will be obtained from the WGFD in Cheyenne. Consultation and coordination with the USDI-FWS and WGFD will be conducted for all protection activities relating to raptors.
12. Operator and Operator's sub-contracted personnel shall not intentionally harm or harass wild horses, other wildlife, or domestic livestock.
13. ROW, mineral lease, mining claim, and permit holders shall monitor and control noxious and invasive weeds, according to an approved weed management plan, on project-disturbed areas and native areas infested as a direct result of the project. The control methods shall be in accordance with guidelines established by the EPA, BLM, state and local authorities. Prior to the use of pesticides, the Operator will obtain written approval from the AO - meaning an approved Pesticide Use Proposal form - showing the type and quantity of material(s) to be used, pest(s) to be controlled, method of application, etc.
14. Pesticide Use Proposals shall be submitted to and approved by the BLM AO—Weed Coordinator, prior to any application of any herbicide on the BLM lands. Pesticide Use Proposals will be tiered to the approved Reclamation Plan/Weed Management Plan.
15. Copies of daily Pesticide Application Records (required by the State of Wyoming) and Summary Herbicide Use Reports are due monthly to the BLM AO—Weed Coordinator.
16. The Operator shall be responsible for the prevention and suppression of fires on public lands caused by its employees, contractors, or its subcontractors. During conditions of extreme fire danger, surface use operations may be either limited or suspended in specific areas, or additional measures may be required by the AO. Should a fire occur, it shall be immediately reported to this office by calling 307-328-4200 and notifying the Fluid Minerals staff.
17. Emissions of particulate matter from well pad, road, and other facility construction, operation, and reclamation activities will be minimized by application of water or other dust suppressants. Dust inhibitors (surfacing materials, dust suppressants, and water) will be used as necessary on locations

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that present a fugitive dust problem. The use of chemical dust suppressants on public surface will require prior approval from the AO.

18. If groundwater or permeable/porous subsoil or bedrock is encountered upon construction of the pad or pits, or upon drilling and completing shallow holes for surface conductor, rat/mouse holes, or water supply well, the Operator must immediately notify the AO's Representative before proceeding.
19. The Operator shall comply with the Hazardous Materials Management Plan/Summary in the RMP ROD (Appendix 32) and/or the appropriate EIS ROD, including requirements to transport, store, utilize, and dispose of hazardous substances. The Operator shall maintain a hazardous substances release contingency plan that shall include, among other things, provision to notify the AO in the event of any release of hazardous substances associated with project operations. Treatment chemicals may require additional storage and containment measures and facilities depending on chemical classification and hazard.
20. If a portable sewage treatment facility is moved onto location, the well/lease Operator shall provide the BLM AO a copy of the facility Operator's notification letter to the Wyoming Department of Environmental Quality. Facility operations shall comply with BLM requirements, including unauthorized discharge notification and reclamation of disturbed surfaces.
21. Only those hazardous wastes that qualify as **exempt**, under the Resource Conservation and Recovery Act (RCRA), Oil and Gas Exemption, may be disposed of in the reserve pit. Generally, oil or gas wastes are exempt if they:
 - a) have been sent down hole and then returned to the surface during oil/gas operations involving exploration, development, or production, or
 - b) have been generated during the removal of produced water or other contaminants from the oil/gas production stream. The term hazardous waste, as referred to above, is defined as a **listed** (40 CFR 261 -31 -33) or **characteristic** (40 CFR 261.20-24) hazardous waste under RCRA.
22. 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. The Operator shall segregate, treat, and/or bio-remediate contaminated soil materials as authorized via Sundry Notice (Form 3 160-5) or dispose of contaminated soils at a permitted waste facility. Treatment chemicals may require additional storage and containment measures and facilities depending on chemical classification and hazard.
23. The Operator shall install an identification sign consistent with the requirements of 43 CFR 3 162.6 immediately upon completion of the well pad/location construction operations.
24. The Operator shall contain and remove all debris, unused equipment, and other waste materials not needed for production. Waste materials shall be disposed of at an approved disposal facility.
25. Upon APD expiration, it is the responsibility of the Applicant/Operator to see that all stakes, flagging, posts or other materials placed on the locations and/or access roads, pipelines and associated rights-of-way are removed. Operator must immediately cease all operations associated with preparing to drill the well and begin final reclamation activities of all APD related disturbance, pursuant to the approved APD Conditions of Approval and to be completed within 6 months of the APD expiration date.
26. Employee and contractor education will be conducted regarding wildlife laws. If violations are discovered on the project area, Operators will immediately notify the appropriate agency. Operators

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will implement policies designed to control off-site activities of personnel, that may result in littering or resource damage.

27. Company and contractor employees operating motorized equipment will undergo training describing the types of wildlife in the area, the circumstances under which collisions are likely to occur and the measures that can be employed to minimize collisions.

CONSTRUCTION

1. All facilities on location that have the potential to leak/spill oil, glycol, methanol, produced water, condensate, or other fluids which may constitute a hazard to the environment, public health or safety (including, but not limited to, drain sumps, sludge holdings, and chemical containers), shall be within secondary containment, impervious to those fluids, exclusive of wildlife and livestock, with animal/bird escape capability, and able to contain a minimum of 110% of the volume of the largest storage vessel, respective to content, or 100% with at least one foot of freeboard, whichever is greater, so that any spill or leakage would not drain, infiltrate, or otherwise escape to ground water, surface water, or navigable waters before cleanup can be completed (within 72 hours).
2. Construction over and/or immediately adjacent to existing pipelines shall be coordinated, and in accordance with, the relevant pipeline companies' policy.
3. Fencing shall be installed around produced water, oil, and condensate tank batteries in order to help maintain the integrity of the surrounding containment structure and to prevent livestock and wildlife from entering the area in case of a leak or spill.
4. All open vent stack equipment shall be designed and constructed to prevent entry by birds and bats and to discourage perching.
5. The immediate repair/replacement (to BLM standards) of any range infrastructure breached, altered, or damaged by construction, drilling, or operation activities related to this APD shall be the responsibility of the Operator. All fence relocations will be in accordance with BLM approval.
6. Construction, maintenance, and reclamation operations with frozen material or during periods when the soil material is saturated is expressly prohibited. If equipment, including licensed highway vehicles, creates ruts in excess of four (4) inches deep, the soil shall be deemed too wet to adequately support maintenance and/or heavy equipment.
7. Accumulated snow present on the ground at the outset of construction, maintenance, or reclamation activities shall be removed before the soil is disturbed and piled downhill and/or downwind from the disturbed area. Equipment used for any non-construction snow removal operations will be equipped with 6" shoes to ensure blades do not remove topsoil or vegetation. Written approval must be obtained before snow removal related to a federal action but outside of designated disturbance areas is undertaken.
8. When blading/removing snow, drifts/berms shall be constructed with a gap of 35 yards every 1/4 mile, to allow unobstructed movement of wildlife, livestock and human activities.
9. If right-of-way fencing is required, it will be kept to a minimum and the fences will meet the BLM/WGFD approval for facilitating wildlife movement. Wildlife-proof fencing will be used only to enclose areas that are potentially hazardous to wildlife species or reclaimed areas where it is determined that wildlife species are impeding successful vegetation establishment.
10. Snow fences, if used, will be limited to segments of one-quarter mile or less. In addition, escape openings will be provided along roads in big game crucial winter ranges, as designated by the BLM, to facilitate exit of big game animals from snowplowed roads.

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11. Clearly remove, segregate, and delineate from all other spoils, all available topsoil from constructed locations and surface disturbances including areas of cut and fill. Stockpile and clearly identify topsoils at the site for use in reclamation on all areas of surface disturbance (well pads/locations, roads, pipelines, etc.).
12. Plugs or embankments providing wildlife with access out of and across open pipeline trenches shall be installed, at minimum, every 1,320 linear feet along open pipeline trenches.
13. No construction and/or reclamation shall block or change the natural course of any drainage, nor shall topsoil, waste, or fill material 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 active floodplains. All spoils will be placed where they can be retrieved without creating additional surface disturbance and where they do not impede and/or contribute sediment to watershed and drainage flows. The Operator shall also reconstruct and stabilize stream channels, drainages, and ephemeral draws to exhibit similar hydrologic characteristics that were found in stable, naturally occurring and functioning systems.
14. Drainage and run-on/runoff shall be diverted away from all new construction naturally or through the use of diversion ditches/berms and/or soil berms or stockpiles. All drainage structures shall approximate topographic contour lines, have a grade no greater than 0.5 – 1 percent, and shall release water onto natural undisturbed ground without causing additional and/or accelerated erosion. Drainage structures shall not discharge directly into/onto natural drainages/channels, and/or use riprap or other armoring to protect from erosion (BLM Manual 9113). Water-bars, waddles, hay bales, and/or silt fences shall be used as needed to reduce surface runoff velocity and promote upland sediment deposition, thus reducing drainage/channel sedimentation and erosion.
15. Silt fences, if needed, would be installed after topsoil removal and before pad leveling begins and must remain in place until interim reclamation is complete and there is adequate vegetation present to stabilize the soil. Silt fences would be constructed in locations where surface erosion is evident or potential for surface erosion exists such as areas of steep slopes or highly erosive soils. Fences would be installed at the inside edge of disturbance.
16. Silt fences would be constructed using metal posts that are at least 5 feet long with at least 2 feet in the ground (3 feet above ground) with 8 feet spacing if a wire re-enforcement backing is used or 6 feet spacing if no wire backing is used. The fabric is to be toed into the ground at the base of the fence a minimum of 8 inches deep and an 18 inch overlap is required when splicing two fences together. The fabric is to be installed on the uphill side of the metal posts and attached to the posts at least every 6 inches along the length of the post. Silt fences are to be inspected at least once a month or 48 hours after a rain storm event. If holes in the fence or undercutting of the fence are found, repair is required within 48 hours of discovery. When silt accumulates to a height equal to two-thirds the height of the fabric, the silt is to be cleaned out and deposited on the excess spoils pile.
17. Sediment fences, straw wattles, erosion mats and/or hay bales should be used to minimize erosion and sediment transport on disturbance area.
18. If temporary surface pipelines, as authorized by the AO, are used to transport water, they shall be placed/removed when the ground surface is dry. Surface blading prior to line placement is prohibited. The pipelines must be removed within 30 days after well completion (or determination of inactivity).
19. Construction control stakes shall be placed as necessary to ensure construction of the well pad, topsoil stockpile, spoil pile, and outer limits of the area to be disturbed in accordance with the specifications outlined in the APD. The Operator shall assume full responsibility for protecting all stakes and offsetting any additional stakes or grades which may be necessary.

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20. All production facilities including but not limited to tanks, separators, dehydrators, meters, etc. would be co-located on nearby producing well locations, in accordance with an approved Sundry Notice of Intent for construction. All wells, above-ground structures, production equipment, tanks, transformers and insulators not subject to coloring requirements for safety would be painted the color of “non reflective Shale Green”.
21. To protect the identified ferruginous hawk nests, Greater Sage-grouse leks and wintering big game habitat, the project proponent will install housing and/or muffler(s) around equipment that exceeds 55 dBA (ES-7, 4-69, 4-157 AR EIS)
22. Cathodic protection wells would be drilled on the existing well pad, placed so as not to interfere with re-contouring of cut and fill slopes during interim reclamation, designed and constructed to prevent commingling and contamination of water aquifers. The AO would be notified of any water flows at surface and the problem would be resolved promptly.
23. All stacks, exhauster, or vent pipes shall have anti perch cones and vent covers to prevent bat or small bird entry and entrapment.

ROADS

1. All access roads and drainage control structures, whether existing or newly constructed, shall be both constructed to resource road standards and regularly maintained in a safe and usable condition as outlined in BLM Manual, Section 9113. A regular maintenance program may include, but is not limited to, blading, ditching, culvert installation, dust control, and gravel surfacing or other activities as specified by the AO. The Lessee and/or Operator shall enter into a maintenance agreement with all other "authorized users" of the common access road(s) to the well site. The costs of road maintenance in dollars, equipment, materials, labor, and other related expenses shall be shared proportionally among the "authorized users." Upon request, the AO shall be provided copies of any maintenance agreement or agreements.
2. Access roads would be constructed to the BLM Road Standards in such manner as to minimize cuts and fills and minimize erosion and sedimentation and maximize reclamation, as determined during the onsite.
3. **Engineered Roads** and/or **culverts** shall be designed in accordance with the Engineered Road Requirements, with four copies of the following information submitted to the BLM project NRS for approval, prior to construction.
 - a. Plan, profile and typical cross section.
 - b. Centerline stakes shall be placed in the field, with culvert locations marked on the centerline, for the BLM review before final design approval. In addition, slope stakes shall be placed at the top of the cut and the bottom of the fill for those portions of the road that are engineered. All roadways cuts and fills shall be designed to balance from earthwork within the ROW, or an approved borrow source.
 - c. Perform a “hydrologic analysis” to design culverts sized to pass a 25-year precipitation event with no head developed at the culvert inlet.
 - d. The submitted plans must be signed/certified by a professional engineer and will include any special notes for construction and cut/fill balance notes.
4. All Operators and Operator's representative vehicles are restricted to authorized travel routes only and shall not use any other access route, e.g.; two-track roads, trails, and pipeline rights-of-way to access the drill/ell pad and any ancillary facilities.
5. Two-track roads shall not be cut-off as a direct result of construction, maintenance, or reclamation of the well access road or associated well facilities, unless authorized by the BLM.

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6. Prior to construction, road(s) shall be surveyed and staked with construction control stakes set continuously along the centerline at maximum 100-foot intervals (less where needed to be inter-visible) and at all tangent and curve control points, fence or utility crossings, and culverts. In addition to centerline stakes, slope stakes shall be placed at the top of the cut and the bottom of the fill for those portions of the road that are engineered.
7. Before proposed road construction activities begin, the topsoil must be bladed to the side of the road and stockpiled. The topsoil stockpile shall be contoured so as to prevent water ponding or flow concentration. Once the borrow ditch and the cut slopes are constructed, cleared vegetative material and topsoil that is windrowed shall be spread back onto the cut/fill slopes of the road, removing any windrows or berms remaining at the edge of the road.
8. The minimum travel-way width of the immediate access road will be 14 feet with turnouts at least 10 feet in width. No structure will be allowed to narrow the road top. The inside slope will be 4: 1. The bottom of the ditch will be a smooth V with no vertical cut in the bottom. The outside slope will be 2:1 or flatter. After the road is crowned and ditched with a .03-.05 ft/ft crown, the topsoil and windrowed vegetative material shall be pulled back down on the cut slope so there is no berm left at the top of the cut slope. Turnouts will be spaced at a maximum distance of 1000 feet and will be inter-visible. If the access road crosses a floodplain, the ditch shall be flat-bottomed so as to provide material to raise the road, unless otherwise approved by the AO.
9. If soils along the access road route are dry during road construction, use, and/or maintenance, fresh water shall be applied to the road surface to facilitate soil compaction and minimize soil loss as a result of wind erosion.
10. Construction and surfacing of the new access road shall be complete prior to moving drilling equipment onto the well pad and the presence of heavy vehicular traffic. Compact the top foot of sub-grade in even six (6) to eight (8) inch lifts to established standards, adding water as needed for compaction. Surface with an appropriate grade of gravel to a minimum depth of four (compacted) inches.
11. All cattle guards shall be designed and maintained consistent with BLM standards and shall be a minimum of 16 feet wide and 8 feet long; set on either timber, pre-cast concrete, or cast-in-place concrete bases at right angles to the roadway. They shall have drop-down wings and an adjacent 16 foot wide tubular bypass gate; not narrow the road surface; and have fence and end panels on either side constructed using 3 posts with “H” braces.
12. All culverts shall be a minimum of 18 inches in diameter. Culverts shall have a minimum of 12" of fill or 1/2 the pipe diameter, whichever is greater, placed on top of the culvert, and shall be of length sufficient to allow at least 12" of culvert to extend beyond the toe of any slope. The inlet and outlet shall be set on grade. No rocks shall be used in the bed material and no rocks greater than 2" in diameter will be immediately adjacent to the culvert. The entire length of pipe shall be bedded on native material before backfilling, which shall be completed using unfrozen material and rocks no larger than two inches in diameter; compact the backfill evenly in 6" lifts on both sides of the culvert. A permanent marker shall be installed at both ends of the culvert to help prevent traffic from damaging the culvert. Additional culverts will be placed in the new access road as the need arises or as directed by the AO.
13. Wing-ditches shall be staked and constructed at a slope of .5 to 1.0 percent down slope unless otherwise approved by the AO. All wing/drainage ditches and culverts shall be kept clear and free flowing, and shall also be maintained in accordance with the original construction standards. Drainage structures shall not discharge directly into/onto natural drainages/channels, and/or use riprap or other armoring to protect from erosion (BLM Manual 9113).

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14. Low water crossings shall be constructed perpendicular to the channel and at original channel elevation in a manner that will not block or restrict existing channel flow. Excavated material shall be stockpiled for use in reclamation of the crossings.

PITS

1. All oil and gas pits that could contain fracture/stimulation fluids, recycled pit fluids, or produced water, except those only containing fresh-water based constituents, are required to be lined with an impermeable (12 mil minimum with a permeability less than or equal to 1×10^{-7} cm/sec) liner. The liners shall be physically and chemically compatible with all substances which it may contact and shall be of sufficient strength and thickness to withstand normal installation and use, and installed so that it will not leak. The liner shall be installed over a smooth sub-grade, matting, or fill materials (e.g. sifted dirt, sand, or bentonite) free of pockets, loose rocks, and other objects that could damage the liner.
2. The only fluids/waste materials which are authorized to go into reserve pits are RCRA-exempt exploration and production wastes. Any evidence of RCRA non-exempt wastes being put into the reserve pit may result in the BLM AO requiring specific testing and closure requirements.
3. All pits are required to maintain a minimum of 2 feet of freeboard between the liquid level and the top of the liner. If operations cause fluid levels in pits to rise above the required freeboard, immediate notification shall be provided to the AO with concurrent steps taken to cease the introduction of additional fluids, until alternative containment methods can be approved.
4. Flaring of gas into the reserve or completion pits will not be allowed without prior approval from the AO. Flaring into lined pits is prohibited.
5. All pits shall be kept free of trash, debris, solid wastes, and other unauthorized waste materials including oil and liquid hydrocarbons.
6. For the protection of livestock and wildlife, all pits and open cellars shall be fenced on all sides, with corner bracing, immediately upon construction. Reserve, flare, completion, and production pits shall be adequately fenced during and after drilling operations until pits are reclaimed so as to effectively keep out wildlife and livestock. Operator shall, within ten (10) days of discovery, remove any floating hydrocarbons from pit surface. Approved netting (mesh diameter no larger than one inch) is required over any pit that contains or is identified as containing hydrocarbons or hazardous substances (per RCRA 40 CFR Part 26.1 or CERCLA Section 101 (14) (E)).
7. Pits shall be dried, backfilled, and closed within six (6) months from well completion (total depth) or well plugging. Pits must be void of all free fluids prior to backfilling. Pit trenching or squeezing is prohibited. Pits may be dewatered/dried in the following manner: natural evaporation, mechanical aeration, chemical and mechanical solidification (e.g. with fly ash, cement kiln dust, etc.) and/or hauled to an approved DEQ disposal site. The installation/operation of any sprinklers, misters, aerators, pumps, hoses, and related equipment shall ensure that water spray or mist does not drift outside of the pit. All other dewatering/drying, removal or disposal methods not listed in the APD and or COAs shall have prior written approval from the AO.
8. Pits, once dry, shall be backfilled and compacted with a minimum cover of five (5) feet of soil, void of any topsoil, vegetation, large stones, rocks or foreign objects. The pit area shall be mounded to allow for settling and to promote positive surface drainage away from the pit. Before backfilling synthetically lined reserve pits, those liner portions remaining above the "mud line" shall be cut off as close to the top of the mud surface as possible and disposed of at an approved solid waste disposal facility. The pit bottom and remaining liner shall not be trenched, cut, punctured, or perforated.

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FLUIDS

1. All storage, removal and disposal of produced water must be in accordance with and comply with Onshore Oil and Gas Order No. 7. Produced water must be disposed of at a permitted off-site commercial disposal facility, unless approved otherwise by the BLM AO. The onsite storage/disposal of produced water, in open pits, tin horns, sumps, etc., is not authorized except as follows: 1) produced water from the well subsequent to drilling may be disposed of in the approved well site reserve pit (for up to 90 days), and/or 2) used for well drilling or completion, upon prior written approval from the AO via approved APD or Sundry. Produced water may be transported and used for drilling/completion operations from approved fee, state, or federal wells/leases to federal wells/leases within the developed field/unit and/or EIS area, subject to WOGCC and BLM approval.
2. Pit drilling fluids may be transferred from a reserve pit at an approved federal well location to a lined reserve pit at another approved federal well location, for the purpose of drilling the well. Transfer/reuse shall only be permitted when transfer is by a lease Operator from one or more pits to another pit or pits on the Operator's federal lease/unit or adjacent federal lease. Unless approved by this APD, the transfer and reuse of pit drilling fluids shall require prior written approval from the AO, via a Sundry Notice (Form 3160-5).
3. The AO may authorize the use of produced water or reuse of pit drilling fluids for drilling when: 1) surface casing has been set with fresh water through **any** and all possible fresh water zones, 2) use is for drilling/completion only, and 3) the receiving pit is lined.
4. Pit fluids may be transferred by a lease Operator from one or more pits to another (lined) pit or pits on the Operator's federal lease/unit or adjacent federal lease, for the purpose of fluid consolidation and mechanical/chemical drying and disposal. The 6-month pit closure requirement shall apply. Unless approved by this APD, the transfer of pit fluids for consolidation/disposal shall require prior written approval from the AO, via a Sundry Notice (Form 3160-5).
5. Initial Operator requests for the transport and use/reuse of produced water or pit drilling fluids or the transfer/consolidation of pit fluids shall include: 1) the potential locations/leases in which fluids are to be transferred to and from, and 2) the potential quantity to be moved. Requests shall be submitted for prior written approval from the AO via APD or Sundry Notice. Upon completion of transport, use/reuse or consolidation, the specific information on leases, units or locations and quantities transferred shall be submitted to the AO, via Sundry Subsequent Report. Transportation of fluids shall be along approved haul routes and authorized right-of-ways. Temporary surface pipelines may be authorized by the AO for the transfer of fresh water only, and NOT for produced water or pit fluids.
6. Drilling water sources/supplies or any changes to drilling water sources/supplies, the fate of drilling/completion fluids, routes and means of fluid transportation/disposal, and location or method of produced water disposal requires prior written approval from the AO via approved APD, Sundry Notice or Right-of-way (ROW) as applicable. The drilling of water wells on federal lands shall require prior BLM approval via APD, Sundry, or ROW as applicable, in addition to State Engineer Office (SEO) approval.

RECLAMATION

1. A reclamation plan shall be submitted with each APD. The reclamation plan will address short-term stabilization to facilitate long-term reclamation. The reclamation plan is considered complete when all the reclamation requirements described in the BLM Reclamation Policy and the Rawlins RMP have been addressed, the techniques to meet the reclamation requirements are described in detail, and the BLM concurs with the reclamation plan. Surface disturbance will not be allowed until the reclamation plan is submitted, complete and approved by the BLM Authorized Officer.
2. The Reclamation Plan shall include:

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- a. Prior to any surface disturbing activities, vegetation inventories shall be conducted on each ecological site and they shall be mapped. At a minimum, vegetation inventories shall be conducted for basal cover and vegetative life form type and frequency (including individual invasive and noxious weed species) and include at least one photograph of each transect. An inventory of 100 to 400 points (depending on the amount and type of vegetative cover) using transects is highly recommended. The inventory method shall be included within the Reclamation Plan for approval.
 - b. Prior to the completion of interim and final reclamation, the Operator shall sample and test soils for suitable surface and subsurface physical and chemical properties. At a minimum the soil shall be tested for texture, electrical conductivity, reactivity, pH and photographed. At least one photograph at each soil pit is required which also shows the vegetation community. These tests are to be used by the Operator to evaluate the suitability of the soils or seedbed for seed germination and potential for vegetative success under the approved reclamation plan.
 - c. Prior to the completion of interim and final reclamation and seeding, the Operator shall submit to the BLM AO, via Sundry Subsequent Report (Form 3160-5), the results of all vegetative and soils surveys and tests. Should pre-disturbance and interim/final reclamation test results differ to the extent that the soil requires amendment(s) or the proposed seed mix requires modification to achieve the desired ecological and plant community, the Operator shall submit a revised reclamation plan via Sundry Notice of Intent (NOI) (Form 3160-5). The Sundry NOI shall outline any proposed soil amendments, treatments, additives or modifications, seed mix changes and other necessary revisions to the reclamation plan.
 - d. Provisions to meet Standards and Guidelines for Healthy Rangelands (43 CFR 4180.1) and obtaining desired plant communities:
http://www.blm.gov/wy/st/en/field_offices/Rawlins/range.html
 - e. Mitigation for direct, indirect and cumulative livestock forage losses and impacts to livestock grazing (including impacts to livestock operations and production performance). This could include reclamation that would replace forage losses from surface disturbing activities, avoiding trailing routes and livestock gathering areas and seasonal restrictions (such as during lambing and calving in specific areas).
3. The annual monitoring report shall be submitted by March 1 of each year. This report shall include reclamation and restoration efforts, including seeding/re-vegetation, invasive plant treatment/control, and soil stabilization and erosion prevention. The report shall be in accordance and consistent with the BLM and/or RFO Reclamation Policy, RMP (ROD) and Appendix 36, and the field/project level EA/EIS, as applicable. The yearly Operator report would include surface disturbance and reclamation data for the previous calendar year, utilizing the BLM RFO Disturbance (As-Built) Reclamation Database. The RFO surface disturbance and reclamation database, as well as information on the database and submission of the data, will be available at:
http://www.blm.gov/wy/st/en/field_offices/Rawlins/oil_and_gas.html, or by contacting the RFO, Minerals and Lands, Supervisory Natural Resource Specialist/Physical Scientist at 307-328-4200 for further information.
 4. Reclamation plans and procedures, including those for seeding/re-vegetation and weed control, shall be modified and revised as necessary in order to achieve desired results and requirements. .
 5. Reclamation earthwork for interim and/or final reclamation shall be completed within six months of well completion or well plugging (weather permitting) and shall be consistent with the approved reclamation plan. Reclamation earthwork consists of:
 - a. Backfilling pits,
 - b. Re-contouring and stabilizing the well site, access road, cut/fill slopes, drainage channels, utility

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- and pipeline corridors and all other disturbed areas, to approximately the original contour, shape, function and configuration that existed before construction (any compacted backfilling activities would ensure proper spoils placement, settling and stabilization,
- c. Surface ripping, prior to topsoil placement, to a depth of 18-24 inches deep on 18-24 inch centers to reduce compaction,
 - d. Final grading and replacement of topsoil,
 - e. Surface-roughening and other techniques such as snow fencing to increase soil moisture retention and reduce compaction. Surface soil material can be pitted or roughened (not exceeding the applied topsoil depth) such that the entire reclamation area shall be uniformly covered with depressions constructed perpendicular to the natural flow of water and/or prevailing wind, and
 - f. Seeding.
6. Interim or final reclamation of all surface disturbed areas shall commence and be completed within one year of initial disturbance unless needed for well production operations, or otherwise approved by the AO. Interim reclamation for those areas not needed for production operations, including unnecessary access roads and pipeline right(s)-of-way, shall commence and be completed within six months of well completion. Stockpiled soils shall be distributed on disturbed areas and the production pad shall be as small as possible to allow for safe and prudent production operations. Some topsoil may be reserved for final reclamation.
 7. Any topsoil to be stockpiled for longer than one year shall be spread in layers not to exceed two feet maximum thickness, including topsoil underneath the pile and appropriately identified/signed as topsoil. These soil stockpiles shall be seeded with a prescribed seed mixture or sterile cover crop (included within the approved reclamation plan) and covered with mulch to reduce erosion and discourage weed invasion.
 8. Temporary fencing of the reclaimed well/facilities locations for the first two growing seasons after either interim or final seeding may be required to exclude livestock and wildlife and to help ensure better re-vegetation success.
 9. Any subsequent re-disturbance of reclamation shall be reclaimed within six months by the same means described in the approved reclamation plan.
 10. A Notice of Intent to Abandon (Form 3160-5) must be submitted and approved prior to any well abandonment activities. A joint inspection of the disturbed areas may be required and attended by the BLM and the Operator (or Operator's Designee), the primary purpose of which is to review and agree to the existing (or a new) abandonment and/or final reclamation plan. Earthwork must commence and be completed within six months from the date of plugging and abandonment and seeding no later than the next immediate growing season upon the completion of earthwork. All reclamation should be accomplished as soon as possible after the disturbance occurs, with efforts continuing until a satisfactory revegetation cover is established and the site is stabilized (three to five years) (RMP ROD Appendix 13-8).
 11. The Operator shall submit a Final Abandonment Notice (FAN), using Form 3160-5, to the AO when adequate reclamation of surface-disturbed areas has been completed. This FAN indicates that the Operator believes the location is considered ready for final inspection, with adequate vegetation cover and species diversity. Upon receipt of the FAN, the BLM will conduct a field inspection prior to releasing the bond liability for this location.
 12. Re-vegetation shall consist of species occurring in the surrounding natural vegetation and/or included in the approved seed mix as deemed desirable by the BLM or private surface owner in

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review and approval of the reclamation plan. Inter-seeding, secondary seeding, or staggered seeding may be required to accomplish re-vegetation objectives. The seed mixture(s) shall be planted in the amounts specified in pounds of pure live seed (PLS)/acre. There shall be no primary or secondary noxious weed seed in the seed mixture. Seed should be tested and the viability testing of seed would be done in accordance with State law(s) and within nine months prior to purchase. Commercial seed would be either certified or registered seed. The seed mixture container would be tagged in accordance with State law(s) and available for inspection by the AO. Since seeds are of different sizes and require different planting depths, the Operator would use the appropriate equipment to ensure that the seed mixture is correctly and uniformly planted over the disturbed area. Seed would be broadcast if drilling is not possible. When broadcasting the seed, the pounds per acre are to be doubled. The seeding would be repeated until a satisfactory stand is established as determined by the AO

13. All practicable measures would be utilized to minimize erosion and stabilize disturbed soils on or adjacent to the disturbed and reclaimed area. There would be no evidence of mass-wasting, head-cutting, large rills, gullies, down cutting or overall slope instability. Should the use or storage of hay, straw, or mulch be necessary, the Operator is required to use certified weed-free hay, straw and mulch on the BLM lands.
14. Evaluation of growth and success shall be conducted as per RMP ROD (Appendix 36). If the treatment area is found, through Operator site-specific monitoring data, to be successfully reclaimed, Operator monitoring to confirm reclamation success shall continue for at least five growing seasons. The site shall also comply with additional management needs, including control of weed infestations. Success criteria as defined by the RMP is: criteria based on pre-disturbance surveys or surveys of adjacent undisturbed natural ground cover and species composition (which the Operator will do prior to disturbance) or eighty percent of pre-disturbance ground cover, ninety percent dominant species, no noxious weeds, and erosion features equal to or less than surrounding area.

DRILLING

No production from the wells drilled on this well pad location should start production UNTIL Sundry Notices granting variances from Onshore Orders 4 and 5 as related to commingling and allocations are approved.

The drilling operations for this well shall be conducted in accordance with the Onshore Oil and Gas Order No. 2 as provided for in 43 CFR 3164.1. This includes the well control equipment and its testing, the mud system and associated equipment, and the casing and cementing. Any deviation from this approved drill plan pursuant to these conditions of approval requires prior approval of the petroleum engineer of the Rawlins Field Office.

BOPE

1. All BOPE shall meet or exceed the requirements of a **5M** system as set forth in Onshore Oil and Gas Order No. 2.
2. **All choke lines from the drilling spool forward, shall be straight steel lines flanged at both ends, unless turns use tee blocks or are targeted with running tees and shall be anchored to prevent whip and reduce vibration.** All choke lines shall have the same pressure rating as the BOP stack and choke manifold. The diameter of this line shall be a minimum of 2 inches for a 2M BOP system and a minimum of 3 inches for a 3M and greater BOP system.
3. **When an Operator chooses to use flexible lines for choke operations equipment they must:**

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- a. Make a request for approval in advance of its use. The request must provide documentation showing the flexible hose was design specifically for the purposes of choke operations.
- b. The request for approval must include the Manufacturer's technical specifications for the flexible hose(s) under consideration. Specifications must include as a minimum:
 - 1) The smallest internal diameter of any section or part of the flexible hose assembly.
 - 2) The rated working pressure and temperature of the flexible hose assembly.
 - 3) The Minimum Bend Radius (MBR) at rated working pressure.
- c. Manufacturer's technical specification must be kept on site and available for inspection at all times. Flexible hoses once approved and installed must match the original manufacturer's technical specifications regarding all stated dimensions and ratings. Flexible hoses which have been altered, repaired, or remanufactured in any way from their original specification without approval or certification from the original manufacturer will not be allowed. **If the specifications are not available on site or the hose does not match the specifications, operations may be shut down until correction is accomplished.**
- d. Each flexible hose must be marked/stamped by the manufacturer with the following information clearly legible and accessible on the steel sections of each end of the flexible hose (end fittings, couplers, flanges, stiffeners, etc.):
 - 1) Name or identification of the manufacturer.
 - 2) Serial number.
 - 3) The internal diameter of the flexible hose assembly.
 - 4) The rated working pressure of the flexible hose assembly.
- e. Flexible hoses must be firmly anchored to prevent excessive whip or vibration. Anchors must be constructed in a manner capable of withstanding whip and vibration given the rated working pressure and flow rates of the well control equipment.
 - 1) Anchors must be attached to the flexible portion of the hose and not to the "metal end assemblies" (e.g. hubs, flanges, stiffeners, etc.)
 - 2) Flexible hoses of twenty (20) feet or more in total length must be supported in order to keep the hose fairly level and secure from excessive movement. Leveling support locations must also be anchored adequately to withstand whip and vibration under rated working pressures and rated flowing conditions.
 - 3) Each and every bend in the flexible hoses exceeding 45' must be anchored.
- f. Use, operation, and maintenance of flexible hoses will comply fully with the manufacturer's specifications unless otherwise specified by the AO.
- g. Minimum diameters for choke lines will comply with the requirements of Onshore Order No. 2, III.A.2.a.
- h. Flexible hose end connections will meet all minimum requirements of Onshore Order No. 2. For example 3M systems and above require "All BOPE connections subjected to well pressure shall be flanged, welded, or clamped".
- i. Flexible hoses used in Hydrogen Sulfide (H₂S) operations must provide proof the hose is approved by the manufacturer for use in this type of environment.
- j. Flexible hoses which are deformed (kinks, flattened areas, dents, significant surface abrasions or wear, permanent bends, etc) from the manufacturer's design and operational specification will be replaced upon discovery.
- k. It is the intent of the BLM in Wyoming to implement the Reaffirmed 2001 API publication (SPEC 16C) standard for Flexible choke hoses as a uniform requirement within the next three

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years. Operators during routine maintenance or replacement of these hoses may want to consider hoses which can meet the **API** (SPEC 16C) standard.

4. A Form 3160-5 (subsequent Report Sundry Notice) shall be submitted to the AO's representative within five (5) working days following the test reporting the test results. The results reported will be a copy of the third party BOP test report including time and pressure charts, accumulator tests, notes/results made while performing the test, and recordation of any repair of BOP equipment made.

Casing and Cementing

1. For all **5M** BOPE systems or greater, a pressure integrity test of each casing shoe shall be performed. The formation at the casing shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
2. Pea Gravel or other material shall not be used to fill up around the surface casing in the event cement fall back occurs.
3. A Form 3160-5 (Subsequent Report Sundry Notice), along with a copy of the service company's materials ticket and job log shall be submitted to this office within 5 working days following the running and cementing of all casing strings.
4. Any change in the casing and cement design will be approved by the AO prior to the running of the casing string and/or cementing.
5. No freshly hard-banded rough carbide pipe/collars will be rotated in the surface casing.

Mud Program

1. Drilling of the surface casing will occur with fresh water only.
2. If a temporary surface pipeline is used to transport drilling water, the pipeline shall be laid and removed when the ground surface is dry so as to minimize surface disturbance. No blading or other alteration of the ground surface shall be allowed.

Directional Drilling

1. Per 43 CFR 3160.0-9 and 3162.4-2 for all wells drilled directionally, as Operator, you will be required to file with the Well Completion Report, Form 3160-4, a Certified Directional Survey.
2. This Certified Directional Survey, required by 1) above, will include a Directional Survey Certification Form as certified by the directional contractor and the Operator Bottom Hole Location Certification Form as specified in the Wyoming Oil & Gas Conservation Commission (WOGCC) letter to All Wyoming Oil and Gas Operators dated October 15,2009, as may be amended from time to time.
3. The requirements for a complete Certified Directional Survey are the same as found in the attachment to WOGCC letter to All Wyoming Oil and Gas Operators dated October 15, 2009, as may be amended from time to time.

Other

1. In the event down hole operations threaten to or cause fluid levels in the reserve pit to encroach on the required 2-foot freeboard, immediate notification shall be provided to the AO with concurrent steps taken to minimize the introduction of additional fluids until alternative containment methods can be approved.
2. Rat and mouse holes (or any sub-grade excavations for drilling operations) shall be filled and compacted, with appropriate native materials, immediately upon release of the drilling rig from the location.

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3. Any permanent plug placed in the well during drilling and/or completion operations must have **prior approval** of the AO.
4. As provided in NTL4A, gas produced from this well may not be vented or flared beyond an initial test period, 30 days or 50 MMcf, whichever first occurs, without approval of the AO.
5. Drill Stem Tests shall meet or exceed the requirements set forth in Onshore Oil and Gas Order No. 2.
6. All usable water, hydrocarbon and other mineral zones must be protected.
7. Pursuant to Onshore Oil and Gas Order No. 2.III.B.1.e. and the Rules and Regulations of the Wyoming Oil and Gas Conservation Commission (Chapter 3, Section 22.(a) (i)), the **Operator shall report all fresh water flows encountered while drilling to the AO (Petroleum Engineer) prior to the running the next string of casing. The** reported information shall include a) well name, number and location, b) the date the water flow was encountered, c) depth at which the water flow was encountered and d) estimated water flow rate into the well bore. The Operator shall file a Form 3 160-5 (Subsequent Report Sundry Notice) of this same information within 30 days of releasing the drilling rig.
8. Open hole logs consisting of deep, medium and shallow resistivity curves, a porosity log and gamma-ray and SP curves shall be run at TD to at least 50' above any zone which may be considered to be productive of hydrocarbons.
9. **Completion Report:** In accordance with 43 CFR 3160, Form 3160-4 (Well Completion or Recompletion Report and Log) must be submitted to the AO within 30 days after completion of the well or after completion of operations being performed, whether the well is completed as a dry hole or as a producer. Copies of all open hole and cased hole logs, core descriptions, core analyses, well test data, geologic summaries, sample descriptions, daily drilling reports, daily completion reports, formation test reports, stimulation reports, directional survey (if applicable), and all other surveys or data obtained and compiled during the drilling, completion, and/or work over operations, shall be included with Form 3160-4. **Copies of all logs, as noted above, shall be submitted to this office on a compact disc in a ".las" digital file format and shall have a precision readout increment of 0.5 feet. Any Mud Log copy submitted to this office shall be in a ".tif" format.**
10. **Well Abandonment:** In the event abandonment of the hole is desired, oral approval may be granted by the AO (Petroleum Engineer), but must be followed within 5 days with a Form 3160-5 (**Sundry Notice of Intent to Abandon**) which will give the complete plan of operation that will be utilized in the plugging. Unless the plugging is to take place immediately upon receipt of the oral approval, the AO (Petroleum Engineer) must be notified at least 24 hours in advance of the plugging of the well in order that this office can witness the plugging operation. Failure to obtain approval prior to commencement of abandonment operations shall result in immediate assessment under 43 CFR 3163.1 (b)(3). The following will occur if the well is abandoned:
 - a. In order to reduce the visual impact of the reclaimed well site, the casing shall be cut-off at the base of the cellar or 3 feet below the final restored ground level (whichever is deeper). The well bore shall then be covered with a metal plate at least 1/4 inch thick and welded in place. On the metal plate shall the following information be permanently inscribed: i) company/Operator name, ii) lease number, iii) well name/number, and iv) well location description to the nearest quarter-quarter section (40 acres).
 - b. A GPS re-verification and certification of the abandoned well location shall be made for coordinates of degrees latitude and longitude with accuracy to the sixth decimal place. This well location re-verification shall be noted on the Subsequent Report Sundry Notice of Abandonment.

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- c. A temporary steel fence post with an attached placard indicating the well name/number and location shall be placed adjacent to the well bore until final well site reclamation has been performed and the Final Abandonment Notice (FAN) is approved.
- d. Within 30 days following completion of the well abandonment, you shall file with this office, subsequent Report of Abandonment (Form 3 160-5). To be included with this report is where the plugs were placed, volumes of cement used, well bore schematic as plugged, along with copies of all service company job log and service tickets.

The Operator shall promptly plug and abandon each newly completed, re-completed or producing well which is not capable of producing in paying quantities. No well may be temporarily abandoned for more than 30 days without prior approval of the AO. When justified by the Operator, the AO may authorize additional delays, no one of which may exceed an additional 12 months. Upon removal of drilling or producing equipment from the site of a well which is to be permanently abandoned, the surface of the lands disturbed shall be reclaimed in accordance with a plan first approved or prescribed by the AO or per the reclamation conditions of approval stated herein.

SITE SPECIFIC

Additional COAs are usually included with the above to reflect requirements that apply to local conditions, such as seasonal wildlife restrictions, special surveys, specific constraints on road or well pad location or construction, and/or additional reclamation requirements.

RIGHT-OF-WAY TERMS AND CONDITIONS

In the process of acquiring permission to obtain a right-of-way, users submit a Form SF-299 to the BLM Field Office that manages the public lands where their proposed project is located. Included with the Form SF-299 are:

- a Plan of Development that contains a description of the proposed project (map, location, details of construction, and methods for containment and disposal of waste material), geologic data, expected hazards, and proposed mitigation measures to address such hazards; and
- a reclamation plan, which includes a weed management plan.

When the BLM has completed the necessary environmental and technical review of the proposal, the BLM may approve the right-of-way as submitted or, more typically, approve the right-of-way subject to terms and conditions (T&C) on a grant.

T&C are attached to an approved grant to ensure environmental protection, safety, and/or conservation of the mineral resource. They arise from a variety of controlling authorities such as Title V of the Federal Land Policy and Management Act of October 21, 1976 (FLPMA), Section 28 of the Mineral Leasing Act of 1920 (MLA), the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), and the National Historic Preservation Act (NHPA). The T&C attached to a grant can be general in nature or site-specific, and thus will vary from one BLM Field Office to another. Often the Field Office RMP provides either a listing of potential T&C or the BMPs that might guide development of site-specific T&C in that area. They can address topics as wide-ranging as protection of wildlife habitat or archeological and paleontological sites, noise reduction, wildfire suppression, or management of invasive species. Following is a master list of T&C that are used in the Rawlins Field Office when considering a right-of-way. The list is adapted as needed for site-specific use. Many of the items listed will not be used on a specific grant if not warranted. If, on the other hand, conditions call for requirements that are not on the list, BLM specialists can add new T&C. The list is presented in the standard format used for attachment to an approved grant.

APPENDIX C—BEST MANAGEMENT PRACTICES AND CONDITIONS OF APPROVAL

FORM 2800-14
(August 1985)

Issuing Office
Rawlins Field Office

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
RIGHT-OF-WAY GRANT

SERIAL NUMBER WYW-XXXXXX

-
1. A right-of-way is hereby granted pursuant to Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185).

A right-of-way is hereby granted pursuant to Title V of the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776; 43 U.S.C. 1761).

2. Nature of Interest:

- a. By this instrument, the holder:

ABC ROW Company
PO Box 123
Somewhere, ST XXXXX

receives a right to construct, operate, maintain, and terminate a/an natural gas pipeline; powerline, well pad, compressor site, access road, etc. on public lands described as follows:

T. 00 N., R. 99 W., 6th P.M., County, Wyoming;
section 37: Lot 83, N $\frac{1}{2}$ SW $\frac{1}{4}$;
section 38: SW $\frac{1}{4}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$.

- b. The right-of-way or permit area granted herein is XX feet wide, XX feet long and contains XX acres, more or less. If a site type facility, the facility contains XX acres.
- c. This instrument shall terminate on December 31, 20XX unless, prior thereto, it is relinquished, abandoned, terminated, or modified pursuant to the terms and conditions of this instrument or of any applicable Federal law or regulation.
- d. This instrument may be renewed. If renewed, the right-of-way or permit shall be subject to the regulations existing at the time of renewal and any other terms and conditions that the authorized officer deems necessary to protect the public interest.
- e. Notwithstanding the expiration of this instrument or any renewal thereof, early relinquishment, abandonment, or termination, the provisions of this instrument, to the extent applicable, shall continue in effect and shall be binding on the holder, its successors, or assigns, until they have fully satisfied the obligations and/or liabilities accruing herein before or on account of the expiration, or prior termination, of the grant.

3. Rental:

For and in consideration of the rights granted, the holder agrees to pay the Bureau of Land Management fair market value rental as determined by the authorized officer unless specifically exempted from such payment by regulation. Provided, however, that the rental may be adjusted by the authorized officer, whenever necessary, to reflect changes in the fair market rental value as determined by the application of sound business management principles, and so far as practicable and feasible, in accordance with comparable commercial practices.

4. Terms and Conditions:

- a. This grant or permit is issued subject to the holder's compliance with all applicable regulations contained in Title 43 Code of Federal Regulations part 2880.

This grant or permit is issued subject to the holder's compliance with all applicable regulations contained

APPENDIX C—BEST MANAGEMENT PRACTICES AND CONDITIONS OF APPROVAL

in Title 43 Code of Federal Regulations part 2800.

- b. Upon grant termination by the authorized officer, all improvements shall be removed from the public lands within 90 days, or otherwise disposed of as provided in paragraph (4)(d) or as directed by the authorized officer.
- c. Each grant issued for a term of 20 years or more shall, at a minimum, be reviewed by the authorized officer at the end of the 20th year and at regular intervals thereafter not to exceed 10 years. Provided, however, that a right-of-way or permit granted herein may be reviewed at any time deemed necessary by the authorized officer.
- d. The stipulations, plans, maps, or designs set forth in Exhibits A (Map) and B (Plan of Development) attached hereto, are incorporated into and made a part of this grant instrument as fully and effectively as if they were set forth herein in their entirety.
- e. Failure of the holder to comply with applicable law or any provision of this right-of-way grant or permit shall constitute grounds for suspension or termination thereof.
- f. The holder shall perform all operations in a good and workmanlike manner so as to ensure protection of the environment and the health and safety of the public.
- g. The holder shall comply with all Federal, State, and local regulations whether or not specifically mentioned within this grant.
- h. No surface disturbing activities shall take place on the subject right-of-way until the associated APD is approved. The holder will adhere to special stipulations in the Surface Use Program of the approved APD, relevant to any right-of-way facilities.
- i. The holder shall construct, operate, and maintain the facilities, improvements, and structures within this right-of-way in strict conformity with the plan of development which was approved and made part of this grant. Any relocation, additional construction, or use that is not in accord with the approved plan of development, shall not be initiated without the prior written approval of the authorized officer. A copy of the complete right-of-way grant, including all stipulations and approved plan of development, shall be made available on the right-of-way area during construction, operation, and termination to the authorized officer. Noncompliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.
- j. The holder shall protect all survey monuments found within the right-of-way. 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. Coastal 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 of the above, the holder shall immediately report the incident, in writing, to the authorized officer and the respective installing authority if known. Where General Land Office or Bureau of Land Management right-of-way monuments or references are obliterated during operations, the holder shall secure the services of a registered land surveyor or a Bureau cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the Manual of Surveying Instructions for the Survey of the Public Lands in the United States, latest edition. The holder shall record such survey in the appropriate county and send a copy to the authorized officer. If the Bureau cadastral surveyors or other Federal surveyors are used to restore the disturbed survey monument, the holder shall be responsible for the survey cost.
- k. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.
- l. Weeds shall be controlled on project disturbed areas and native areas infested as a direct result of the project. The control methods shall be in accordance with the approved weed management plan (to be

APPENDIX C—BEST MANAGEMENT PRACTICES AND CONDITIONS OF APPROVAL

submitted by the Holder), and guidelines established by the EPA, BLM, state and local authorities. Prior to the use of pesticides, the holder will obtain written approval from the BLM Authorized Officer—Weed Coordinator (meaning an approved Pesticide Use Proposal form).

- m. To further reduce the spread of invasive and noxious weeds following construction activities, inspections for weeds will be conducted each year along with revegetation monitoring during the first five years following construction. Thereafter, weed surveys would be conducted at least once every three years at appropriate times as directed by the authorized officer, for the life of the project. Reports of these surveys will be submitted to the authorized officer within 30 days of the surveys.
- n. The holder of this right-of-way grant or the holder's successor in interest shall comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) and the regulations of the Secretary of the Interior issued pursuant thereto.
- o. The holder shall contact the authorized officer at least 48 hours (two days) prior to the anticipated start of construction and/or any surface disturbing activities. This can be done by logging into: http://www.blm.gov/wy/st/en/field_offices/Rawlins/oil_and_gas.html. Then click on **Right-of-Way Construction Notice** and fill in the form and submit it. Or, you may call the authorized officer. The authorized officer may require and schedule a preconstruction conference with the holder prior to the holder's commencing construction and/or surface disturbing activities on the right-of-way. The holder and/or his representative shall attend this conference. The holder's contractor, or agents involved with construction and/or any surface disturbing activities associated with the right-of-way, shall also attend this conference to review the stipulations of the grant including the plan of development.
- p. The holder shall have, on-site, a qualified individual (not the dirt contractor) to serve as Compliance Coordinator. This individual will be responsible for assuring that all requirements of the Plan of Development and appropriate Additional Terms and Conditions are applied. **The holder must provide the name of the Compliance Coordinator to the authorized officer prior to any surface disturbance.**
- q. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of **four (4)** inches deep, the soil shall be deemed too wet to adequately support construction equipment.
- r. Within 90 days of completion, the holder will submit to the authorized officer, as-built drawings and a certification of construction verifying that the facility has been constructed (and tested) in accordance with the design, plans, specifications, and applicable laws and regulations.
- s. The holder shall conduct all activities associated with the construction, operation, and termination of the right-of-way within the authorized limits of the right-of-way.
- t. The holder shall inform the authorized officer within 48 hours of any accidents on federal lands that require reporting to the Department of Transportation as required by 49 CFR Part 195.
- u. The holder(s) shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
- v. The holder of Right-of-Way No. WYW-XXXXXX agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6901 et seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way. This agreement applies without regard to whether a release is caused by the holder, its agent,

APPENDIX C—BEST MANAGEMENT PRACTICES AND CONDITIONS OF APPROVAL

or unrelated third parties.

- w. In the event that the public land underlying the right-of-way (ROW) encompassed in this grant, or a portion thereof, is conveyed out of Federal ownership and administration of the ROW or the land underlying the ROW is not being reserved to the United States in the patent/deed and/or the ROW is not within a ROW corridor being reserved to the United States in the patent/deed, the United States waives any right it has to administer the right-of-way, or portion thereof, within the conveyed land under Federal laws, statutes, and regulations, including the regulations at 43 CFR Part [2800][2880], including any rights to have the holder apply to BLM for amendments, modifications, or assignments and for BLM to approve or recognize such amendments, modifications, or assignments. At the time of conveyance, the patentee/grantee, and their successors and assigns, shall succeed to the interests of the United States in all matters relating to the right-of-way, or portion thereof, within the conveyed land and shall be subject to applicable State and local government laws, statutes, and ordinances. After conveyance, any disputes concerning compliance with the use and the terms and conditions of the ROW shall be considered a civil matter between the patentee/grantee and the ROW Holder.
- x. A litter policing program shall be implemented by the holder, and approved of in writing by the authorized officer, which covers all roads and sites associated with the right-of-way.
- y. For the purpose of determining joint maintenance responsibilities, the holder shall make road use plans known to all other authorized users of the road. Holder shall provide the authorized officer, within 30 days from the date of the grant, with the names and addresses of all parties notified, dates of notification, and method of notification. Failure of the holder to share proportionate maintenance costs on the common use access road in dollars, equipment, materials, or manpower with other authorized users may be adequate grounds to terminate the right-of-way grant. The determination as to whether this has occurred and the decision to terminate shall rest with the authorized officer. Upon request, the authorized officer shall be provided with copies of any maintenance agreement entered into. Authorized users are as follows: name(s) and address(s)
- z. Prior to termination of the right-of-way, the holder shall contact the authorized officer to arrange a pre-termination conference. This conference will be held to review the existing reclamation plan and termination provisions of the grant or agree to a new updated reclamation plan.

5. Additional Terms and Conditions:

Wildlife Resources*:

- a. Surface disturbing and disruptive activities potentially disruptive to nesting raptors are prohibited from February 1 to July 15. (Golden eagle, barn owl, red-tailed hawk, great-horned owl, other raptors)

Surface disturbing and disruptive activities potentially disruptive to nesting raptors are prohibited April 1 to July 31. (Osprey, merlin, sharp-shinned hawk, kestrel, prairie falcon, northern harrier, Swainson's hawk, Cooper's hawk)

Surface disturbing and disruptive activities potentially disruptive to nesting raptors are prohibited March 1 to July 31. (Short-eared owl, long-eared owl, ferruginous hawk, peregrine falcon, screech owl)

Surface disturbing and disruptive activities potentially disruptive to nesting raptors are prohibited April 15 to September 15. (Burrowing owl)

Surface disturbing and disruptive activities potentially disruptive to nesting raptors are prohibited April 1 to August 31. (Goshawk)

[****Realty Specialists-Please remove raptor species from the applied stipulation, for reference only****]

Please note that the above raptor stipulation(s) may differ from past raptor stipulations as a result of the signing of the Record of Decision for the new Rawlins Resource Management Plan on December 24, 2008.

Surface disturbing and disruptive activities potentially disruptive to Western yellow-billed cuckoos are prohibited within one-half mile of identified habitat from April 15 to August 15 for the protection of nesting Western yellow-billed cuckoos.

APPENDIX C—BEST MANAGEMENT PRACTICES AND CONDITIONS OF APPROVAL

Surface disturbing and disruptive activities within big game crucial winter range are prohibited during the period of November 15 to April 30.

Surface disturbing activities or occupancy are prohibited on and within one-quarter mile of the perimeter of an occupied greater sage-grouse or sharp-tailed grouse lek. Disruptive activities are prohibited between 6pm-9am, March 1-May 20 on and within one-quarter mile of lek perimeter.

Surface disturbing and disruptive activities potentially disruptive to delineated greater sage-grouse/sharp-tailed grouse winter concentration areas are prohibited during the period of November 15-March 14.

Avoid surface disturbing and disruptive activities, geophysical surveys, and organized recreational activities (events) that require a special use permit within 2 miles of the perimeter of an occupied greater sage-grouse lek, within 1 mile of the perimeter of a sharp-tailed grouse lek, or in greater sage-grouse and sharp-tailed grouse nesting and early brood rearing habitat from March 1 to July 15.

Surface disturbing and disruptive activities are prohibited during the period of May 1 to June 30 for the protection of elk calving areas.

Surface disturbing and disruptive activities located in potential mountain plover habitat are prohibited during the reproductive period of April 10 to July 10 for the protection of nesting plover. Additional protection measures may be applied if this area is later determined to be within occupied habitat.

The project is located within an area where mountain plover broods and/or adults have been found. Additional protection measures that will be applied are attached.

Any exceptions to this/these requirements must have prior written approval from the authorized officer.

***Please be advised that due to limits on the available time of qualified personnel, the unpredictability of wildlife, and future weather conditions, requests for exceptions to impending wildlife stipulations will only be considered in the event of extraordinary and unavoidable occurrences over which the company has little or no control. Additionally, construction of the facility needs to be started in a time frame which would allow for reasonably normal completion prior to the beginning date of wildlife protection stipulations.**

- b. If any dead or injured threatened, endangered, proposed, or candidate animal 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 Rawlins Field Office (307-328-4200) shall be notified within 24 hours. If any dead or injured sensitive species is located during construction or operation, the BLM Rawlins Field Office shall also be notified within 24 hours.
- c. The holder and holder's sub-contracted personnel shall not intentionally harm or harass wild horses, other wildlife, or domestic livestock.

Cultural Resources:

a.

AAAA Resources:

a.

BBBB Resources:

a.

CCCC Resources:

a.

Construction:

- a. All design, material, and construction, operation, maintenance, and termination practices shall be in accordance with safe and proven engineering practices.

APPENDIX C—BEST MANAGEMENT PRACTICES AND CONDITIONS OF APPROVAL

- b. The holder shall provide for the safety of the public entering the right-of-way. This includes, but is not limited to barricades for open trenches, flagmen/women with communication systems for single-lane roads without intervisible turnouts, and attended gates for blasting operations.
 - c. The holder shall survey and clearly mark the centerline and/or exterior limits of the right-of-way.
 - d. Construction sites shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.
 - e. Construction over and/or immediately adjacent to existing pipelines shall be coordinated, and in accordance with, the relevant pipeline companies' policy.
 - f. Construction-related traffic shall be restricted to routes approved by the AO. New access roads or cross-country vehicle travel will not be permitted unless prior written approval is given by the AO. Authorized roads used by the holder shall be rehabilitated or maintained when construction activities are complete as approved by the AO.
 - g. Existing roads and trails on public lands that are blocked as the result of the construction project shall be rerouted or rebuilt as directed by the AO.
 - h. Fences, gates, and brace panels shall be reconstructed to appropriate Bureau standards and/or specifications as determined by the AO.
 - i. When construction activity in connection with the right-of-way breaks or destroys a natural barrier used for livestock control, the gap, thus opened, shall be fenced to prevent the drift of livestock. The subject natural barrier shall be identified by the AO and fenced by the holder as per instruction of the AO.
 - j. Accumulated snow present on the ground at the outset of construction, maintenance, or reclamation activities shall be removed before the soil is disturbed and piled downhill from the disturbed area. Equipment used for any non-construction snow removal operations will be equipped with 6" shoes to ensure blades do not remove topsoil or vegetation and written approval must be obtained before snow removal related to a federal action **but** outside of designated areas is undertaken.
 - k. Prior to fill construction, the existing surface shall be sloped to avoid sharp banks and allow equipment operations. No fills shall be made with frozen or water saturated soils. Construction equipment shall be routed evenly over the entire width of the fill to obtain a thorough compaction.
 - l. Construction holes left open over night shall be covered. Covers shall be secured in place and shall be strong enough to prevent livestock or wildlife from falling through and into a hole.
 - m. Holder shall limit excavation to the areas of construction. No borrow areas for fill material will be permitted on the site. All off-site borrow areas must be approved in writing by the AO in advance of excavation. All waste material resulting from construction or use of the site by holder shall be removed from the site. All waste disposal sites on public land must be approved in writing by the AO in advance of use.
 - n. Remove, and clearly segregate from all other spoil, all available topsoil from constructed locations, including areas of cut and fill, and stockpile at the site for use in reclamation on all other areas of surface disturbance (roads, pipelines, etc.).
 - o. Drainage and runoff shall be diverted away from all new construction. All drainage structures shall simulate topographic contour lines, have a grade no greater than .5 - 1 percent, and shall release water onto undisturbed ground without causing additional and/or accelerated erosion.
- Operations:
- a. Except rights-of-way expressly authorizing a road after construction of the facility is completed, the holder shall not use the right-of-way as a road for purposes other than routine maintenance as determined necessary by the AO in consultation with the holder.
 - b. The holder shall meet Federal, State, and local emission standards for air quality.

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- c. The holder shall perform all operations in a good and workmanlike manner so as to ensure protection of the environment and the health and safety of the public.
- d. Holder shall maintain the right-of-way in a safe, usable condition, as directed by the AO.
- e. The holder must be prepared to provide BLM copies of applications for and approved federal, state, and local operating permits.
- f. If snow removal from the road is undertaken, equipment used for snow removal operations shall be equipped with shoes to keep the blade six-inches off the road surface. Holder shall take special precautions where the surface of the ground is uneven and at drainage crossings to ensure that equipment blades do not destroy vegetation.
- g. The holder shall permit free and unrestricted public access to and upon the right-of-way for all lawful purposes except for those specific areas designated as restricted by the authorized officer to protect the public, wildlife, livestock or facilities constructed within the right-of-way.

Reclamation:

- a. The holder shall submit, in accordance with relevant EIS or AO determined dates, an annual report detailing the status of interim or final reclamation work and associated action for this ROW during the previous calendar year.
- b. The holder shall restore drainages, to the greatest extent possible, to the original bank configuration, stream bottom width, and channel gradient. Loose soil, fill, and culverts shall be removed from drainage channels as directed by the AO.
- c. The holder shall construct waterbars on all disturbed areas. Waterbars are to be constructed to: (1) simulate the imaginary contour lines of the slope (**ideally with a grade of one or two percent**); (2) drain away from the disturbed area; and (3) begin and end in vegetation or rock whenever possible.
- d. Any subsequent re-disturbance of interim reclamation shall be reclaimed within six (6) months by the same means described herein.
- e. Temporary fencing of the reclaimed well/facilities locations for the first two growing seasons after either interim or final seeding may be required to exclude livestock and wildlife and to help ensure better re-vegetation success. Similarly, off-road vehicle prevention measures shall be employed on reclaimed locations.
- f. All practicable measures will be utilized to minimize erosion and stabilize disturbed soils. Should the use or storage of hay, straw, or mulch be necessary, the holder is required to use certified weed-free hay, straw, and mulch on BLM lands.

Pipelines:

- a. No surface disturbing activities shall take place on the subject right-of-way until the associated APD is approved. The holder will adhere to special stipulations in the Surface Use Program of the approved APD, relevant to any right-of-way facilities.
- b. Prior to any discharge, hydrostatic testing water will be tested and processed, if necessary, to ensure that the water meets local, State or Federal water quality standards. Prior to discharge of hydrostatic testing water from the pipeline, the holder shall design and install a suitable energy dissipater at the outlets, and design and install suitable channel protection structures necessary to ensure that there will be no erosion or scouring of natural channels within the affected watershed as a result of such discharge. The holder will be held responsible for any erosion or scouring resulting from such discharge. Sandbags, rock, or other materials or objects installed shall be removed from the site upon completion of hydrostatic testing.
- c. The holder shall design and construct adequate water-control structures in each drainage crossing to prevent excessive erosion along the pipeline and protect the pipeline from the natural erosion process within the drainage.
- d. If during any phase of the construction, operation, or termination of the pipeline or related facilities any oil or other pollutant should be discharged from the pipeline system, or from containers or vehicles impacting Federal lands, the control and total removal, disposal, and cleanup of such oil or other pollutant, wherever

APPENDIX C—BEST MANAGEMENT PRACTICES AND CONDITIONS OF APPROVAL

found, shall be the responsibility of the holder, regardless of fault. Upon failure of holder to control, cleanup, or dispose of such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting there from, the AO may take such measures deemed necessary to control, clean up the discharge, and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the AO shall not relieve the holder of any liability or responsibility.

- e. The holder is prohibited from discharging oil or other pollutants into or upon the navigable waters of the United States, adjoining shorelines, or the waters of the contiguous zone in violation of Section 311 of the Clean Water Act as amended, 33 U.S.C. 1321, and the regulations issued there under, or applicable laws of the State(s) of Wyoming and regulations issued there under. Holder shall give immediate notice of any such discharge to the AO and such other Federal and State officials as are required by law to be given such notice.
- f. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this pipeline is **Shale Green (5Y 4/2)**.
- g. All cathodic protection facilities shall have approval from the Department of Environmental Quality (DEQ) UIC Division and have an approved Class V, Type 5F1 permit.

Access Roads:

- a. No surface disturbing activities shall take place on the subject right-of-way until the associated APD is approved. The holder will adhere to special stipulations in the Surface Use Program of the approved APD, relevant to any right-of-way facilities.
- b. The holder shall furnish and install culverts of the gauge, materials, diameter(s), and length(s) indicated and approved by the authorized officer. Culverts shall be free of corrosion, dents, or other deleterious conditions. Culverts shall be placed on channel bottoms on firm, uniform beds which have been shaped to accept them and aligned to minimize erosion. Backfill shall be thoroughly compacted. No equipment shall be routed over a culvert until backfill depth is adequate to protect the culverts.
- c. Surfacing shall be designed to accommodate anticipated loading and traffic volumes and shall provide for future maintenance.
- d. All vehicles shall use only authorized travel routes and shall not use any other access route, such as two-track roads, trails, and pipeline rights-of-way to the drill/well pad and any ancillary facilities.
- e. Two-track roads shall not be cut-off as a direct result of construction, maintenance, or reclamation of the well access road or associated well facilities.
- f. All access roads and drainage control structures, whether existing or newly-constructed, shall be both constructed to resource road standards and regularly maintained in a safe and usable condition as outlined in BLM Manual, Section 9113. A regular maintenance program may include, but is not limited to: blading, ditching, culvert installation, dust control, and gravel surfacing or other activities as specified by the AO.
- g. Prior to construction, road(s) shall be surveyed and staked with construction control stakes set continuously along the centerline at maximum 100-foot intervals (less where needed to be inter-visible) and at all tangent and curve control points, fence or utility crossings, and culverts. In addition to centerline stakes, slope stakes shall be placed at the top of the cut and the bottom of the fill for those portions of the road that are engineered.
- h. Before proposed road construction activities begin, the topsoil must be bladed to the side of the road and stockpiled. The topsoil stockpile shall be contoured so as to prevent water ponding or flow concentration. Once the barrow ditch and the cut slopes are constructed, cleared vegetative material and topsoil that is windrowed shall be spread back onto the cut/fill slopes of the road, removing any windrows or berms remaining at the edge of the road.
- i. The minimum travel-way width of the immediate access road will be 14 feet with turnouts at least 10 feet

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in width. No structure will be allowed to narrow the road top. The inside slope will be 4:1. The bottom of the ditch will be a smooth V with no vertical cut in the bottom. The outside slope will be 2:1 or shallower. After the road is crowned and ditched with a .03 - .05 ft/ft crown the topsoil and windrowed vegetative material shall be pulled back down on the cut slope so there is no berm left at the top of the cut slope. Turnouts will be spaced at a maximum distance of 1000 feet and will be intervisible. If the access road crosses a floodplain, the ditch shall be flat-bottomed so as to provide material to raise the road.

- j. If soils along the access road route are dry during road construction, use, and/or maintenance, fresh water shall be applied to the road surface to facilitate soil compaction and minimize soil loss as a result of wind erosion.
- k. Construction and surfacing of the new access road shall be complete prior to moving drilling equipment onto the well pad and the presence of heavy vehicular traffic. Compact the top foot of sub-grade to a 95% maximum density as determined by AASHTO T-99. Surface with an appropriate grade of gravel to a minimum depth of four (compacted) inches.
- l. As directed by the authorizing officer, all road segments shall be winterized by providing a well-drained roadway by water baring, maintaining drainage, and any additional measures necessary to minimize erosion and other damage to the roadway or the surrounding public lands.
- m. Culverts shall have a minimum of 12" of fill or 1/2 the pipe diameter, whichever is greater, placed on top of the culvert, and shall be of length sufficient to allow at least 24" of culvert to extend from the fill slope face. The inlet and outlet shall be set on grade. No rocks shall be used in the bed material and no rocks greater than 2" in diameter will be immediately adjacent to the culvert. The entire length of pipe shall be bedded on native material before backfilling, which shall be completed using unfrozen material and rocks no larger than two inches in diameter; compact the backfill evenly in 6" lifts on both sides of the culvert. A permanent marker shall be installed at both ends of the culvert to help prevent traffic from damaging the culvert. Additional culverts will be placed in the new access road as the need arises or as directed by AO.
- n. Wing-ditches shall be staked and constructed at a slope of .5 to 1.0 percent down slope unless otherwise approved by the AO. In no case shall wing-ditches discharge adjacent to a channel bank.
- o. All drainage ditches and culverts shall be kept clear and free-flowing, and shall also be maintained in accordance with the original construction standards.

Well Pads:

- a. No surface disturbing activities shall take place on the subject right-of-way until the associated APD is approved. The holder will adhere to special stipulations in the Surface Use Program of the approved APD, relevant to any right-of-way facilities.
- b. Construction control stakes shall be placed as necessary to ensure construction of the well pad, topsoil stockpile, spoil pile, and outer limits of the area to be disturbed in accordance with the specifications outlined in the APD. The holder shall assume full responsibility for protecting all stakes and offsetting any additional stakes or grades which may be necessary.
- c. All facilities on location that have the potential to leak/spill oil, glycol, methanol, produced water, condensate, or other fluids which may constitute a hazard to the environment, public health or safety (including, but not limited to, drain sumps, sludge holdings, and chemical containers), shall be within secondary containment, impervious to those fluids, exclusive of wildlife and livestock, with animal/bird escape capability, and able to contain a minimum of 110% of the volume of the largest storage vessel, respective to content, or 100% with at least one foot of freeboard, whichever is greater, so that any spill or leakage would not drain, infiltrate, or otherwise escape to ground water, surface water, or navigable waters before cleanup can be completed (within 72 hours).
- d. The holder shall comply with the construction practices and mitigating measures established by 33 CFR 323.4, which sets forth the parameters of the "nationwide permit" required by Section 404 of the Clean Water Act. If the proposed action exceeds the parameters of the nationwide permit, the holder shall obtain an individual permit from the appropriate office of the Army Corps of Engineers and provide the AO with a copy of same. Failure to comply with this requirement shall be cause for suspension or termination of this right-of-way grant.

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- e. Fencing shall be installed around produced water, oil, and condensate tank batteries in order to help maintain the integrity of the surrounding containment structure and to prevent livestock and wildlife from entering the area in case of a leak or spill.
- f. All open vent stack equipment shall be designed and constructed to prevent entry by birds and bats and to discourage perching.
- g. The holder is prohibited from discharging oil or other pollutants into or upon the navigable waters of the United States, adjoining shorelines, or the waters of the contiguous zone in violation of Section 311 of the Clean Water Act as amended, 33 U.S.C. 1321, and the regulations issued there under, or applicable laws of the State(s) of Wyoming and regulations issued there under. Holder shall give immediate notice of any such discharge to the AO and such other Federal and State officials as are required by law to be given such notice.
- h. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this pipeline is **Shale Green (5Y 4/2)**.
- i. All roads and parking areas shall be constructed to provide drainage and minimize erosion. Culverts shall be installed if necessary to maintain drainage. All areas to be used for roads and parking shall be surfaced with gravel (before the drilling rig or other drilling equipment moves onto the pad).
- j. Emissions of particulate matter from well pad, road, and other facility construction, operation, and reclamation activities will be minimized by application of water or other dust suppressants. Dust inhibitors (surfacing materials, dust suppressants, and water) will be used as necessary on locations that present a fugitive dust problem. The use of chemical dust suppressants on public surface will require prior approval from the BLM Authorized Officer.
- k. If groundwater or permeable/porous subsoil or bedrock is encountered upon construction of the pad or pits, or upon drilling and completing shallow holes for surface conductor, rat/mouse holes, or water supply well, the holder must immediately notify the BLM Authorized Officer (AO) before proceeding.
- l. The holder shall comply with the Hazardous Materials Management Plan/Summary in the EIS, including requirements to transport, store, utilize, and dispose of hazardous substances. The holder shall maintain a hazardous substances release contingency plan that shall include, among other things, provision to notify the BLM Authorized Officer in the event of any release of hazardous substances associated with project operations.
- m. Interim reclamation of all disturbed areas not needed for production operations, including unnecessary access roads and pipeline right(s)-of-way, shall commence and be completed within six (6) months from date of reaching total depth or determination of inactivity. All fill and stockpiled soils shall be distributed on disturbed areas and the production pad shall be as small as possible to allow for safe and prudent production operations.
- n. Temporary fencing of the reclaimed well/facilities locations for the first two growing seasons after either interim or final seeding may be required to exclude livestock and wildlife and to help ensure better re-vegetation success. Similarly, off-road vehicle prevention measures shall be employed on reclaimed locations.
- o. Any topsoil to be stockpiled for longer than six (6) months shall be spread in layers of 2 feet maximum thickness, signed, and stabilized with a suitable cover crop (immediately post-construction and until successful) as approved of by the AO.
- p. Cathodic protection wells shall be drilled on the existing well pad, placed so as not to interfere with re-contouring of cut and fill slopes during interim reclamation, designed and constructed to prevent commingling and contamination of water aquifers. The AO shall be notified of any water flows at surface and the problem will be resolved promptly.

Pits:

- a. All oil and gas pits containing fracture/stimulation fluids are required to be lined with an impermeable (12

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mil minimum with a permeability less than or equal to 1×10^{-7} cm/sec) liner. The liner shall be physically and chemically-compatible with all substances which it may contact and shall be of sufficient strength and thickness to withstand normal installation and use, and installed so that it will not leak. The liner shall be installed over a smooth sub-grade, matting, or fill materials (e.g. sifted dirt, sand, or bentonite) free of pockets, loose rocks, and other objects that could damage the liner.

- b. The only fluids/waste materials which are authorized to go into reserve pits are RCRA-exempt exploration and production wastes.
- c. Any evidence of RCRA non-exempt wastes being put into the reserve pit may result in the BLM Authorized Officer requiring specific testing and closure requirements.
- d. Flaring of gas into the reserve or completion pits will not be allowed without prior approval from the AO.
- e. Pits are to be dried within six (6) months from the date that total depth was reached and prior to any backfilling. Trenching or squeezing is prohibited. Pits, once dry, shall be backfilled and compacted with a minimum cover of five (5) feet of soil, void of any topsoil, vegetation, large stones, rocks or foreign objects. The pit area shall be mounded to allow for settling and to promote positive surface drainage away from the pit. Before backfilling synthetically lined reserve pits, those liner portions remaining above the "mud line" shall be cut off as close to the top of the mud surface as possible and disposed of at an approved solid waste disposal facility. The pit bottom and remaining liner shall not be trenched, cut, punctured, or perforated. Installation and operation of any sprinklers, pumps, and related equipment shall ensure that water spray or mist does not drift outside of pit boundaries.
- f. All pits are required to maintain 2 feet of freeboard. If operations cause fluid levels in pits to rise above the required freeboard, immediate notification shall be provided to the AO with concurrent steps taken to cease the introduction of additional fluids, until alternative containment methods can be approved.
- g. For the protection of livestock and wildlife, all pits and open cellars shall be fenced on all sides, with corner bracing, immediately upon construction. Reserve, flare, completion, and production pits will be adequately fenced during and after drilling operations until pits are reclaimed so as to effectively keep out wildlife and livestock. Approved netting (mesh diameter no larger than one inch) is required over any pit that contains or is identified as containing hydrocarbons or hazardous substances (per RCRA 40 CFR Part 261 or CERCLA Section 101(14) (E)).
- h. Only those hazardous wastes that qualify as **exempt**, under the Resource Conservation and Recovery Act (RCRA), Oil and Gas Exemption, may be disposed of in the reserve pit. *Generally, oil or gas wastes are exempt if they 1) have been sent down hole and then returned to the surface during oil/gas operations involving exploration, development, or production, or 2) have been generated during the removal of produced water or other contaminants from the oil/gas production stream.* The term hazardous waste, as referred to above, is defined as a listed (40 CFR 261.31-33) or characteristic (40 CFR 261.20-24) hazardous waste under RCRA.

Water:

- a. If temporary surface lines are used to transport drilling water, lines shall be placed/removed when the ground surface is dry; no surface blading is allowed. The surface pipelines must be removed within 30 days after completion (or determination of inactivity) of the well.
- b. All disposal and management of produced water must be in accordance with Onshore Oil and Gas Order No. 7.
- c. Any changes to water sources/supplies, fate of drilling/completion fluids, routes and means of fluid transportation, and location or method of produced water disposal must first have written approval from the AO.
- d. Within 90 days of initial production start-up the holder shall submit to the BLM authorized officer an analysis of the produced water.

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IN WITNESS WHEREOF, The undersigned agrees to the terms and conditions of this right-of-way grant or permit.

(Signature of Holder)

(Title)

(Date)

**(Signature of BLM Authorized
Officer)**

Field Manager, Rawlins Field Office

(Title)

(Effective Date of Grant)