APPENDIX B. DEVELOPMENT AND OPERATION PROCEDURES TECHNICAL SUPPORT DOCUMENT

1.0 ACRONYMS AND ABBREVIATIONS

APD	Application for Permit to Drill
AQD	Air Quality Division
BACT	Best Available Control Technology
bbl	barrels
Bcf	billion cubic feet
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
COA	Condition of Approval
DR	Decision Records
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
gal	gallons
LOP	life-of-project
LQD	Land Quality Division
MMcf	million cubic feet
MMcfpd	million cubic feet per day
NEPA	National Environmental Policy Act of 1969
NTC	Notice to Lessees
Operators	oil and gas development companies
OSHA	Occupational Safety and Health Administration
OVM	organic vapor meter
ppm	parts per million
ROW	right-of-way
SWPPP	Storm Water Pollution Prevention Plan
SCADA	Supervisory Control and Automated Data Acquisition
Tcf	trillion cubic feet
TDS	total dissolved solids
TRPH	total recoverable petroleum hydrocarbons
VOC	volatile organic compound
WDEQ	Wyoming Department of Environmental Quality
WDOT	Wyoming Department of Transportation
WOGCC	Wyoming Oil and Gas Conservation Commission
WQD	Water Quality Division
WSEO	Wyoming State Engineer's Office

2.0 INTRODUCTION

This technical support document provides a general summary of the Moxa Arch Area Infill Gas Development Project and includes a Transportation Plan, Reclamation Plan, and Hazardous Materials Summary. These documents are provided in support of the *Moxa Arch Area Infill Gas Development Project Environmental Impact Statement* (EIS). It is not the intent of this document to establish specific procedures for the implementation of the Project, but rather to assist in the analysis of alternatives. Specific conditions of approval, operating procedures, etc., will be established in the Record of Decision when the selected alternative is developed.

This document identifies differences in development actions among alternatives. In any instance where this document might seem to conflict with the EIS, the EIS will take precedence.

3.0 PROJECT DEVELOPMENT

Drilling and development operations would, in most areas, continue year-round, unless prohibited by Standard Stipulations for Surface Disturbing Activities (Appendix A). Drilling would occur at the rate of approximately 186 wells per year over a 10-year period. However, the BLM will not specifically regulate the pace of development within the MAA.

3.1 Traffic Access

Access routes to the Project Area will include I-80 in the south, U.S. Highway 30 through the center, U.S. Highway 189 in the northwest, and State Highway 372 in the northeast. Access within the Project Area boundary will be via the existing road network, which consists of arterial roads and individual well access roads.

3.2 Workovers

Periodically, a workover on a well may be required. A well-servicing rig is generally used during workover operations to perform tasks such as well bore or surface equipment repairs, reservoir evaluation, formation evaluation by wireline, or stimulation treatments to restore or enhance well performance. Workover operations are typically performed during daylight hours and are of short duration; however, depending on the scope of work to be performed, workover operations can sometimes require several days to several weeks to complete. Unless fracture stimulation is necessary, workover operations would typically require from 5 to 10 workers on location at any given time. During fracture treatments, an additional 10 to 20 individuals may be on site. Additional surface disturbance is rarely necessary to conduct workover operations; however, temporary pits may occasionally be used to store fluids. Approval from the BLM Authorized Officer (AO) would be requested should the need for new surface disturbance arise.

3.3 Preconstruction Planning and Site Layout

Pursuant to *Onshore Oil and Gas Order No. 1* and BLM regulation 42 *Code of Federal Regulations* (CFR) § 3162.3-1, each proposed well would require an Application for Permit to Drill (APD), approved by the BLM, prior to any surface disturbance. Each APD would include site-specific information regarding all aspects of well development, including environmental concerns.

Operators and/or their contractors and subcontractors would conduct all phases of project implementation (e.g., well pad construction, road and pipeline construction, drilling and completion operations, maintenance, reclamation, and abandonment) in full compliance with all applicable federal, state, and county plans, laws, and regulations, and according to approved APD specifications, right-of-way (ROW) permits, and potentially site-specific Environmental Assessments (EAs) and Decision Records (DRs). Pursuant to section 390 of the Energy Policy Act of 2005, Pub. L. No. 109-58, § 390(b)(3), 119 Stat. 747-48 (2005), the BLM may exclude from NEPA documentation the approval of individual APDs within a developed field when a NEPA document, such as the EIS for the Moxa Arch Area Infill Gas Development Project, has been prepared. Operators would be fully accountable for their contractors' and subcontractors' compliance with the requirements in the approved permits and/or plans.

If development of federal minerals occurs on private surface, Operators will follow *Onshore Oil and Gas Order No. 1* and CFR 43 Subpart 3814, if applicable, with regard to access for natural gas resource development and remuneration to the landowner for potential damage.

3.4 Construction Operations

3.4.1 Surveying and Notice of Staking or Application for Permit to Drill

Prior to construction activities, the Operators will:

- Submit site-specific applications [Notice of Staking (NOS)/APD/Sundry Notice/ Right-of-Way (ROW) application];
- Survey and stake the location;
- Participate in an onsite evaluation;
- Submit detailed construction plans, as needed; and
- Perform cultural resource, biological, and/or other surveys, as required.

For wells on federal minerals, the Operator must obtain a permit from the BLM prior to ground disturbance activities. To initiate the permitting process, the Operator files either a NOS or an APD with the BLM. These documents are filed with the Kemmerer Field Office. The BLM processes applications to determine if they meet requirements.

A technically and administratively complete APD normally consists of a Surface Use Plan, Drilling Plan, evidence of bond coverage, and other information that may be required by the BLM. A Surface Use Plan describes construction operations, access, water supply, well site layout, production facilities, waste disposal, and restoration/revegetation or reclamation associated with the site-specific well development proposal. The Drilling Plan typically describes the technical drilling aspects of the specific proposal, including subsurface resource protection. Determination of the suitability of an Operator's design, construction techniques, and procedures is made by the BLM during the permitting process.

3.4.2 Pre-construction Activities and Construction Initiation

Prior to APD approval, but after the proposed drill pad and access road are surveyed and staked, onsite inspections are conducted to assess potential impacts, and methods to mitigate impacts and establish them as Conditions of Approval (COAs) to the APD are determined. The BLM notifies the Operator of a date, time, and meeting place to perform an onsite inspection. The objective of the onsite inspection is to review the pad location, well access road, and pipeline route in consideration of topography, location of topsoil/subsoil stockpiles, natural drainage and erosion control, flora, fauna, habitat, historical and cultural resources, paleontological resources, and any other surface issues that may become apparent during the onsite inspection. The attendees of the onsite inspection may include representatives of the Operator, a survey crew, the private landowner (if applicable), and the BLM. Survey stakes indicate the location of the new access road and the orientation of the well pad. Appropriate changes or modifications are made, if needed, to avoid or mitigate impacts to resources such as drainages, archaeological sites, threatened and endangered species, and/or big game calving areas/seasonal restrictions. Excess cut and fill and other issues are also addressed, as appropriate.

During the onsite inspection, the BLM gathers information needed to develop site-specific COAs, which are incorporated into the approved APD. These environmental protection measures address all aspects of oil and gas development, including construction, drilling, production, and reclamation and abandonment.

Construction or surface-disturbing activities will usually occur during daylight hours after approval of an APD by the BLM. Infrequent circumstances may require construction to occur outside of daylight hours. To minimize new construction, the Operators will use the existing ancillary facility

infrastructure within the Project Area, where possible, including gas compression facilities, power lines, water disposal and treatment facilities, and gas gathering pipelines.

3.5 Well Pads

The traditional single-well location design has been used previously in the MAA almost exclusively and will continue to be the predominant drill site design in this proposal.

Operators will determine the site of a proposed well based on the location of the subsurface reservoir, the topography of the area, and WOGCC spacing rules. Drill pad size will depend on topography and specific well needs. Well pads will be constructed from the native sand/soil/rock materials present. Mineral materials will not be required. Topsoil and native vegetation will be removed and stockpiled for use in the reclamation process. Locations will be leveled by balancing cut and fill areas. Construction practices may include blasting (required when bedrock is near the surface) or ripping to achieve a level pad. Cut-and-fill slopes will allow for retention of the topsoil during reclamation and subsequent re-establishment of vegetation.

Typically, a well pad will include a 6- to 8-foot-wide cellar to allow access to casing heads, and mouse and rat holes adjacent to the well bore to accommodate drilling operations, a flare pit, and a reserve pit. A fenced reserve pit, approximately 10 to 12 feet deep, will be excavated within the pad to temporarily store drilling fluids, cuttings, and produced water. The dimensions of the pit vary according to well depth and size and shape of location. In non-environmentally sensitive areas, and when a fresh-water-based drilling mud is used, the reserve pit may be unlined pending completion of a soils survey that includes evaluation of the distance to surface water, depth to useable ground water, soil type and permeability, and types of fluids potentially contained in the pit. A reserve pit will be lined, if so specified in the APD, after the onsite evaluation. It will also be constructed to minimize accumulation of surface runoff into the pit through the use of strategically placed subsoil/topsoil storage areas and/or the construction of berms and diversion ditches.

Both the access road and well pad are typically constructed within 3 to 7 days, depending on terrain and site limitations. Depending on availability of equipment and specific well construction requirements, 2 to 8 individuals may be on site at any given time during construction activities. Personnel will access the site using an average of 3 light trucks each day during construction of the access and well pad. Construction equipment may include bulldozers, motor graders, scrapers, backhoes, and trenchers.

A single well pad size will vary depending on the size of the drilling rig used, but will average approximately 2.75 acres based on a 300 x 400-foot drilling site. Long-term disturbance will be the amount of surface remaining on the well pads after reclamation of the reserve pit and other areas unnecessary for ongoing and future operations. After interim reclamation, long-term disturbance associated with an average well pad will be approximately 1.0 acre.

The traditional single-well location design has been previously used in the MAA almost exclusively and will continue to be the predominant drill site design in this proposal.

3.6 Roads

The BLM and the Operators are cooperatively developing long-term management plans (Transportation Plans) for existing and future roads, which are intended to minimize resource conflicts and development costs within the Project Area. Plan objectives are to:

- Facilitate identification of roads not needed for operations;
- Maximize use of the existing road system;

- Minimize the number of loop roads;
- Minimize the crossing of side slopes greater than 40 percent;
- Minimize profile grades; and
- Minimize drainage crossings, with emphasis placed on drainages with potentially large runoff flows and floodplains.

The new roads are expected to cross federal, state, and private surfaces. The exact location of well access roads will be determined at the onsite inspection with the appropriate surface management agency.

New roads may be built in order to move a drill rig and well-service equipment from one site to another and to allow access to each site. The BLM has developed road construction standards in its *Surface Operating Standards for Oil and Gas Exploration and Development, 4th Edition* (Oil & Gas Gold Book) (BLM and USFS, 2005) and in BLM Manual 9113. Construction of new roads and well sites will conform to standards described in the Gold Book. Bulldozers, graders, and other types of heavy equipment are used to construct and maintain the road system using standard cut-and-fill construction techniques. The roads are crowned and ditched, except where the BLM determines that the road can safely be constructed using less disruptive techniques. Major roads in the Project Area are normally limited to one main route that serves the leases in a geographic area, with a maintained side road (access road) to each well. The amount of surface area needed for roads is dependent on topography and type of loads to be transported. Road ROWs in the Project Area are typically 50 feet. Generally, the running surface of the main roads is 20 to 24 feet wide, and the running surface of access roads is 14 to 18 feet wide. These dimensions represent the driving surface of the road, not the maximum surface disturbance associated with ditches, back cuts, or fills. Access road lengths will vary according to the location of a specific well and its relation to the existing road network.

Roads will be built and maintained to provide year-round access. All construction materials for project access roads will consist of native borrow and soil accumulated during road construction. If required by the AO, the access road will be surfaced with gravel or crushed rock, per BLM specifications. Gravel and rock will be obtained from existing permitted or private sources, and road construction will employ standard grading techniques. Road crossings will incorporate culverts, as needed and/or required. Drainage ditches and culverts will be designed to prevent the accumulation of silt or debris and will not be blocked by the roadbed. Water will be diverted from the roadway at frequent intervals. Travel during construction will be restricted to the 50-foot ROW, unless modifications must be made to accommodate slope conditions.

Existing roads that require upgrading will meet standards appropriate to the anticipated traffic flow and all weather-related road requirements. Upgrading may include ditching, drainage, graveling, crowning, and capping the roadbed to provide a well-constructed, safe roadway. Upgrading will not occur during muddy conditions.

3.7 Drilling Operations

Drilling operations will be conducted in compliance with all federal regulations, including Oil and Gas Onshore Orders, all WOGCC rules and regulations, and all applicable local rules and regulations. The Operators anticipate that the drilling rig count within the Project Area would range from 5 to 15 rigs, with an average of 10 rigs operating at any particular time, in order to achieve development objectives.

Following construction of the access road and well pad, a drilling rig will be transported to the well site and erected on the well pad. Wells will be drilled using a conventional mechanically powered mobile drilling rig, which will be erected at the drill site after the conductor pipe has been set. Drilling operations will typically consist of drilling surface hole, running and cementing surface casing,

drilling production hole, and running and cementing production casing. Occasionally, intermediate casing will also be run. The rig will then be dismantled and removed from the site.

Fresh water used for drilling purposes will be obtained from the Blacks Fork, Hams Fork, and Green Rivers as a result of water appropriation permits from the State of Wyoming (State Engineer's Office) and from commercial or privately owned water source wells. Water may be recycled for use in drilling, completion, work over, well abandonment, and hydrostatic pipeline testing operations.

Drilling fluids will consist of a fresh water/gel mixture, with water being the main constituent. To achieve borehole stability and minimize possible damage to the gas-producing formations, certain formation-stabilizing and hole-cleaning materials may be added to the drilling fluid. No hazardous substances will be placed in the reserve pit. Reserve pits will be constructed so as not to leak, break, or allow discharge, and in accordance with APD COAs. The reserve pit will be fenced on three sides during drilling operations, and on the fourth side when the rig moves off site. Fences will be constructed according to BLM requirements and as described in Onshore Order No.7.

During drilling operations, a blow out preventor will be installed on the surface casing to prevent uncontrolled entry of reservoir fluids into the well bore, should reservoir pressures exceed the hydrostatic pressure of the well bore fluid. In addition, a flow control manifold consisting of manual and hydraulically operated valves will be installed at ground level.

Prior to setting production casing, open-hole electric and radioactive logs may be run to evaluate production potential. Until new technology becomes available, steel production casing will be run and cemented in place, in accordance with the well design and as specified in the APD and COAs. In some cases, evaluation logs may be run subsequent to setting and cementing production casing, especially in the flank area.

The types of casing used and the depths to which they are set will depend on the physical characteristics of the formations that are drilled and the pressure requirements anticipated during completion and production operations. All casing will be new or reconditioned and tested, in accordance with applicable regulations.

Duration of drilling operations on a given well can vary significantly, depending on depth and conditions encountered while drilling, but number of days on location in the Project Area can range from 10 to 20 days. Drilling operations require 8 to 10 individuals and 6 vehicles on location at any given time each day during normal operations. An additional 10 to 15 individuals and 6 vehicles would be required on location during the running and cementing of casing. Approximately 10,000 barrels of water are needed to perform drilling operations; however, when approved by the appropriate regulatory authority, some water may be conserved by the reuse of some or most of the drilling fluids in subsequent drilling operations.

The BLM, in cooperation with the WOGCC, the Operators, and the Petroleum Association of Wyoming, has issued a cementing policy for the Project Area. The policy ensures the protection of fresh water and other minerals during the drilling and production phases of well development. Wells drilled in the Project Area will adhere to one or more of the following conditions:

1. Production casing will be cemented from total depth to the surface.
2. If production casing is not cemented as described in #1, a cathodic protection system will be installed. This protection system will be designed to ensure casing protection to the shallowest of the following depths:
    a. Top of the Hilliard Shale;

b. Below any zone with less than or equal to 10,000 parts per million of total dissolved solids; or

c. Top of cement.

3. If an Operator elects to not follow #1 or #2, it may elect to periodically run corrosion logs on selected wells. The Operator must inform the BLM which wells the logs will be run on, what logs will be run, and at what periodic interval.

4. In addition to adhering to #1, #2, or #3, above, all wells drilled within a 6-mile buffer zone bounding the Known Sodium Leasing Area will set surface casing 100 feet into the Wasatch Formation and cement back to surface (all strings).

The BLM has the authority to modify the above requirements, as necessary. Operators can request waivers on a well-by-well basis.

4.0 COMPLETION OPERATIONS AND TESTING

A typical cased well bore in the Project Area consists of conductor pipe, surface casing, and production casing. The surface and production casing/cementing programs will be designed to isolate and protect shallower formations and aquifers from the production stream, and to minimize the potential for migration of fluids and pressure communication between formations.

Once production casing has been cemented in place, the drilling rig will be released and completion operations will commence using a well-servicing rig or coiled tubing unit. Initial completion operations may also be conducted "rigless," using cased hole wireline equipment rather than a well servicing unit or coiled tubing unit, until such time that production tubing is installed in the well or other operational requirements dictate the use of a well-servicing rig. In general, the completion of the well will consist of perforating the production casing, productivity and/or formation pressure testing if deemed necessary, stimulation of the formation(s) utilizing hydraulic fracturing technology, flow back of fracturing fluids, flow testing to determine post fracture productivity, and installation of production equipment to facilitate hydrocarbon sales.

Hydrocarbons and water are typically quantified and flared during testing operations, which are conducted on an as-needed basis. Hydraulic fracture stimulation is required on the majority of wells in the Project Area in order to enhance productivity. Numerous combinations of fluids and proppants have been used historically in the Project Area to optimize stimulation results. Currently, the most common stimulation technique uses gelled fresh water (with CO_2 and/or N_2 frequently added for reservoir protection and enhanced flow back) and fracture proppants to provide the bridging and increased permeability necessary for productivity improvement. Sand, resin-coated sand, ceramics, or bauxite can be used in the stimulation process, depending on the design criteria of individual treatments. Gels and other chemical additives provide the fluid viscosity necessary to ensure successful stimulation. The fracturing fluid is pumped down the well bore through the perforations in the casing, and into the formation. Sufficient rate and pressure are reached to induce a fracture in the target formation. No diesel is used in this process. The proppant carried in the fluid serves as a bridge to keep the created fracture open and to provide a flow path that allows reservoir fluids to move more readily into the well bore. Water used for stimulation purposes generally comes from approved appropriations from the Green, Hams Fork, or Blacks Fork Rivers or from water supply wells. Stimulation fluids recovered during flow back and subsequent production operations are temporarily contained in the reserve pit or in tanks on location.

Post-stimulation flow tests allow for recovery of stimulation fluids and evaluation of well productivity. Duration of the tests will vary depending on individual well performance but are typically only long enough for fluid rates to drop to a level that permanent production equipment can safely process. During completion operations, flaring is avoided by routing as much gas as possible to the sales

pipeline system, in order to minimize emissions to the atmosphere and conserve the resource. If gas is flared, it occurs during the flow back process. The flared gas is measured using choke nipple calculations or through a temporary flow test separator and metering facility. Flaring takes place at the end of a horizontal flow line placed at a temporary pit or at a vertical flare stack. Flaring occurs at a distance from the wellhead that ensures equipment and structure protection and personnel safety. Following the initial flow period, the well will be shut in until facilities are in place to allow the well to be placed on sales. In some cases, production facilities will be installed prior to completion in order to turn the well to sales immediately following testing. Fluids (primarily water) recovered during flow back operations are contained in the reserve pit or in tanks on location until they are disposed of at evaporation pits or disposal wells.

Completion and testing operations require 3 to 10 days to perform using 2 to 30 individuals and 1 to 20 vehicles. Approximately 2,500 barrels of water are needed to perform completion and testing operations on wells drilled to the Dakota Formation. Water needed for completion and testing operations on wells drilled to the Frontier Formation ranges from 2,500 to 5,000 barrels.

The Operator will plug and abandon wells that prove unproductive, in accordance with federal and state regulations.

5.0 INTERIM RECLAMATION

On producing wells, the reserve pit will be reclaimed, per the requirements specified in the approved APD, after the pit is dry or the fluids have been removed. Plastic liners, if used, will be handled according to BLM standards before backfilling the reserve pit. The reserve pit, the portion of the location and access road not needed for production operations, and pipeline corridors will be rehabilitated according to the requirements specified in the approved APD and COAs.

6.0 PRODUCTION FACILITIES

Well production facilities will be installed as shown on the approved APD, with secondary containment structures conforming to BLM, state, and federal requirements. Facilities on the well pad may include wellhead valves and piping; separation, dehydration, and metering equipment; oil and water production tanks; a dehydrator condensation catchment container; a methanol storage tank and pump; and telemetry equipment. Production equipment will be powered by natural gas and solar panels; power lines will not be required. Most gas will be measured electronically. Telemetry equipment is currently used or is planned for use by most Operators to improve well evaluation, operational efficiency, and to minimize well visits. Production pits will not be used.

Plunger lift equipment is typically installed to provide artificial lift when production volumes drop to a level that prevents efficient removal of liquids from the well bore using reservoir energy. Other types of artificial lift may be considered during the approval of an APD or subsequent to placing a well on production, including types that may result from new technologies.

Some reportable chemicals under the Superfund Amendments and Reauthorization Act (SARA) Title III, such as ethylene glycol and methanol, may be used during production operations. If storage of these chemicals triggers reporting requirements, reports will be filed as required by regulation.

All constructed or installed permanent structures (on site 6 months or longer) will be painted a flat, non-reflective earth-tone color, as specified by the BLM.

7.0 PIPELINES

The Operators will continue to use the several natural gas transmission lines that serve the Project Area.

Gathering lines made of steel or other durable materials will be installed below the ground surface to transport the produced gas from the new wells to the pipeline system. These gathering lines will consist of pipes with a 3- to 4-inch outside diameter. The gas production lines will be located adjacent and parallel to well access roads, where possible, to minimize surface disturbance. The exact location of a gathering line will be determined at the onsite inspection by the appropriate surface management agency. The new pipelines are expected to cross federal, state, and private surfaces in a route developed to minimize resource conflicts and development costs within the Project Area.

Pipeline construction consists of trenching, pipe stringing, bending, welding, coating, lowering pipeline sections into the trench, and backfilling. Construction operations will be confined to the ROW corridor approved in the ROW application. In general, ROW widths will be 50 feet when not adjacent to a road, and as narrow as 30 feet when adjacent to an existing or new road. The pipeline trench will be mechanically excavated with a backhoe or trencher to a minimum depth of 48 inches and a width of 18 to 20 inches. Newly constructed pipelines will be hydrostatically tested to ensure structural integrity. Drilling water may sometimes be used for hydrostatic testing. Approximately 2,700 gallons of water will be required to test one mile of 4-inch pipeline. Hydrostatic test water that is not used in drilling operations will be disposed of as approved by the BLM and/or the state. The Operators will reclaim the pipeline route as specified in the ROW authorization. Pipeline installation will result in short-term disturbance until reclamation is considered complete.

8.0 COMPRESSOR, GAS TREATMENT, AND ANCILLARY FACILITIES

The Operators will use the existing ancillary facility infrastructure within the Project Area, including power lines, water disposal and treatment facilities, and gas gathering and transmission pipelines, to the extent possible.

The existing compression infrastructure, however, is insufficient for compressing the additional gas volumes anticipated from the proposed wells. A reduction in gas gathering system pressure could also necessitate additional compression. Additional compression in the Project Area could range from 17,000 hp (horsepower) to 50,000 hp and will be added to existing compression infrastructure at central facilities in stages over the 10-year period following project implementation. Peak production is expected to occur in the tenth year after project approval. As many as three additional compressor sites (10 acres per site) could be required to accommodate the maximum anticipated compression growth.

Well site compression is practiced infrequently in the Project Area; however, some individual well site compression may be needed and will be applied for on a case-by-case basis. Installation of well site compression is expected to range from ten 125 hp± 2-stage compressors to ten 200 hp± 2-stage compressors. These compressors would be installed on the well pad at most locations, resulting in no additional disturbance; however, in a few cases, it may be necessary to expand a well pad in order to install compression at a well site. Possible additional disturbance from well pad expansion is estimated to be 10 acres**.**

9.0 PRODUCED WATER DISPOSAL

Produced water may be confined to a storage tank prior to transport by water hauling trucks to disposal facilities. Produced water will be disposed of via subsurface injection, surface evaporative

pits, or will be used in subsequent drilling operations. Disposal facilities, including injection wells and evaporative ponds, requiring new construction are anticipated to be built outside of the Project Area.

10.0 MAINTENANCE

New wells will typically be visited daily, but possibly less frequently, after well performance has stabilized and telemetry equipment is installed.

Road travel will be restricted to the width of the running surface of the road. Maintenance on project roads during drilling and construction will be the responsibility of the Operators and will be consistent with the Transportation Plan, annual road plan, well-specific project plan, and BLM specifications. During the duration of the proposed project, the Operators will monitor the project roads and perform appropriate repairs. Repairs may be necessary to correct excessive soil movement, rutting, braiding around problem areas, and/or damage to cattle guards or gates.

11.0 ABANDONMENT AND RECLAMATION

Abandonment of the well and its facilities will be performed in compliance with applicable federal and state regulations, as well as with the COAs to the APDs. Seed mixtures applied during rehabilitation operations will comply with the specifications of the appropriate surface management agency. The Operators will cut off the casing at the base of the cellar or 3 feet below the final graded ground level, whichever is deeper, and cap the casing with a metal plate that has a minimum thickness of 0.25 inch. The cap will be welded in place with the well name and location engraved on the top. The cap will be constructed with a weep hole and placed three feet below ground level or to BLM specifications.

All surface equipment will be removed from the site. The surface will be recontoured to its original appearance, to the extent possible. Topsoil that was stockpiled during location construction will be distributed on the surface of the former location to blend the site with its natural surroundings. All surface disturbance areas will then be planted with a seed mixture of native grass and plant species, as specified by the appropriate surface management agency.

The Operators would monitor reclamation operations by performing inspections using an independent third party contractor. Reclamation performance assessment methodology will be based upon requirements of both the KFO and the State of Wyoming. The progress of interim and final reclamation efforts will be documented and submitted to the BLM and State (agencies). The Operators would provide funding for inspection and enforcement to augment and provide assistance to KFO inspection and enforcement personnel if determined necessary by the KFO.

The Operators would engage the services of reclamation professional/specialist to provide expertise/recommendations and develop a workable written reclamation strategy specifically designed for the MAA that would be provided to the BLM and State of Wyoming. The strategy will incorporate the results of the ongoing monitoring effort and would be modified, if necessary, according to the reclamation monitoring results assessment. Offsite mitigation would be considered by the Operators if necessary and reclamation monitoring indicates poor results.

12.0 HAZARDOUS MATERIALS AND WASTES

A variety of chemicals, including lubricants, paint, and additives, are used to drill and produce a well. Some of these chemicals can contain constituents that are hazardous. Hazardous materials include some greases or lubricants, solvents, acids, paint, and herbicides. Potentially hazardous substances used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time. Hazardous materials will not be stored at well locations during drilling operations. The transport, use, storage and handling of hazardous materials will follow

the procedures specified by the Occupational Safety and Health Act and by the Department of Transportation (DOT) under 49 CFR, Parts 171–180.

No chemicals will be used that qualify as acutely hazardous materials/substances or meet the quantities criteria per BLM Manual 1703. Chemicals subject to reporting under Title III of the SARA in quantities of 10,000 pounds or more will not be used, produced, stored, transported, or disposed of annually during the drilling, completion, or operation of any well in the Project Area. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities will be used, produced, stored, transported, or disposed of while producing any well.

Most wastes that will be generated at project locations are exempt from regulation by the Resource Conservation and Recovery Act (RCRA), under the oil and gas exploration and production exemption. Exempt wastes are those generated at the wellhead through the production stream and gas plant, including produced water, drilling mud, well completion/workover fluids, and soils affected by these exempt wastes. Non-exempt wastes may include spent solvents, discarded lubricants, paints, or other substances that contain hazardous materials as defined by RCRA.

Spills and releases can result in soils that are contaminated by produced water, petroleum products, or chemicals. The Operators will develop and maintain Spill Prevention Control and Countermeasure Plans for wells in the Project Area, as required by regulation.