

# **Appendix B**

## **Applicant-Committed Mitigation Measures**

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## **APPENDIX B: APPLICANT-COMMITTED MITIGATION MEASURES**

### **Surface Use Plan**

#### **Existing Roads:**

1. All existing roads to be used for this project shall be reconstructed and/or maintained consistent with BLM minimum standards as found in BLM Manual Section 9113.
2. Existing roads shall be maintained in a condition as good as or better than the condition prior to the beginning of operations. The existing access road shall be regularly maintained in a safe and usable condition. A regular maintenance program may include, but is not limited to, blading, ditching, culvert installation, and gravel surfacing.
3. All vehicles shall use only the authorized access road(s), as depicted in the approved APD. Vehicles shall not use any other access route to the drill/well pad and any ancillary facilities including, but not limited to, any two-track roads or trails and pipeline rights-of-way.
4. If snow removal outside the new and existing roadways is undertaken, equipment used for snow removal operations shall be equipped with shoes to keep the blade at least six inches off the ground surface. Special precautions shall be taken where the surface of the ground is uneven to ensure that equipment blades do not destroy the vegetation.
5. Unless otherwise exempted, free and unrestricted public access shall be maintained on the access road.

#### **Roads to be Constructed or Reconstructed:**

6. In the event production is established, the sub-base of the proposed road shall be thoroughly compacted (to at least 85% maximum dry density), and surfaced with at least four inches of gravel where road alignment-specific conditions require or as directed by the BLM. A temporary variance to this condition of approval may be granted if the Operator requests such a variance, in advance and in writing, during periods when soil moisture is low.
7. Additional culverts (in addition to those specified in the APD) shall be placed along the proposed access road if the need arises, or as directed by the BLM Authorized Officer. The minimum diameter for culverts shall be 18 inches. All culverts shall have a minimum of 12 inches fill or ½ the pipe diameter of fill, whichever is greater, placed on top of the culvert, and shall be of length sufficient to allow at least 24 inches of culvert to extend from the fill slope face (on both the inlet and outlet sides). The inlet & outlet shall be set at the gradient of the native ground or existing channel. If the culvert is being placed in an existing watercourse channel, the culvert shall be aligned with the existing channel. The entire length of pipe shall be bedded on native material before backfilling. Backfilling shall be completed using unfrozen material and rocks no larger than two inches in diameter. Care

shall be exercised to thoroughly compact the backfill around and under the culvert. Tamp each corrugation with a shovel handle. The backfill shall be brought up evenly in 6" lifts on both sides of the culvert and compacted. A permanent marker shall be installed at the inlet and outlet of the culvert to prevent vehicles from damaging the culvert.

8. After the road is crowned and ditched, any berm located above the cutslope shall be removed, to allow overland flow to sheet across the cutslope into the ditch.
9. Before proposed road construction activities begin, the topsoil (to a depth of at least 6 inches) must be bladed to the side of the road and stockpiled to a depth of no greater than 24 inches. 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, the topsoil shall be spread over the cut slopes.
10. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support equipment. If equipment (including licensed highway vehicles) creates ruts in excess of 4 inches deep, the soil shall be deemed too wet to adequately support construction equipment.
11. Construction-related traffic shall be restricted to routes approved by the BLM Authorized Officer. New access roads or cross-country vehicle travel will not be permitted unless prior written approval is granted by the BLM Authorized Officer.
12. Upon completion of the proposed access road(s), the roads shall be regularly maintained in a safe and usable condition. A regular maintenance program may include, but is not limited to, blading, ditching, culvert installation, and gravel surfacing.

**Existing and/or Proposed Facilities if Productive:**

13. The Operator shall comply with all federal, state, and local laws/regulations pertaining to disposal of produced water, including the use of properly permitted and authorized disposal sites.
14. All storage batteries and compressor facilities constructed or utilized as components of this project, including drain sumps and sludge holdings at compressor facilities, shall be surrounded by an impervious dike of sufficient size to hold the entire storage capacity of the largest tank in the facility and still allow one foot of freeboard or 110% of the capacity of the largest tank in the facility. The containment or diversionary structure shall be impervious to any oil, glycol, produced water, or other toxic fluid for 72 hours and would be constructed so that any discharge from a primary containment system would not drain, infiltrate, or otherwise escape to ground water, surface water, or navigable waters before cleanup is completed.

**Location and Type of Water Supply:**

15. The water supply source for drilling must be approved and authorized by the State of Wyoming.

**Methods for Handling Waste Disposal:**

16. The Operator shall comply with the Hazardous Materials Management Summary provided in the Continental Divide/Wamsutter II EIS for hazardous materials that may potentially be used, produced, transported, disposed of, or stored on the well location.
17. The Operator shall comply with all federal, state, and local laws and regulations pertaining to disposal of human and solid wastes.
18. Fluids containing any hydrocarbons (condensate, diesel, etc.) shall not enter the reserve pit or production pit.
19. Produced fluids shall be contained in test tanks during completion and testing. This fluid shall not be placed into the reserve pit without prior written approval from the BLM Authorized Officer.
20. Within 90 days of initial production start-up, the Operator shall submit to the BLM Authorized Officer an analysis of the produced water. Produced water will be trucked off-site to an approved location not located on federal surface, or will be disposed of by other approved methods. Produced water pits will not be used.
21. The reserve pit, if necessary, shall be lined with an impermeable liner. The impermeable liner shall have a permeability less than or equal to  $1 \times 10^{-7}$  cm/sec. The liner shall be installed so that the liner will not leak and shall be chemically compatible with all substances which may be placed into the pit. Liners made of any man-made synthetic material shall be of sufficient strength and thickness to withstand normal installation and pit use.
22. After evaporation and when dry, the reserve pit liners (if any) shall be cut off as near to the mud surface as possible and hauled to a legal landfill prior to backfilling the pit with a minimum of 5 feet of soil material.
23. Fracturing fluids shall not be released into the flare pit.
24. No fluids containing hydrocarbons or hazardous substances shall be allowed to accumulate in the flare pits.

**Well Site Layout:**

25. For the protection of livestock and wildlife, all pits and open cellars shall be fenced. Fencing shall be in accordance with BLM specifications. Netting shall be placed over all

open production pits to eliminate any hazard to migratory birds or other wildlife. Netting is also required over reserve pits which have been identified as containing oil or hazardous substances (CERCLA Section 101(14)). The mesh diameter of netting shall be no larger than one inch. The reserve pit shall be fenced on three sides during drilling, and the working side shall be fenced immediately after the drilling rig is moved. Fencing shall meet BLM specifications. The reserve pit shall remain fenced until reclamation is initiated.

26. At least 6 inches of topsoil shall be stripped from the well pad and stockpiled within the designated topsoil storage areas.
27. If water is encountered within 50 feet of the surface, during construction of the rathole, reserve pit, or drilling of a water well, the Operator must contact the BLM Authorized Officer.

**Surface Reclamation Plans:**

28. The following seed mixture shall be used.

Species	Scientific Name	Variety	Pounds PLS/Acre*
<b>Grasses</b>			
Slender wheatgrass	Agropyron techycaulum		2.0
Thickspike wheatgrass	Agropyron dasystachyum	Critana	4.0
Western wheatgrass	Agropyron smithii		2.0
Indian ricegrass	Oryzopsis hymenoides		1.0
Bottlebrush squirreltail	Sitanion hystrix		1.0
Needle-and-thread	Stipa comata		1.0
<b>Shrubs</b>			
Gardner's saltbush	Atriplex gardnerii		1.0
<b>Total</b>			12.0

\* These seed rates are for drill seeding, in pounds PLS (Pure Live Seed). If broadcast seeding, double the rates provided.

29. Seeding shall be completed either late in the autumn (September 15 to November 15, before freeze up) after completion, or as early as possible the following spring to take advantage of available ground moisture. Seeding shall be repeated until a satisfactory stand is established as determined by the BLM Authorized Officer. If the seed is broadcast, twice the proposed drilled rate shall be used.
30. After (1) recontouring all disturbed areas of the project to the original topography and (2) final grading and replacement of topsoil, the entire surface of the well site and access road shall be ripped to a depth of 18 to 24 inches on 18 to 24 inch centers.
31. Rat and mouse holes (subgrade excavations for the conduct of drilling operations) shall be filled and compacted from the bottom to the top immediately upon release of the drilling rig from the location.

32. After the access road is completed, any of the original two-track roads and trails that remain shall be reclaimed by ripping to a depth of 18 to 24 inches at 18 to 24 inch spacing.
33. All equipment, debris, and trash must be removed from the site prior to final reclamation operations.
34. Should the well become productive, all disturbed areas not needed for production operations shall be reclaimed (partial reclamation) as soon as possible, but no longer than within 2 years from the date production facilities are completed. The production pad shall be as small as possible but no larger than one and a half acres.
35. After the well is plugged and abandoned, the site shall be reclaimed as soon as possible, but no longer than within 2 years from the date of plugging.

### **Pipeline Rights of Way (Pipe < 6 inches Inside Diameter)**

36. Where pipelines cross ephemeral drainages, the Right-of-Way Holder(s) (Holder) shall ensure that the channel geometry after construction is nearly identical to that prior to construction, and that ephemeral flows will not be diverted or otherwise result in accelerated rates of erosion.
37. 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 thereunder, or applicable laws of the State of Wyoming and regulations issued thereunder. Holder shall give immediate notice of any such discharge to the Authorized Officer and such other federal and state officials as are required by law to be given such notice.
38. 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. Sandbags, rock, or other materials or objects installed shall be removed from the site upon completion of hydrostatic testing.
39. The Holder 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.

**Other:**

40. The Operator shall have a qualified individual to serve as Compliance Coordinator available during active operations. This individual will be responsible for ensuring that all requirements of the Surface Use Plan and appropriate Conditions of Approval are applied.
41. The construction of the well pad and all roads constructed or reconstructed on public lands shall be monitored by a licensed professional engineer or a qualified inspector (not the dirt contractor) to ensure that the construction of the well pad and road meets Bureau of Land Management standards as outlined in the approved APD.

**Resource Protection Measures**

**Cultural and Paleontological Resources Protection:**

42. A BLM-approved archaeologist will complete a Class III cultural resources field inventory over all surfaces where disturbance is proposed. Upon completion of the inventory, the BLM would review the reports generated by the archaeologist, and the BLM would ensure that the appropriate avoidance and mitigation measures were applied as COAs for the permit (whether for APD or ROW).
43. The Operator shall be responsible for informing all personnel associated with this project that those persons shall be subject to prosecution for damaging, altering, excavating, or removing any archaeological, historical, or fossil objects or sites. If archaeological, historical, or fossil materials are discovered, the Operator shall immediately suspend all operations that may further disturb or damage such materials. The BLM Authorized Officer shall immediately be contacted and informed of the discovery of such materials. Operations shall not resume until written authorization to proceed is issued by the BLM Authorized Officer.
44. Within five working days, the BLM Authorized Officer will evaluate the discovery of such materials, and the Operator will be informed of the mitigations and/or actions necessary to prevent the loss of significant cultural or scientific values.
45. The Operator shall be responsible for the cost of any mitigation required by the BLM Authorized Officer. The BLM Authorized Officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the BLM Authorized Officer that the required mitigation(s) have been completed, the Operator will be allowed to resume operations.

### **Recreational and Visual Resources Protection:**

46. All above-ground structures, production equipment, tanks, transformers, and insulators not subject to coloring requirements for safety shall be painted the color of “Carlsbad Canyon” (2.5Y 6/2). Further detail on the coloring requirements may be obtained from the BLM Authorized Officer, if necessary.

### **Soil and Plant Community Resources Protection:**

47. The Operator shall be responsible for the total control of all invasive/noxious weed species on any and all disturbed sites associated with this APD, including, but not limited to, the drill/well pad, access road(s), and pipeline rights-of-way. The Operator is responsible for consulting with the BLM Authorized Officer and, if necessary, local authorities prior to control activities of weed-infested areas. The Operator shall notify the Authorized Officer if invasive and/or noxious weeds are observed within the disturbed areas associated with this APD. The Operator shall obtain written approval from the BLM Authorized Officer prior to initiating weed control operations.
48. The Operator or contractor will obtain proper BLM pesticide application permits and would comply with the applicable federal and state laws and regulations concerning the use of pesticides (e.g., insecticides, herbicides, fungicides, rodenticides, and other similar substances) in all activities/operations under this permit. Pesticides will not be permanently stored on public lands.

### **Wildlife Resource Protection:**

49. If a raptor tries to nest on or in any well buildings or facilities, the Operator shall immediately notify the BLM Authorized Officer.
50. Within one mile of active ferruginous hawk and eagle nests, and within ¾-mile of all other active raptor nests, construction, drilling and other activities potentially disruptive to nesting raptors are prohibited during the period of February 1 to July 31.
51. Within two miles of identified sage grouse leks, construction, drilling and other activities potentially disruptive to strutting and nesting sage/sharp-tailed grouse are prohibited during the period of March 1 to June 30.
52. All surface-disturbing activities shall be restricted from encroaching to within ¼-mile of identified sage grouse leks.
53. When located in occupied mountain plover habitat, construction, drilling, reclamation and other activities are prohibited during the reproductive period of April 10 to July 10. Should construction, drilling and other activities be anticipated between these dates, an exception must be granted by the BLM Authorized Officer, and consistent with the March 2002 USFWS Mountain Plover Survey Guidelines.

54. If it were determined there is any activity in the area by endangered species not previously discovered, the BLM and Operator will confer and any necessary and appropriate steps would be taken.

### **Miscellaneous Permitting Requirements**

55. All survey monuments found within the area of operations shall be protected. Survey monuments include, but are not limited to, (1) General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U.S. Coast and Geodetic Survey benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any survey monuments, the incident shall be reported in writing to the BLM Authorized Officer.
56. The Operator shall be held responsible for the prevention and suppression of fires on public lands caused by its employees, contractors, or subcontractors. During conditions of extreme fire danger, surface use operations may be either limited or suspended, or additional measures may be required by the BLM Authorized Officer. The occurrence of any wildland fire shall be reported immediately to the BLM Fire Dispatch, 1 (800) 295-9953.
57. No flaring of gas shall be allowed into the reserve pit without prior approval by the BLM Authorized Officer.
58. The Operator shall comply with all Federal, State, and local laws, rules, and regulations, including the acquisition of any necessary Federal, State, and/or local permits.
59. The Operator will construct, operate, and maintain the facilities and structures within the grants and/or permits in conformance with the descriptive and technical data which were furnished the BLM in connection with the application for these grants and/or permits. Any relocation, additional construction, or use which is not in accord with such data may not be initiated without prior written approval of the Authorized Officer.
60. Monitoring of construction, drilling, and rehabilitation operations will be provided by the Operator. A BLM compliance officer may make regular inspections of all activities during construction, drilling, and follow-up restoration/reclamation.
61. Discharges, spills, fires, accidents, or blowouts will be reported to the Authorized Officer in accordance with "Notice to Lessee-Reporting of Undesirable Events" (NTL-3A), or an applicable Onshore Oil and Gas Order. Containment of hydrocarbons and procedures for handling the above is contained in the Operator's Spill Prevention Control and Countermeasure Plan (SPCC) as required under 40 CFR, Part 112.
62. Operator will assist in the prevention of illegal discharge of firearms whenever possible. This measure would help reduce vandalism and wildlife violation incidents.