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Appendix C. Best Management Practices and Conditions of Approval

All federal actions undertaken as a result of the Proposed Action, Alternative 1, and the No Action Alternative are subject to approval by the BLM prior to implementation.

Best Management Practices

The 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 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).

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.

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

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:

- Sub-surface – 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; and
- Surface – a plan of operations that describes the locations of the drillpad, access road, pipeline(s), facilities, details of pad construction, methods for containment and disposal of waste material, and plans for reclamation of the surface.

When BLM has completed the necessary environmental and technical review of the proposal contained in the APD, BLM may approve the APD as submitted or, more typically, approve the APD subject to Conditions of Approval (COAs).

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. However, the 1989 RMP does not contain specific COAs.

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Following is a master list of BMPs and COAs that may be used in the UFO when considering APDs for the Proposed Action and other action alternatives. The list will be adapted as needed for site-specific use. The operator will select items from the list to be attached to the APD as BMPs. Additional items found by the BLM to be applicable as a result of an onsite inspection, discussion with the landowner, and/or to meet BLM's minimum standards will be attached to the APD as COAs. 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 operator can also suggest alternate measures that could accomplish the same or a better result. The list is presented in the standard format used for attachment to an approved APD.

GENERAL REQUIREMENTS

1. The operator will comply with all applicable Federal and State laws and regulations including, but not limited to: Onshore Orders, BLM Gold Book Standards, the RMP currently in effect, the Clean Air Act, the Clean Water Act, the Threatened and Endangered Species Act, the National Historic Preservation Act, and Colorado Oil and Gas Conservation Commission (COGCC) regulations.
2. The operator will comply with all current lease stipulations. Any conflicts will be resolved with the landowner on a case-by-case basis at the APD stage.

SURFACE-DISTURBING ACTIVITIES

3. The operator shall notify the BLM Authorized Officer (AO) at least 48 hours prior to initiation of construction.
4. Surface-disturbing activities shall avoid riparian/wetland habitat unless otherwise approved by BLM.
5. The operator will monitor precipitation and snowpack levels in areas with slopes greater than 30% to help predict future mass movement of the soil mantle.
6. Site-specific slope-stability studies will be conducted in areas of potential geologic hazard as identified in the MDP analysis prior to design and construction of new access roads, pipelines, and well pads, and appropriate mitigation will be included for potential movement of soils and rock.
7. Any loose rock occurring in the vicinity will be scaled prior to construction if it presents a safety hazard.
8. Where feasible and consistent with future plans and operations and considering safety concerns, all tanks and production facilities will be situated on the access road side of the well pad in order to maximize the coverage by interim reclamation upon the area necessary to create the well pad.
9. The topsoil (consisting of O and A horizons) will be removed from pad locations during construction, stockpiled in berms, and saved for interim and long-term reclamation and revegetation. Stockpiled topsoil and spoil piles will be separated to prevent mixing during reclamation efforts.
10. Stockpiled soil and disturbed earthen surfaces necessary to build up well pad sites, such as cut/fill slopes, will be seeded with BLM-approved interim seed mix upon cessation of pad construction activities to control erosion, and reduce generation of dust. In addition all stockpiled soil and soil disturbed areas will be maintained noxious weed free.
11. The operator shall use only certified weed-free seed and erosion-control materials.
12. Stockpiled topsoil that will potentially remain in place for more than one (1) growing season will be clearly identified, seeded, and maintained noxious weed free. Silt fences or other sedimentation control devices will be used on downgradient sides of these piles until stable.

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13. Use of erosion-control blankets with plastic netting shall not be permitted.
14. Following seeding, any woody debris cleared during initial construction will be pulled back over the recontoured/partially reshaped areas to act as flow deflectors and sediment traps.
15. The application of gypsum to soil surfaces as a soil remediation technique will not be permitted on BLM surfaces.
16. Pipeline corridors will be recontoured to pre-construction contours as soon as construction activities cease unless otherwise approved by BLM.
17. Erosion-control measures will be implemented on earthen fill slopes of the well pad and all disturbed areas with earthen slopes greater than 5% as needed and until stable. (If the exposed disturbed surface is entirely of rock, erosion-control measures implemented by the operator must ensure that erosion is reduced and offsite transport of sediment is controlled.)
18. Erosion and sediment control measures shall be maintained until stream banks, drainages and adjacent upland areas are stabilized.
19. The operator will reestablish pre-construction stream bed and bank contours, revegetate stream banks, and install erosion-control fabric to stabilize the stream banks
20. Sedimentation shall be captured in catchment basins or other sedimentation control devices in order to protect surface waters.
21. The well pad surface and surfacing material will be maintained until implementation of final reclamation activities where it would be removed or buried in the cut portion of the location.
22. Dust-abatement measures will be applied to roads and pad locations. The operator can select and inform the BLM of chosen dust abatement. At a minimum, the application of fresh water will be acceptable. Other examples include: magnesium chloride, emulsified asphalt, gravel, or other dust palliatives to decrease the application frequency normally required when using fresh water only.
23. The operator shall take all reasonable measures to prevent and suppress fires in the area of operations. Fire restrictions/guidelines during periods of high wildfire danger will be followed

ROAD CONSTRUCTION AND MAINTENANCE

24. The speed limit on access roads will be 20 miles per hour (mph) unless otherwise posted.
25. Vehicle traffic is limited to the bladed/traveled road surface and existing parking areas, pullouts, etc. No new pullouts, off-road parking, or staging areas will be allowed unless specifically authorized by the BLM.
26. The operator shall provide timely year-round road maintenance and cleanup on the access roads.
27. Roads will be located so as to minimize their influence on riparian areas and, when stream crossing is necessary, design the approach and crossing perpendicular to the channel. Locate the crossing where the channel is well-defined, unobstructed, and straight unless otherwise approved by BLM.
28. Locate roads on stable positions (e.g., ridges, natural benches, and flatter transitional slopes near ridges and valley bottoms) unless otherwise approved by BLM. Implement extra mitigation measures when crossing areas of unstable or fragile soils.
29. Unless otherwise approved by BLM, avoid headwalls, midslope locations on steep, unstable slopes, seeps, old landslides, slopes in excess of 40%, and areas where the geologic bedding planes or weathering surfaces are inclined with the slope.
30. Locate roads to minimize heights of cut banks unless otherwise approved by BLM. Avoid high, steeply sloping cut banks in highly fractured bedrock.

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31. Locate roads on well-drained soil types and attempt to avoid wet areas unless otherwise approved by BLM.
32. Sloping the road base to the outside edge for surface drainage is normally recommended for local spurs or minor collector roads where volume traffic low and lower traffic speeds are anticipated. This is also recommended in situations where long intervals between maintenance will occur and where minimum excavation is wanted. Out-sloping is not recommended on gradients greater than 8 to 10%.
33. Sloping the road base to the inside edge is an acceptable practice on roads with gradients of more than 10% and where the underlying soil formation is very rocky and not subject to appreciable erosion or failure.
34. Minimize excavation through use of balanced earthwork, narrowing road width, and end hauling (not side casting soil) where slopes are greater than 40%.
35. Avoid establishment of vegetation where it inhibits drainage from the road surface or where it restricts safety or maintenance.
36. When roads are located in low-lying areas, ensure that the road surface is constructed above the adjacent ground surface.
37. Avoid side casting where it will adversely affect water quality or weaken stabilized slopes.
38. Provide for erosion-resistant surface drainage prior to fall rain or snow.
39. Improve flat road gradients to Gold Book standards to avoid saturation of the road base.
40. Conduct roadside brushing in a way that prevents disturbance to root systems (i.e., avoid using excavators for brushing).
41. No berms will be allowed on the outside edge of the road where runoff is channeled.
42. Promptly remove slide material when it is obstructing road surface and ditchline drainage. Save all soil or material useable for reclamation and stockpile for future reclamation needs. Use remaining slide material for needed road improvement or place it in a stable waste area. Avoid sidecasting of slide material where it can damage, overload, saturate embankments, or flow into downslope drainage courses. Reestablish vegetation in areas where more than 50% of vegetation has been destroyed due to side casting.
43. Cut roadside vegetation rather than pulling it out and disturbing the soil.
44. If necessary, construct drainage dips as follows to control erosion:

Grade	Spacing
2 %	Every 200 feet
2-4 %	Every 100 feet
4-5 %	Every 75 feet
5+ %	Every 50 feet

45. Limit activities of mechanized equipment within stream channels.
46. Place permanent stream crossing structures on fishery streams before heavy equipment moves beyond the crossing area. Where this is not feasible, install temporary crossings to minimize stream disturbance.
47. During wet weather conditions, no mud blading will be allowed. When road conditions are such that vehicles create ruts deeper than 4 inches, travel activities will be temporarily suspended.

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TANKS AND PITS

48. All produced liquids shall be contained in a pit or tank, including the dehydrator vent/condensate line effluent. All drill cuttings will be kept in an approved lined pit on the pad of the well being drilled, or hauled to an approved disposal site
49. Berms or other secondary containment devices shall be constructed around fluid storage tanks and shall enclose an area sufficient to contain and provide secondary containment for 150% of the largest single tank (COGCC Rule 603e[12]).
50. Reserve pits will be sealed in such a manner as to prevent leakage of the fluids by using an impermeable synthetic liner at least 12 mils in thickness. The bottom of the pit shall be smooth and free of any sharp rocks. If the pit has a rocky bottom, it shall be bedded with a material such as sand or certified weed-free straw or hay, to avoid the possibility of puncturing the liner.
51. The operator will install and maintain livestock fencing around all tanks and facilities. Reserve pits will be surrounded by livestock fencing and be covered with bird netting.
52. The operator shall install netting over the pits to exclude birds and bats. The netting will be applied within 24 hours after drilling activities have begun. The netting shall be retained and maintained for as long as there are liquids in the pit. The integrity of the netting must also be periodically checked by the operator for sagging due to snow accumulation if a pit must stay open through the winter.
53. A minimum of 2 feet of freeboard from liner top to fluids/cuttings level will be maintained in pits at all times.
54. Prior to the onset of winter, the operator shall remove fluids from any pits allowed to remain open over the winter months in order to reduce or eliminate the potential of spring snowmelt to exceed the 2-foot freeboard (below the top of the liner) minimum at any time.
55. The operator shall skim and eliminate oil from unfenced produced water ponds and reserve pits daily until fences are installed. Once fences are installed, the pit shall be kept reasonably free from surface accumulation of liquid hydrocarbons that will retard evaporation.
56. Fencing around ponds, tanks, and facilities will meet with the minimum Gold Book standards.
57. The operator shall treat wastewater pits and/or any associated pit containing water with Bti (*Bacillus thuringiensis v. israelensis*), commonly known as Mosquito Dunks, or take other effective action to control mosquito larvae that may spread West Nile Virus to wildlife or domestic livestock.
58. Reserve pits shall be dried out and reclaimed within 6 months of completion of drilling activities. Any water remaining in the reserve pit shall be disposed of in an approved disposal facility. All enhanced evaporation of the reserve pit fluids shall have prior approval of the AO. Before reclamation of the reserve pit proceeds, it will be dry and solid. This can be accomplished naturally or by artificial solidification. The reserve pit solids will not be squeezed out of the pit. The liner shall be removed to an approved disposal site. There will be a minimum of 2 feet of overburden on the reserve pit prior to replacing the topsoil and seeding.

PIPELINE AND POWER LINE CONSTRUCTION

59. Operator will attempt to use an existing road where one is adjacent to the pipeline route and can be used as a working surface.
60. Pipeline corridors will use areas adjoining or adjacent to previously disturbed areas whenever possible, rather than traverse undisturbed communities.
61. Construction of pipeline crossings will occur during low-flow periods in streams occupied by fish or as per the conditions of the US ACOE permit.

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- a. A flume, or plastic tube will be used to redirect flows around the trench site to maintain water flows and habitat connectivity.
 - b. Flumes will be the preferred method of maintaining flow, but pumps may be used in certain situations if allowed by the US ACOE.
62. The operator will reclaim crossing sites using native wetland vegetation to stabilize the sites as soon as possible as per the US ACOE stipulations.
 63. Pipeline will be buried to provide a minimum cover of 36 inches through normal terrain. The pipeline will be buried deep enough to avoid problems with irrigation ditches, canals, potential irrigation areas, and existing pipelines, as designated by the AO. In rocky areas, a minimum cover of 24 inches will be provided. In areas next to or crossing access roads, the pipeline shall be buried with a minimum of 4 feet of cover in alluvial areas and 3 feet of cover in rocky areas.
 64. Pipelines installed beneath stream crossings shall be buried at a minimum depth of 4 feet below the channel substrate to avoid exposure by channel scour and degradation. Following burial, the channel grade and substrate composition shall be returned to pre-construction conditions.
 65. Water bars or dikes shall be constructed on all pipeline corridors, and across the full width of the disturbed area.
 66. Slopes within the disturbed area shall be stabilized by non-vegetative practices designed to hold the soil in place and minimize erosion. Vegetative cover shall be reestablished to increase water infiltration into the soil and provide additional protection from erosion.
 67. When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff.
 68. Trees removed during pipeline construction may be skidded back onto the pipeline corridor following seeding operations.
 69. Power line and ancillary structure design shall adhere to guidance provided in “Suggested Practices for Avian Protection on Power lines: State of the Art.”
 70. Poles and transmission line locations will be selected to achieve the minimum practicable adverse impact on visual quality.

NATURAL GAS DRILLING AND EXPLORATION

71. Freshwater aquifers shall be protected while drilling mineral exploration and development wells.
72. Casing design will be determined by evaluating well conditions and planned completion operations and will be approved by BLM and COGCC.
73. Mechanical Integrity Tests (MIT) will be performed per COGCC and EPA requirements.
74. All wells, whether exploration or development, drilling, producing, suspended, or abandoned, shall be identified in compliance with 43 CFR 3162.6. Pressure tests are required before drilling out from under all casing strings set and cemented in place. Blowout preventer controls must be installed prior to drilling out the surface shoe and prior to starting workover or completion operations. Preventers will be inspected and tested at regular intervals to insure good mechanical working order.
75. For dry holes in visually sensitive areas, the abandonment marker must be at least 4-inch diameter pipe, embedded in cement, buried to final reclaimed ground level, and capped with a 2-foot by 2-foot steel plate, at least 1/4 inch thick. The plate must be permanently inscribed with the identity requirements of 43 CFR 3162.6d).

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NOISE

76. This project will be compliant with COGCC and CDPHE standards for noise abatement.

PROTECTION OF ARCHAEOLOGICAL AND CULTURAL RESOURCES

77. Site 5GN5602, and any additional NRHP-eligible sites located in proposed disturbance areas shall be avoided by all project-related disturbance including well pad and water-disposal units, pipelines, and access roads. Should avoidance not be possible then the Operator, in consultation with the BLM and the State Historic Preservation Office and with input from other interested parties per 36 CFR Part 800.6 and the Statewide Protocol Section VII, shall develop a mitigation plan designed to eliminate the adverse effects. These additional mitigation measures will be developed in accordance with best management practices and COAs.
78. If subsurface cultural resources are unearthed during operations, activity in the vicinity of the cultural resource will cease and the AO will be notified immediately. Pursuant to 43 CFR 10.4 the holder of this authorization must notify the AO by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, the Operator must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the AO.
79. If any evidence of human skeletal remains is encountered during a project on BLM lands, the operator shall not disturb these remains and shall immediately notify the AO. Work shall not resume until the AO has given permission. Human remains shall not be moved, excavated, or in any way disturbed by the operator.
80. The operator will be responsible for informing all persons associated with this project that they will be subject to prosecution for knowingly disturbing Native American Indian shrines, historic and prehistoric archaeology sites, or for collecting artifacts of any kind, including historic items and/or arrowheads and pottery fragments from federal lands.

PROTECTION OF VISUAL RESOURCES

81. At least one contrast rating sheet shall be filled out by BLM using final construction plans and selected Key Observation Points prior to the approval of well pad site, pipeline, and road alignments.
82. Facilities shall be properly placed within the landscape to use natural topography and vegetation to screen proposed activity and to reduce the amount of exposed cut/fill slopes.
83. In some areas it may be appropriate to feather and undulate the edge between the removed vegetation and the remaining existing vegetation.
84. Downlighting will be used for all operating and production facilities.

RANGELAND MANAGEMENT

85. The operator will be responsible for excluding livestock grazing from all reclaimed portions of well pads until resource objectives are met.
86. A cattle guard and/or gate will be placed at the time of fence construction where a well access road bisects the fenceline that surrounds a well pad's disturbance imprint. Once reclaimed plant species are fully established on disturbed sites as determined by the BLM (e.g. desired plant community, Public Land Health Standards), the fence and cattle guard will be completely removed by the operator. This will allow for reclaimed plant species to establish without grazing pressure from livestock.

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HAZARDOUS SUBSTANCES

87. The operator will not transport, handle, store, load, or dispose of any hazardous substance in such a manner as to pollute water supplies or waterways, or cause damage or injury to land, including humans, desirable plants, and animals.
88. The use or storage of hazardous materials, chemicals, fuels, lubricating oils, and concrete coating and refueling activities is prohibited within 200 feet of any surface water or wetland unless otherwise approved by BLM.
89. To mitigate contamination of local groundwater, harmful substances (e.g., diesel fuel) will not be allowed to contact soils. Impermeable matting will be used under equipment to intercept such contaminants prior to contacting soils.
90. Signs will be posted on-site that identify potential hazards associated with site operation, including chemical hazards.
91. Material Safety Data Sheets for any treatment chemicals will be maintained on-site during the construction phase. Equipment operators will be required to wear appropriate personal protective equipment to minimize exposure to these hazards.
92. Drainage control will be constructed around the perimeter of the well location during the drilling and work-over phase of the operation to contain any accidental spill of motor fuel. The well pad will be designed in such a manner as to prevent off-site runoff water from entering the pad.
93. Compaction and construction of the berms surrounding containers, tanks, or tank batteries will be designed to prevent lateral movement of fluids through the utilized materials, prior to storage of fluids. All load lines and valves will be placed inside the berm.
94. To prevent the entry of hazardous substances into surface waters:
 - a. Chemical treatments within the riparian areas shall be applied by hand and shall be applied only to specific targets.
 - b. Leave a 25-foot buffer along surface waters when chemicals are being applied through ground application with power equipment.
 - c. Always refer to chemical label instructions for additional guidance on use near water and required buffer zones.
95. A portable toilet will be installed at each well site during construction and drilling.
96. As part of the Emergency Response Plan, the operator may develop a field-wide Integrated Spill Prevention, Control and Countermeasure Plan per EPA regulations, approved and stamped by a Professional Engineer. Otherwise, individual spill prevention, containment, and countermeasure plans will be written for all facilities subject to EPA regulation. Under these plans, spill containment and cleanup will occur immediately and any contaminated materials will be removed to the nearest approved landfill. Any fuel spills will be immediately reported to the AO, and copies of all characterization and remediation spill data and reports will be filed within two days with the AO.

PROTECTION OF WATER RESOURCES

97. The operator will obtain necessary federal and state permits for protection of water resources, and will comply with USACE Nationwide Permit conditions and CDPHE Water Quality Control Division (WQCD) regulations.
98. Proper permits will be obtained for all projects to protect water resources including construction stormwater discharge permits and plans.
99. BLM will implement an instream flow requirement on Muddy Creek below the confluence with East and West Muddy creeks. The purpose of this requirement is to protect and perpetuate

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beneficial uses for tributaries to North Fork Gunnison River, including Muddy Creek, as designated by the Colorado Department of Public Health and Environment. The designated beneficial uses include Aquatic Life Cold 1, Recreation E, Water Supply, and Agriculture. It is anticipated that the instream flow requirement will be implemented only in rare occasions, because as specified above, SG intends to utilize wells and its existing surface water rights to meet water demands before implementing any new surface water diversions from tributaries to Muddy Creek.

100. Fresh-water aquifers beneficial for human consumption and livestock encountered during the drilling process will be properly sealed in accordance with Federal and COGCC requirements to reduce potential for contamination.
101. The operator will utilize the following measures to mitigate impacts to surface water resources:
 - a. Install temporary equipment bridges across flowing surface waters.
 - b. Place topsoil and spoil at least ten feet away from the water's edge.
 - c. Bury pipeline at least four feet below the bottom of each drainage.
 - d. Cross streams during periods of low flow and complete the crossing within 24 hours, as feasible.
 - e. Remain in compliance with State Water Commission regulations and requirements for water usage and reporting.
102. Locate trench dewatering discharges from surface waters and wetlands (considering local topography, vegetation, and soils) unless otherwise approved by BLM, and direct trench dewatering discharges onto a well-vegetated, stable surface and utilize a section of geotextile fabric or plywood to prevent scouring during discharge as per the Stormwater Management Plan (SWMP) or construction dewatering permit conditions.
103. Minimize duration of trench dewatering discharges by scheduling dewatering operations immediately prior to lowering in, tie-ins, or backfilling. Minimizing trench disturbance (i.e., additional digging) to the extent practicable until the majority of the water is pumped out.
104. Withdraw and discharge hydrostatic test water in accordance with all applicable permits.
105. Install energy-dissipating devices and/or filter bags to prevent scour, erosion, suspension of sediment, and damage to vegetation. Monitor discharge rates to ensure effectiveness of the energy-dissipating devices.

PROTECTION OF WILDLIFE AND WILDLIFE HABITAT

106. The operator will consult with the USFWS and BLM if any Threatened or Endangered species are discovered on or adjacent to project development areas.
107. No surface-disturbing activities shall occur from December 1 through April 30 in those portions of the Unit mapped as winter concentration and sever winter range, in order to protect wintering big game on those federal leases with a big game protection timing restriction and according to conditions contained in these documents. This restriction would not apply to production and routine maintenance activities. The following activities are not considered "routine:"
 - a. Heavy construction requiring the use of cranes, backhoes, bulldozers or other heavy equipment
 - b. Drilling and completion operations
 - c. Workover rigs
 - d. Multiple water-hauling trips to one site in a day

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Exceptions or variances to this restriction will be considered and evaluated according to UFO policies. Exceptions and variances to standard restrictions and protection measures must be requested in writing to the BLM Authorized Officer or BLM biologist. Such requests are evaluated on a case-by-case basis and may be granted by a BLM biologist depending on animal or herd status, topographic characteristics, site context, weather severity, and other factors, provided species and habitats are adequately protected. Any modifications to prescribed restrictions, and the rationale behind those decisions, will be documented in the project case file(s). In some cases, site characteristics and/or conditions may warrant expanding buffer distances to ensure adequate protection of species.

108. Bear-resistant dumpsters and trash receptacles shall be installed at all facilities.
109. All food items shall be stored in a central location, or stored individually in bear-resistant food boxes. Feeding of any wildlife shall be prohibited.
110. The bringing of dogs or other domestic animals onto facility locations shall be prohibited.
111. The operator shall install screens on all heater-treaters and other exhaust systems to prevent nesting bird activity and bird mortality.
112. All lethal and non-lethal injury events that involve migratory birds will be reported to a BLM official immediately.
113. From May 15- July 15, no surface-disturbing activities shall occur in order to protect breeding migratory birds. This restriction is relaxed if surveys determine no nests or nestlings will be directly disturbed by construction activities. In the event that the proposed construction is delayed, resurveys shall be conducted if surface disturbance occurs on or after May 15 of the following year. Operator shall provide documentation of nesting bird surveys conducted by a qualified biologist prior to construction.
114. The operator shall report spills that might affect wildlife (in particular spills that impact water) to the local CPW District Wildlife Manager within 24 hours of detection.
115. Screened water-suction hoses shall be utilized to exclude fish when drawing water from streams, ponds, and lakes.
116. Wildlife crossovers (trench plugs) with ramps shall be installed on each side of trenches at maximum ¼ mile intervals and at well-defined game trails to facilitate passage of big game across the open trench and to allow trapped wildlife to escape the trench.

MANAGEMENT OF INVASIVE, NON-NATIVE SPECIES

117. The operator and the operator's contractors will disinfect heavy equipment, hand tools, boots and any other equipment used previously in a river, lake, pond, or wetland, by routinely cleaning equipment using 140° water and high-pressure sprayers to remove dirt, mud and foreign debris before equipment is brought on-site.
118. All disturbances, pads, roads (private and public) pipelines, and pullouts will be maintained noxious weed free to deter any further weed spread. If gravel is to be used only gravel that is free of Colorado State A and B listed noxious weed species will be used.
119. The operator and the operator's contractors will clean trucks and equipment at wash-stations in nearby towns or at the contractor's yard (off-site) to ensure that all equipment and vehicles shall be clean of all dirt and debris that can harbor weed seed.
120. Monitoring and control of noxious or invasive weeds attempting to establish within the project boundaries throughout the construction and production phases should be performed in coordination with routine maintenance activities and in accordance with state law and BLM regulations.

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121. The Operator will monitor for and control noxious or invasive weeds throughout the construction and production phases. Mandatory noxious weed control is required on the well pads, pipelines, and access roads used by the lessee/operator for the life of the project.
122. Application of pesticides and herbicides on public lands will conform to BLM and state laws. The BLM requires that all Pesticide Use Proposals (PUP) will be applied for and given to BLM in April prior to the weed treatment season. Pesticide Application Records (PARs) resulting from approved PUP will be turned into BLM 10 days post herbicide treatment of noxious weeds. BLM has a specific PUP and PAR forms and can be provided to the operator when necessary or upon request.
123. To enhance effectiveness and prevent transport into streams, apply chemicals during appropriate weather conditions (generally calm and dry) and during the optimum time for control of the target pest or weed.

RECLAMATION

124. Reclamation should be implemented concurrent with construction and site operations to the fullest extent possible.
125. Interim reclamation of well pads and final reclamation of pipeline corridors will commence with the removal of debris and waste materials (other than *de minimus* amounts) including, but not limited to concrete, sack bentonite, and other drilling mud additives; sand, plastic, pipe and cable; and equipment associated with drilling, re-entry, or completion operations.
126. To mitigate additional soil erosion at the well pad and potential increased sediment and salt loading to nearby surface waters, all disturbed areas affected by drilling or subsequent operations, except areas reasonably needed for multi-well drilling and/or production operations, shall be reshaped and reclaimed as early and as nearly as practicable to their original condition.
127. Recontoured surfaces will undulate and mimic the native landforms unless otherwise approved by BLM and meet existing grades at a slope that is similar to that which they are joining.
128. The operator will ensure stockpiled topsoil is evenly distributed over the top of spoil used in recontouring/partial-reshaping efforts.
129. Exposed slopes shall be revegetated as soon as possible, with a native seed mix or approved seed mix, at a density and a pattern that replicate what was removed during construction. Non-native seed mix can create visual impacts through strong color and texture contrast with the surrounding native vegetation.
130. Final reclamation actions shall be initiated within six months of the termination of operations unless otherwise approved in writing by the Authorized Officer.
131. Reclamation of pipeline routes will begin following pipe installation and will be completed within 6 months unless otherwise approved by BLM. Pipeline corridors will be reclaimed in the same fashion as other pipeline routes, even in cases where additional pipelines are expected to be located.
132. The operator will be responsible for achieving a reclamation success rate for interim reclamation and final abandonment of sufficient vegetative ground cover from reclaimed plant species within 3 growing seasons after the application of seed as determined by BLM.
133. In preparation for final reclamation of a well site following operator abandonment, if the working surface and entrance to a well pad has been surfaced with gravel or similar materials, the material must be removed from the well location or buried deep within the recontoured cut to prevent possible surface exposure.
134. Fill material shall be pushed into cut areas and up over backslopes. Leave no depressions that will trap water or form ponds.

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135. Recontoured/partially reshaped areas will be seeded with a BLM-approved seed mixture, and all slopes exceeding 5% will be protected using best available management practices such as biodegradable matting, surface roughening techniques, aggressive revegetation efforts, etc., to provide additional protection to topsoil, retain soil moisture, and help promote desired vegetative growth.
136. The effects of soil compaction on areas to be reclaimed will be reduced through preparation of the seed bed by disking or ripping. Seed will be drilled on contour at a depth no greater than 1/2 inch. In areas that cannot be drilled, seed will be broadcast at double the seeding rate and efforts will be made to ensure broadcast seed is in contact with soil.
137. Stockpiled topsoil segregated from spoil piles will be replaced in its respective original position (last-out, first-in) to minimize mixing of soil horizons.
138. In split estate situations, the BLM-approved seed mix is recommended for reclamation purposes in the Surface Use Plan of an APD. Consideration will be given to requests by private landowners to utilize alternate seed mix designs, selection and application of which must still comply with the following minimum BLM standards:
 - a. The seed shall contain no noxious, prohibited, or restricted weed seeds and shall contain no more than 0.5% by weight of other weed seeds. Seed may contain up to 2.0% of “other crop” seed by weight, including the seed of other agronomic crops and native plants; however, a lower percentage of other crop seed is recommended.
 - b. If seed cannot be planted using drill seeding, methods such as broadcast seeding or hydroseeding will apply seed mix at double the rate required of drill seeding.
 - c. Seed tags or other official documentation shall be supplied to the designated BLM Uncompahgre Field Office Natural Resource Specialist upon completion of each seeding activity necessary during the life of the project.
139. Natural drainage patterns will be restored and stabilized with a combination of vegetative (seeding) and non-vegetative (straw bales, woody debris, straw wattles, biodegradable fabrics, etc.) techniques.
140. The disturbed area will be left in a condition that provides drainage with no additional maintenance.
141. Woody debris will be pulled back over recontoured areas (woody debris will not account for more than 20% of total surface cover) to help stabilize soils, trap moisture, and provide cover for vegetation.
142. Monitoring and additional reclamation efforts will persist until reclamation is proven successful (as determined by the BLM).
143. A Reclamation Status Report will be submitted to the UFO annually for all actions that require disturbance of surface soils on BLM mineral estate as a result of the Proposed Action. Actions may include, but are not limited to, well pad and road construction, construction of ancillary facilities, or power line and pipeline construction. The Reclamation Status Report will be submitted by December of each calendar year, and will include the well number, legal description, project description (e.g., well pad or pipeline), reclamation status (e.g., interim or final), whether the well pad or pipeline has been revegetated and/or recontoured, date seeded, photos of the reclaimed site, estimate of acres seeded, and seeding method (e.g., disk-plowed, drilled, or both). Internal and external review of this plan and the process used to acquire the necessary information will be conducted annually, and new information or changes in the reporting process will be incorporated into the plan.