

APPENDIX C

PROJECT-WIDE MITIGATION MEASURES AND PROCEDURES

APPENDIX C PROJECT-WIDE MITIGATION MEASURES AND PROCEDURES

2.1.9 PROJECT-WIDE MITIGATION MEASURES AND PROCEDURES

Double Eagle proposes to implement the following mitigation measures, procedures, and management requirements on public lands to avoid or mitigate resource or other land use impacts. These mitigation measures and procedures may be applied on privately-owned surface if specified by the involved private surface owners. An exception to a mitigation measure and/or design feature may be approved on public land on a case-by-case basis when deemed appropriate by the BLM. An exception will be approved only after a thorough, site-specific analysis determines that the resource or land use for which the measure was put in place is not present or will not be significantly impacted.

2.1.9.1 Preconstruction Planning and Design Measures

1. Double Eagle and the BLM will make on-site IDT inspections of each proposed and staked facility site (e.g., well sites), new access road, access road reconstruction, and pipeline alignment projects so that site-specific recommendations and mitigation measures can be developed.
2. New road construction and maintenance of existing roads in the CCPA and ARPA will be accomplished in accordance with BLM Manual 9113 standards unless private landowners or the State of Wyoming specify otherwise.
3. Prior to construction, Double Eagle will submit a Master Surface Use Plan (MSUP) for each pod. This plan will contain individual APDs for each drill site and Sundry Notices and/or ROW applications for pipeline and access roads. APDs submitted by Double Eagle will show the layout of the drill pad over the existing topography, dimensions of the pad, volumes and cross sections of the cut and fill (when required), location and dimensions of reserve pit(s), and access road egress and ingress. The MSUP will include itemization of project administration, time frame, and responsible parties.
4. Double Eagle will slope-stake construction activities when required by the BLM (e.g., steep and/or unstable slopes) and receive approval from the BLM prior to start of construction.

2.1.9.2 Resource-Specific Requirements

Double Eagle proposes to implement the following resource-specific mitigation measures, procedures, and management requirements on public lands.

2.1.9.2.1 Range Resources and Other Land Uses

Mitigation requirements listed under Soils, Vegetation, and Wetlands, and Wildlife also apply to Range Resources and Other Land Uses.

1. Double Eagle will coordinate with the affected livestock operators to ensure that livestock control structures remain functional during drilling and production operations.

2.1.9.2.2 Air Quality

1. All BLM-conducted or authorized activities (including natural gas development alternatives) must comply with applicable local, state, tribal and federal air quality regulations and standards. Double Eagle will adhere to all applicable ambient air quality standards, permit requirements (including preconstruction, testing, and operating permits), motorized equipment and other regulations, as required by the State of Wyoming, Department of Environmental Quality, Air Quality Division (WDEQ-AQD).
2. Double Eagle will not allow burning garbage or refuse at well locations or other facilities. Any other open burning will be conducted under the permitting provisions of Section 13 of the Wyoming Air Quality Standards and Regulations.
3. On federal land, Double Eagle will initiate immediate abatement of fugitive dust (by application of water, chemical dust suppressants, or other measures) when air quality, soil loss, or safety concerns are identified by the BLM or the WDEQ-AQD. These concerns include, but are not limited to, potential exceedances of applicable air quality standards. The BLM will approve the control measure, location, and application rates. If watering is the approved control measure, the operator must obtain the water from state-approved source(s).
4. If air quality analyses indicate exceedances in NOX, one or all of following types of control measures will be implemented: the reduction of compression requirements, electric compression or use of nonselective catalytic reduction, lean combustion, or selective catalytic reduction control technologies. Currently, these levels are below required levels and the likelihood of requiring these measures is small.

2.1.9.2.3 Transportation

1. Existing roads will be used as collectors and local roads whenever possible. Standards for road design should be consistent with BLM Road Standards Manual Section 9113.
2. Roads constructed as a part of the Cow Creek Pod project not required for routine operation and maintenance of producing wells and ancillary facilities will be permanently blocked, reclaimed, and revegetated.
3. Areas with important resource values, steep slopes and fragile soils will be avoided, where possible, in planning for new roads.
4. Permits are required from Carbon County for any road access to or across a county road or for any pipeline crossing of a county road. These permits will be acquired prior to construction of additional roads. All roads on public lands not required for operation and maintenance of field production should be permanently blocked, recontoured and reclaimed. Roads on private lands should be treated similarly depending on the desires of the land owner.
5. The Proponent will be responsible for preventive and corrective maintenance of roads in the project area throughout the duration of the project. This may include blading, cleaning ditches and drainage facilities, dust abatement, noxious weed

control, or other requirements as directed by the BLM or the Carbon County Road and Bridge Department.

6. Except in emergency situations, access will be limited to drier conditions to prevent severe rutting of the road surface. Culverts will be installed, where needed, to allow drainage in all draws and natural drainage areas. Low water crossings will be utilized, where applicable. Onsite reviews will be conducted with BLM personnel for approval of proposed access prior to any construction.

2.1.9.2.4 Minerals/Paleontology

Mitigation measures presented in the Soils and Water Resources sections of this EA will avoid or minimize many of the potential impacts to the surface mineral resources. Protection of subsurface mineral resources from adverse impacts will be provided by the BLM and WDEQ casing and cementing policy.

Paleontological resource values will be protected through the following mitigation measure:

1. If recommended by the BLM, each proposed facility located in areas with known and potential vertebrate paleontological resource significance will be surveyed by a BLM-approved paleontologist prior to surface disturbance (USDI-BLM 1987, 1990).
2. Discovery Contingency. Contingency should be made for the accidental discovery of significant fossils by project personnel. If fossils are discovered by construction personnel during implementation of the project, the BLM will be notified immediately. If the fossils could be adversely affected by construction, construction activities will be redirected until a qualified paleontologist has determined the importance of the uncovered fossils, the extent of the fossiliferous deposits, and made and implemented recommendations regarding further mitigation.
3. Field Survey. No specific data currently exists on deposits of high and undetermined paleontologic potential in CCPA. For that reason, field survey for paleontologic resources will be conducted on a case-by-case basis, as directed by the BLM, in areas where the Browns Park, Green River, and Wasatch formations are exposed. Field survey may result in the identification of additional mitigation measures to lessen adverse impacts to fossil resources. This mitigation may include collection of additional data and fossil material, obtaining representative samples of fossil material, by monitoring excavation, or by avoidance. In some cases no action beyond that conducted during the field survey may be necessary.

2.1.9.2.5 Soils

1. Reduce the area of disturbance to the absolute minimum necessary for construction and production operations while providing for the safety of the operation.
2. Where feasible, locate pipelines immediately adjacent to roads to avoid creating separate areas of disturbance and in order to reduce the total area of disturbance.
3. Avoid using frozen or saturated soils as construction material.
4. Minimize construction activities in areas of steep slopes.

5. Design cut slopes in a manner that will allow retention of topsoil, surface treatment such as mulch, and subsequent revegetation.
6. Selectively strip and salvage topsoil or the best suitable medium for plant growth from all disturbed areas to a minimum depth of six inches on all well pads.
7. Where possible, minimize disturbance to vegetated cuts and fills on existing roads that are improved.
8. Install runoff and erosion control measures such as water bars, terms, and interceptor ditches if needed.
9. Install culverts for ephemeral and intermittent drainage crossings. Design all drainage crossing structures as directed by the BLM.
10. Implement minor routing variations during access road layout to avoid steep slopes adjacent to ephemeral or intermittent drainage channels. Maintain a 100-foot wide buffer strip of natural vegetation where possible (not including wetland vegetation) between all construction activities and ephemeral and intermittent drainage channels.
11. Include adequate drainage control devices and measures in the road design (e.g., road berms and drainage ditches, diversion ditches, cross drains, culverts, out-sloping, and energy dissipater) at sufficient intervals and intensities to adequately control and direct surface runoff above, below, and within the road environment to avoid erosive concentrated flows. In conjunction with surface runoff or drainage control measures, use erosion control devices and measures such as temporary barriers, ditch blocks, erosion stops, mattes, mulches, and vegetative covers. Implement a revegetation program as soon as possible to re-establish the soil protection afforded by a vegetal cover.
12. Upon completion of construction activities, restore topography to near pre-existing contours at the well sites, along access roads and pipelines, and other facilities sites; replace up to six inches of topsoil or suitable plant growth material over all disturbed surfaces; apply fertilizer as required; seed; and mulch.

2.1.9.2.6 Water Resources

Other mitigation measures listed in the Soils and Vegetation and Wetlands sections of this EA will also apply to Water Resources.

1. Limit construction of drainage crossings to no-flow periods or low-flow periods.
2. Minimize the area of disturbance within perennial, ephemeral, and intermittent drainage channel environments.
3. Prohibit construction of well sites, access roads, and pipelines within 500 feet of surface water and/or riparian areas. Possible exceptions to this will be granted by the BLM based on an environmental analysis and site-specific mitigation plans.
4. Design channel crossings to minimize changes in channel geometry and subsequent changes in flow hydraulics.

5. Maintain vegetation barriers occurring between construction activities and ephemeral and intermittent channels.
6. Design and construct interception ditches, sediment traps/silt fences, water bars, and revegetation and soil stabilization measures if needed.
7. Construct channel crossings by pipelines such that the pipe is buried a minimum of four feet below the channel bottom.
8. Regrade disturbed channel beds to the original geometric configuration with the same or very similar bed material replaced.
9. Case wells during drilling and case and cement all wells in accordance with Onshore Order No. 2 to protect all high quality water aquifers. High quality water aquifers are aquifers with known water quality of 10,000 TDS or less. Include well casing and welding of sufficient integrity to contain all fluids under high pressure during drilling and well completion. Further, wells will adhere to the appropriate BLM cementing policy.
10. Construct the reserve pits in cut rather than fill materials or compact and stabilize fill. Inspect the subsoil material of the pit to be constructed in order to assess soil stability and permeability and whether reinforcement and/or lining are required. If lining is required, line the reserve pit with a reinforced synthetic liner at least 12 mils in thickness and a bursting strength of 175 x 175 pounds per inch (ASTMD 75179). Consideration should be given to use of closed or semiclosed drilling systems in situations where a liner may be required.
11. Maintain two feet of freeboard on all reserve pits to ensure the reserve pits are not in danger of overflowing. Shut down drilling operations until the problem is corrected if leakage is found outside the pit.
12. Extract hydrostatic test water used in conjunction with pipeline testing and all water used during construction activities from sources with sufficient quantities and through appropriation permits approved by the State of Wyoming.
13. Discharge hydrostatic test water in a controlled manner onto an energy dissipater. The water is to be discharged onto undisturbed land that has vegetative cover, if possible, or into an established drainage channel. Prior to discharge, treat or filter the water to reduce pollutant levels or to settle out suspended particles if necessary. If discharged into an established drainage channel, the rate of discharge will not exceed the capacity of the channel to safely convey the increased flow. Coordinate all discharge of test water with the Wyoming SEO and the BLM
14. Discharge all concentrated water flows within access road ROWs onto or through an energy dissipater structure (e.g., riprapped aprons and discharge points) and discharge into undisturbed vegetation.
15. Develop and implement a pollution prevention plan (PPP) for storm water runoff at drill sites as required per WDEQ storm water NPDES permit requirements. The WDEQ requires operators to obtain a field permit for fields of 20 wells or more.

16. Exercise stringent precautions against pipeline breaks and other potential accidental discharges of toxic chemicals into adjacent streams. If liquid petroleum products are stored on-site in sufficient quantities (per criteria contained in 40 CFR Part 112), a Spill Prevention Control and Countermeasures (SPCC) plan will be developed in accordance with 40 CFR Part 112, dated December 1973.
17. Coordinate all crossings or encroachments of waters of the U.S. with the U.S. Army Corps of Engineers (COE).
18. Any changes in the produced water disposal method or location must have written approval from the BLM before the changes take place.

2.1.9.2.7 Fisheries

1. No fisheries mitigation is needed beyond that indicated under Water Resources and Special Status Species Fish.

2.1.9.2.8 Vegetation and Wetlands

Other mitigation measures under Soils and Water Resources will also apply to vegetation and wetlands.

1. File noxious weed monitoring forms with the BLM and implement, if necessary, a weed control and eradication program.
2. Evaluate all project facility sites for occurrence and distribution of waters of the U.S., special aquatic sites, and jurisdictional wetlands. All project facilities will be located out of these sensitive areas. If complete avoidance is not possible, minimize impacts through modification and minor relocations. Coordinate activities that involve dredge or fill into wetlands with the COE.
3. On BLM lands, an approved Pesticide Use Proposal will be obtained before the application of herbicides or other pesticides for the control of noxious weeds.
4. Disturbed areas will be seeded and stabilized in accordance with BLM-approved reclamation guidelines.

2.1.9.2.9 Wildlife

1. During reclamation, establish a variety of forage species that are useful to resident herbivores.
2. Prohibit unnecessary off-site activities of operational personnel in the vicinity of the drill sites. Inform all project employees of applicable wildlife laws and penalties associated with unlawful take and harassment.
3. Limit construction activities, per BLM authorizations, within big game crucial winter range from November 15 to April 30.
4. Complete a raptor survey of the CCPA prior to construction to ensure that well sites are located away from potential conflict areas.

5. Survey and clear well sites within one mile of raptor nests identified in the raptor survey prior to the commencement of drilling and construction during the raptor nesting period (February 1 through July 31).
6. When an “active” raptor nest is within 0.75 to one mile (depending on species and line of sight) of a proposed well site, restrict construction during the critical nesting season for that species.
7. Do not perform construction activities within 0.25 mile of existing greater sage-grouse leks at any time.
8. Provide for greater sage-grouse lek protection during the breeding, egg-laying, and incubation period (March 1-June 30) by restricting construction activities within a two-mile radius of active greater sage-grouse leks. Exceptions may be granted if the activity will occur in unsuitable nesting habitat.
9. To eliminate any hazard to migratory birds or other wildlife, the BLM will require netting (maximum two-inch mesh) be installed over any pits identified as containing oil or toxic substances.

2.1.9.2.10 Special Status Species

Special Status Plants

1. Employ site-specific recommendations developed by the BLM IDT for staked facilities.
2. Minimize impacts due to clearing and soil handling.
3. Monitor and control noxious weeds.
4. Comply with Section 404(b)(1) guidelines of the federal Clean Water Act (CWA).
5. Perform clearance surveys for plant species of concern.

Special Status Animals

1. Implement measures discussed in Chapter 4 for compliance with the Endangered Species Act (ESA).

2.1.9.2.11 Visual Resources

1. Paint well and central facilities site structures with flat colors (e.g., Carlsbad Canyon or Desert Brown) that blend with the adjacent surrounding undisturbed terrain, except for structures that require safety coloration in accordance with Occupational Safety and Health Administration (OSHA) requirements.
2. Utilize existing topography to screen roads, pipeline corridors, drill rigs, well heads, and production facilities from view.
3. Roads will follow contours or vegetation whenever possible to blend with the environment. Tops of facilities will be kept below ridge lines as seen from roads.

2.1.9.2.12 Noise

1. Muffle and maintain all motorized equipment according to manufacturers' specifications.
2. In any area of operations (drill site, compressor site, etc.) where noise levels may exceed federal OSHA and MSHA safe limits, Double Eagle will provide and require the use of proper personal protective equipment by employees.

2.1.9.2.13 Recreation

Measures under Wildlife, Transportation, Soils, Health and Safety, and Water Resources of this EA apply to Recreation.

1. Minimize conflicts between project vehicles and equipment and recreation traffic by posting appropriate warning signs, implementing operator safety training, and requiring project vehicles to adhere to low speed limits.

2.1.9.2.14 Socioeconomic

1. Implement hiring policies that will encourage the use of local or regional workers who will not have to relocate to the area.
2. Coordinate project activities with ranching operations to minimize conflicts involving livestock movement or other ranch operations. This will include scheduling of project activities to minimize potential disturbance of large-scale livestock movements. Establish effective and frequent communication with affected ranchers to monitor and correct problems and coordinate scheduling.
3. Double Eagle and its subcontractors will obtain Carbon County sales and use tax licenses for purchases made in conjunction with the project so that project-related sales and use tax revenues will be distributed to Carbon County.

2.1.9.2.15 Cultural Resources

1. If a site is considered eligible for, or is already on the National Register of Historic Places (NRHP), avoidance is the preferred method for mitigating adverse effects to that property.
2. Mitigation of adverse effects to cultural/historical properties that cannot be avoided will be accomplished by the preparation of a cultural resources mitigation plan.
3. If cultural resources are discovered at any time during construction, all construction activities will halt and the BLM will be immediately notified. Work will not resume until a Notice to Proceed is issued by the BLM AO.

2.1.9.2.16 Health and Safety

Measures listed under Air Quality and Water Quality also apply to Health and Safety.

1. Sanitation facilities installed on the drill sites and any resident camp site locations will be approved by the WDEQ.

2. To minimize undue exposure to hazardous situations, require measures that will preclude the public from entering hazardous areas and place warning signs alerting the public of truck traffic.
3. Haul all garbage and rubbish from the drill site to a state-approved sanitary landfill for disposal. Collect and store any garbage or refuse materials on location prior to transport in containers approved by the BLM
4. During construction and upon commencement of production operations, Double Eagle will have a chemical or hazardous substance inventory for all such items that may be at the site. Double Eagle will institute a Hazard Communication Program for its employees and will require subcontractor programs in accordance with OSHA 29 CFR 1910.1200. These programs are designed to educate and protect the employees and subcontractors with respect to any chemicals or hazardous substances that may be present in the work place. It will be required that as every chemical or hazardous material is brought on location, a Material Safety Data Sheet (MSDS) will accompany that material and will become part of the file kept at the field office as required by 29 CFR 1910.1200. All employees will receive the proper training in storage, handling, and disposal of hazardous substances.
5. Spill Prevention Control and Countermeasure Plans will be written and implemented as necessary in accordance with 40 CFR Part 112 to prevent discharge into navigable waters of the United States.
6. Chemical and hazardous materials will be inventoried and reported in accordance with the Superfund Amendments and Reauthorization Act (SARA) Title III. 40 CFR Part 335, if quantities exceeding 10,000 pounds or the threshold planning quantity (TPQ) are to be produced or stored in association with the Proposed Action. The appropriate Section 311 and 312 forms will be submitted at the required times to the State and County Emergency Management Coordinators and the local fire departments.
7. Any hazardous wastes, as defined by the Resource Conservation and Recovery Act (RCRA), will be transported and/or disposed of in accordance with all applicable federal, state, and local regulations.