
CHAPTER 1 PURPOSE AND NEED

1.1. Introduction

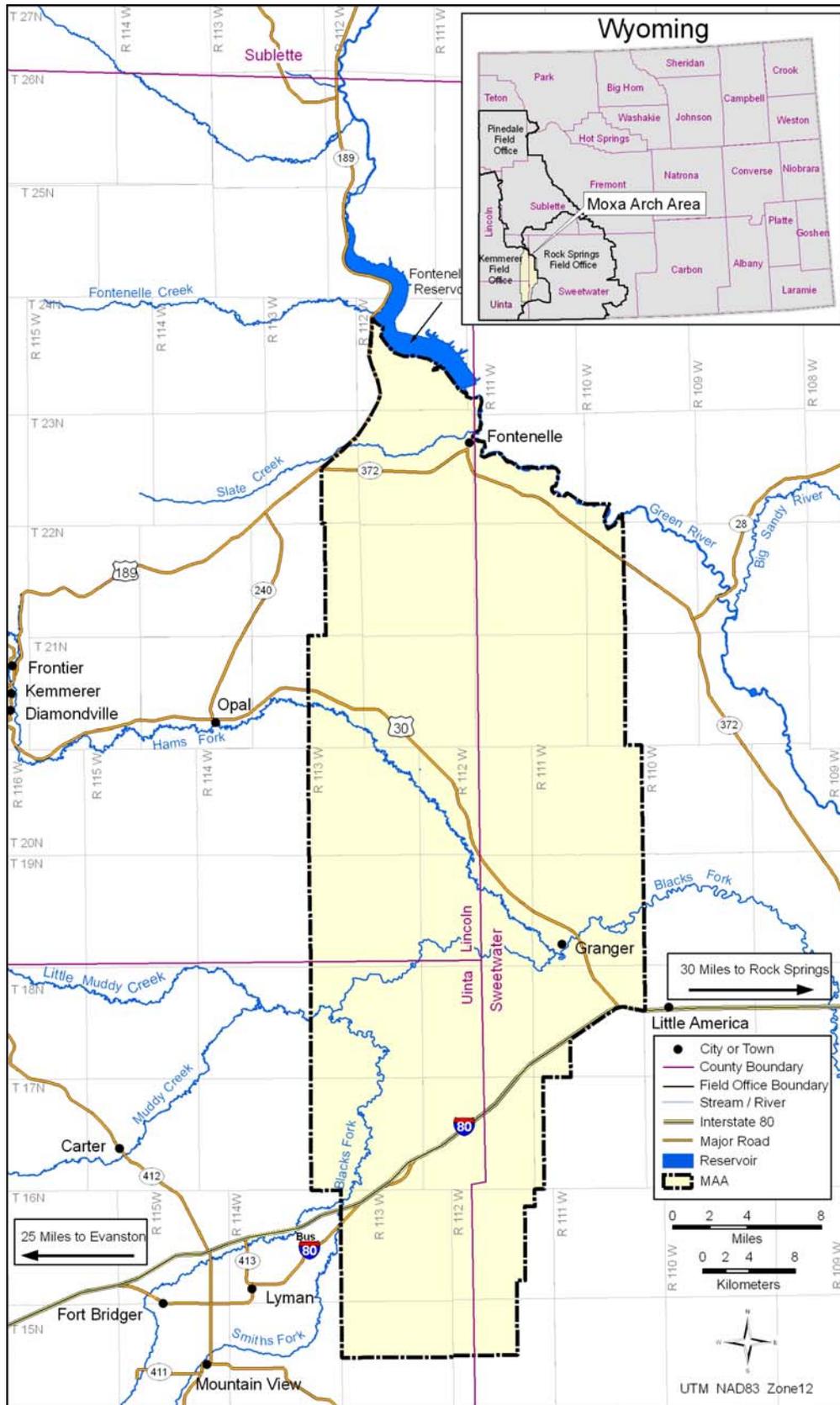
The United States Department of the Interior (USDI) Bureau of Land Management (BLM) Kemmerer Field Office (KFO) received a proposal from EOG Resources, Inc. (EOG) and other companies (Operators) to expand the existing natural gas drilling and field development operations on specific BLM-administered federal, state, and private lands in the Moxa Arch Area (MAA) of southwestern Wyoming (Project Area) (Map 1-1). The Operators' Proposed Action is known as the Moxa Arch Area Infill Gas Development Project (Project). Oil and gas leases of the subsurface mineral estate beneath these lands have been issued by the BLM (federal estate), the State of Wyoming, and private owners.

In response to this proposal and in compliance with the National Environmental Policy Act of 1969 (NEPA) and the Council on Environmental Quality (CEQ) regulations implementing NEPA, the BLM has prepared this Draft Environmental Impact Statement (DEIS) to analyze the effects of the Project's proposed infill drilling and field development on the natural and human environment within, and in the vicinity of, the Project Area. Lands for which impacts are analyzed in this DEIS are those previously addressed in the Expanded Moxa Arch Natural Gas Development Project EIS (BLM 1995a) and its Record of Decision (ROD) (BLM 1997a). These documents authorized 1,325 wells over 10 years. Prior to that, the Moxa Arch area was analyzed in the Amoco Production Company Moxa Arch Natural Gas Production Environmental Assessment (EA) issued for 149 wells (BLM 1991), and a supplemental EA (BLM 1992), which authorized an increase in well density per section from two to four.

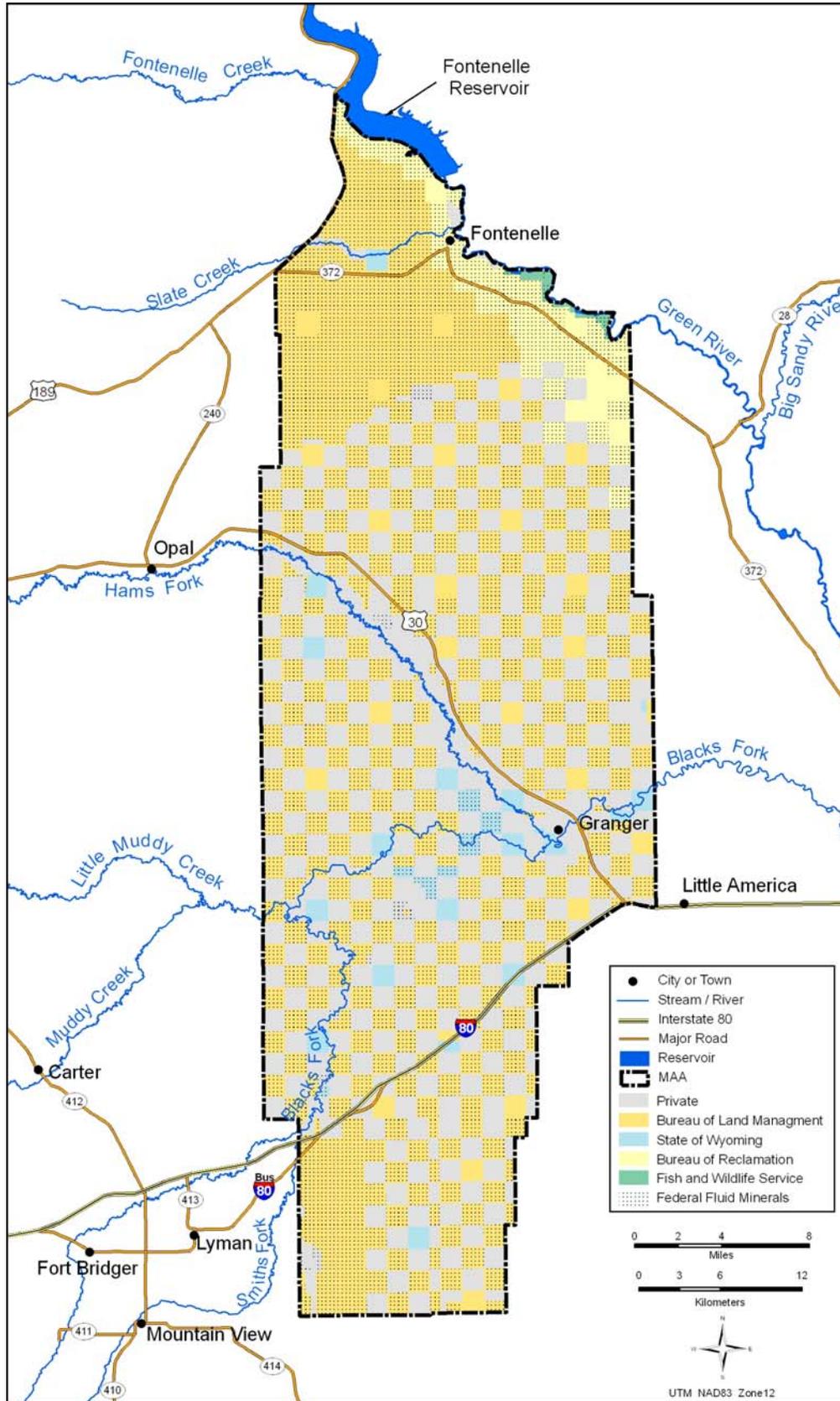
The Project Area consists of approximately 475,808 surface acres (approximately 744 square miles) of mixed (checkerboard) ownership of federal, state, and private lands in western Sweetwater, southeastern Lincoln, and northeastern Uinta counties, Wyoming (Map 1-2). Federally administered lands total approximately 260,284 acres (55% of the MAA); state ownership totals approximately 13,325 acres (3%); and private ownership totals approximately 202,199 acres (42%). Of the federal lands in the Project Area, approximately 231,719 acres are administered by the BLM, 26,958 acres are administered by the USDI Bureau of Reclamation (Reclamation), and 1,607 acres are administered by the U.S. Fish and Wildlife Service (USFWS). The majority of federal lands in the MAA are leased (Map 1-3) by 66 leaseholders. Approximately 30 companies operate on these leases.

Federal jurisdiction for the MAA extends to approximately 5,216 acres of split-estate lands (Map 1-2) with State of Wyoming and private surface ownership (3,112 acres are associated with State of Wyoming administered lands and 2,104 acres have private surface ownership). The Project Area is located within Townships 15 through 23 North (T15–23N), Ranges 111 through 113 West (R111–113W), 6th Principal Meridian, west of Green River, Wyoming, east of Lyman and Opal, Wyoming, and south of the Green River and Fontenelle Reservoir (Map 1-1). Interstate 80 (I-80) bisects the southern third of the Project Area.

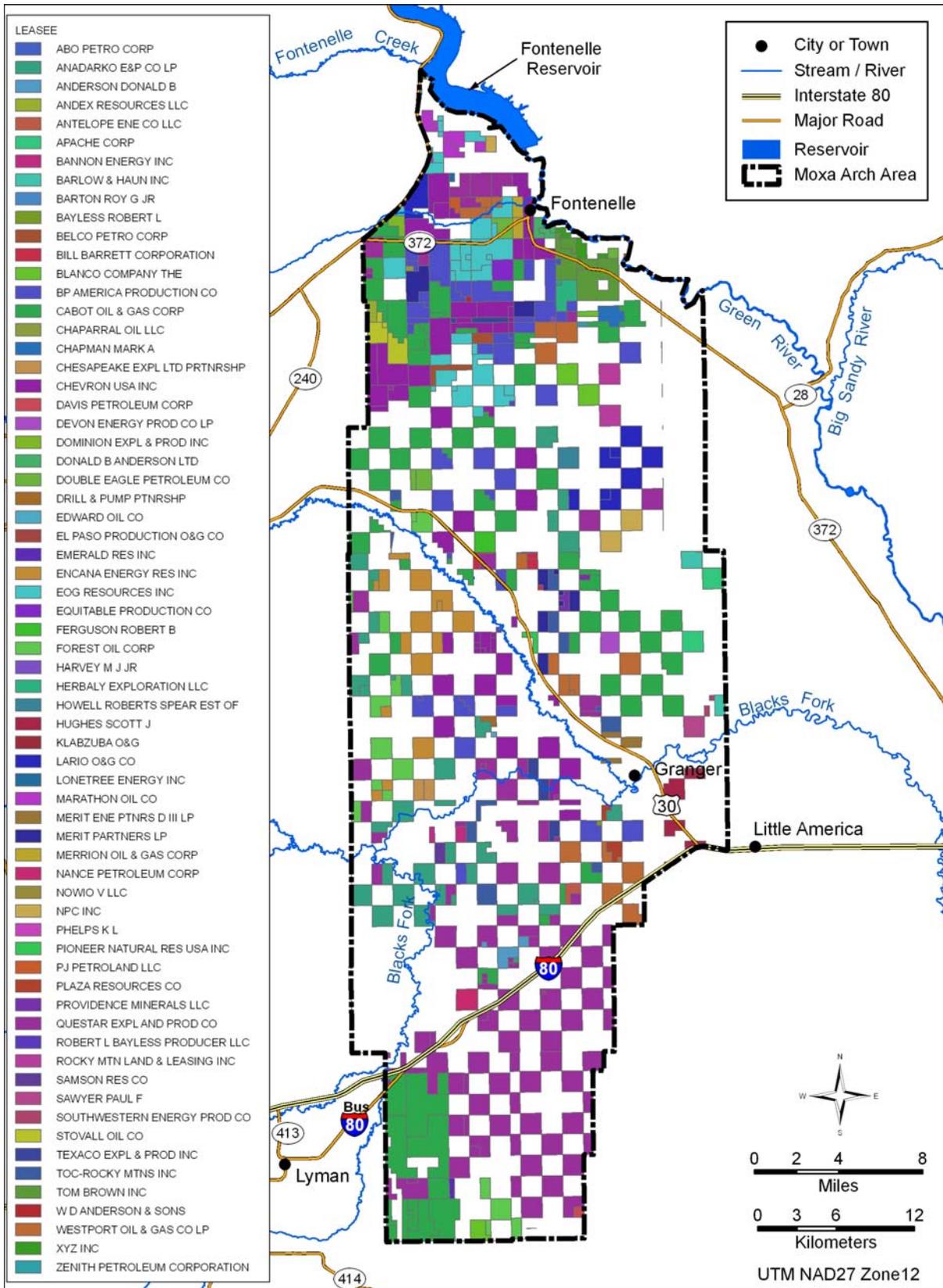
This DEIS provides the information necessary for the public and BLM decision-makers to understand the potential environmental impacts of the proposed Project, as well as the alternatives and the effects of applied protective mitigation measures developed as part of the analysis in this DEIS.



Map 1-1. Moxa Arch Area Vicinity Map.



Map 1-2. Surface Ownership and Federal Fluid Mineral Estate in the MAA.



Map 1-3. Federal Fluid Mineral Leases in the MAA.

The following federal, state, and local agencies acted as cooperators throughout the EIS process:

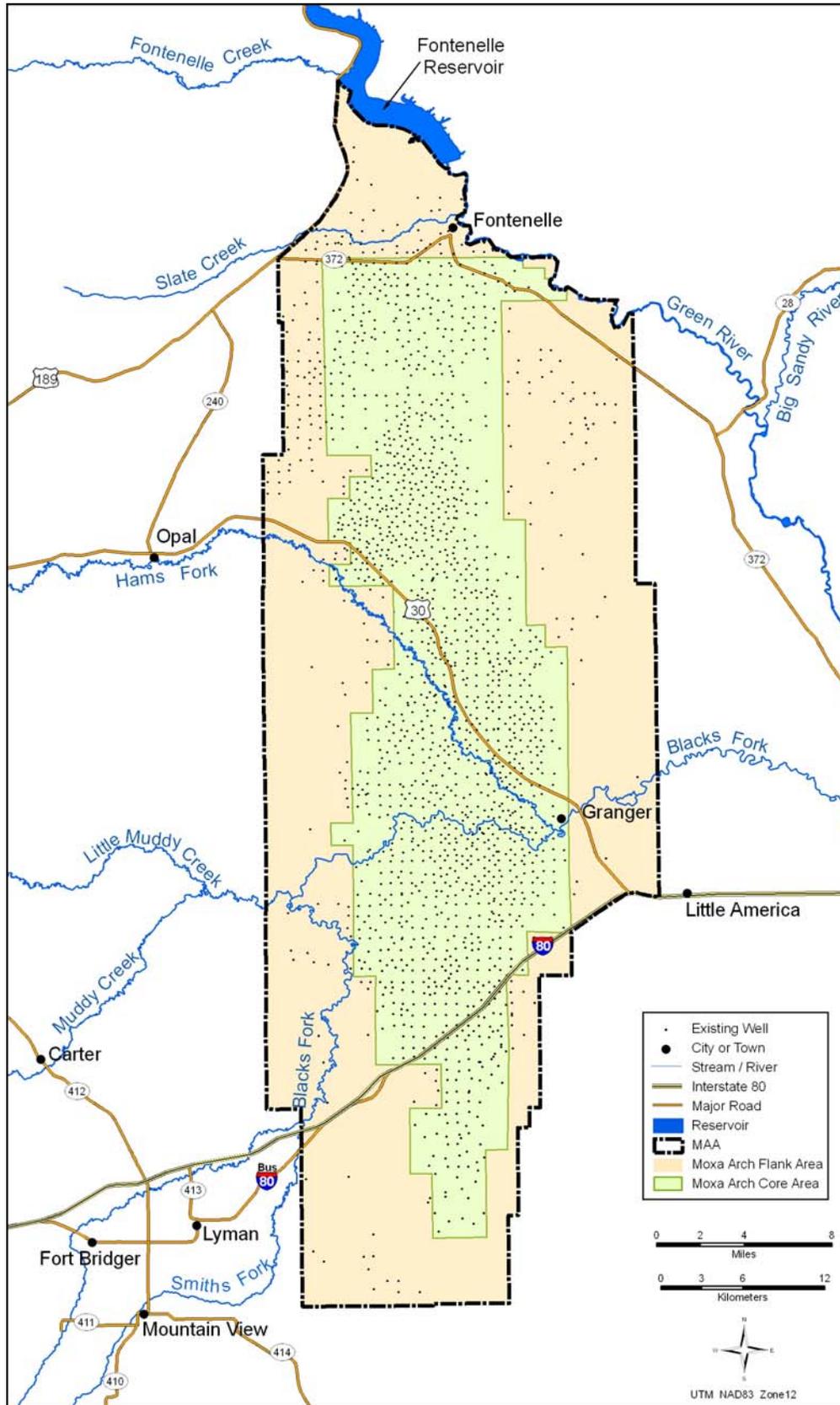
- BLM KFO – lead agency
- Reclamation
- USFWS
- U.S. Environmental Protection Agency (EPA)
- Office of State Lands and Investments
- Wyoming Department of Environmental Quality (WDEQ)
- Wyoming Governor’s Planning Office
- Wyoming State Historic Preservation Office (SHPO)
- Wyoming Game and Fish Department (WGFD)
- Wyoming Department of Transportation (WYDOT)
- Wyoming Department of Agriculture (WDA)
- Lincoln County and Lincoln Conservation District
- Sweetwater County and Sweetwater County Conservation District
- Uinta County and Uinta County Conservation District

1.2. Overview of the Proposed Project

Based on current knowledge of natural gas reservoir characteristics (geology, flow from existing wells, anticipated recovery rates, and economics), the Operators anticipate field development in the Project Area to involve infill drilling of approximately 1,861 new wells in addition to the approximate 1,400 existing producing wells in the “core” and “flank” areas of the Project Area (Map 1-4). Also anticipated would be the installation and operation of additional ancillary facilities including roads; gas pipelines; and separation, dehydration, metering, and fluid storage facilities. Wells would be drilled to the Frontier and Dakota formations to depths of 10,000 feet to 13,000 feet.

The Operators estimate that approximately 1,226 additional wells would be drilled in the core area, and approximately 635 additional wells would be drilled in the flank area. The precise locations of the proposed wells are not determined at this time. Any depictions of specific well locations on maps included in this document are conceptual and are provided for illustrative purposes only. The Operators anticipate drilling infill wells at varying densities ranging from 4 wells to 12 wells per section in the core area and 2 wells per section in the flank area. The MAA contains several units in addition to non-unitized lands. The total number of estimated projected wells includes those wells that would be drilled in units. The total number of wells drilled would depend largely on variables outside of the Operators’ control, such as production success, appropriate engineering technology, economic factors, commodity prices, availability of commodity markets, and lease stipulations and restrictions. The project alternatives are explained in detail in Chapter 2.

It is unknown whether additional gas transmission lines would be required to transport the gas produced from wells drilled under the Proposed Action. For the purposes of the Proposed Action and all project alternatives, no additional major gas transmission lines are assumed. If additional transmission lines are required, analysis of their impacts would be required under a separate NEPA process.



Map 1-4. MAA Core, Flank, and Existing Well Locations.

Wyoming BLM standard operating procedures and practices currently used in all surface-disturbing activities throughout the state would be employed for this project (see Appendix A, BLM Standard Stipulation/Mitigation Requirements, and Appendix B, Development and Operations Procedures). The procedures presented in Appendix A are used to ensure statewide consistency for avoiding and mitigating environmental impacts and resolving resource or land use conflicts. Appendix B procedures include details on project site planning, development, and operations including general plans and descriptions for Transportation, Reclamation, and Hazardous Materials. Additional appendices containing information related to operations and procedures, mitigation, and resource-specific issues include: Appendix C, Air Quality Technical Support Document; Appendix D, Biological Assessment; Appendix E, Reclamation Plan; and Appendix F, Cultural Resources.

Construction, development, production, and abandonment would comply with all applicable federal, state, and county laws, rules, and regulations (see Section 1.5). Best Management Practices (BMPs) committed to by the Operators include the design and construction of all new roads to a safe and appropriate standard to accommodate their intended use, painting of all new facilities a color that best allows the structures to blend in with the background, interim reclamation of well locations and access roads, and final reclamation and recontouring of all disturbed areas.

Reclamation would be conducted as soon as is practical on disturbed areas; this generally occurs simultaneously with ongoing development elsewhere in the field. Upon project completion, all wells not needed for production would be plugged and abandoned, surface facilities would be removed, and disturbed areas would be reclaimed and revegetated unless otherwise specified by the appropriate surface management agency (SMA). Final reclamation would include recontouring of all disturbed areas, including returning access roads to their original contour or to a contour that blends with the surrounding topography.

1.3. Purpose and Need for the Project

The Operators have submitted a Plan of Development to complete future infill drilling in the Moxa Arch Gas Field. The BLM has reviewed the current Proposed Action, and found that the proposal would have significant impacts not addressed or analyzed in the Expanded Moxa Arch Natural Gas Development Project EIS (USDI 1995). During this review it was determined that the proposed project had the potential to cause significant impacts to the human environment.

The purpose of the proposed project is to allow the Operators to exercise their rights to drill for, extract, remove, and market natural gas under valid existing oil and gas leases granted by the BLM, State of Wyoming, and private owners and to increase the daily gas delivery from the MAA to help meet the growing national demand for clean burning energy sources.

The development of federal gas leases is an integral part of the BLM gas leasing program under Mineral Leasing Act (MLA) of 1920, the Federal Land Policy and Management Act (FLPMA) of 1920, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987.

The proposed project meets the purpose and need and planning criteria for oil and gas development contained in the Kemmerer and Green River Resource Management Plans (RMPs) (BLM 1985, 1997b). The RMPs allow for:

- Continued oil and gas exploration, leasing, and development in accordance with applicable policies including the MLA of 1920 as amended, the Mining and Minerals Policy Act of 1970, the FLPMA of 1976, the National Materials and Minerals Policy, Research and Development Act of 1980, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987, and
- Oil and gas development that recognizes and protects key resource values.

The BLM oil and gas leasing program encourages development of domestic oil and gas reserves. Natural gas is an integral part of the energy future of the United States because it is readily available and a market delivery infrastructure is already in place. By developing domestic reserves of clean burning natural gas, the United States (U.S.) would reduce dependence on foreign energy, such as natural gas from Mexico and Canada. The environmental advantages of burning natural gas rather than oil or coal were emphasized by the U.S. Congress and by the President when the Clean Air Act Amendments of 1990 were signed into law (42 United States Code [USC] 7671 et seq.). In addition, the Energy Policy Acts of 2001 and 2005 emphasize the development of domestic natural gas reserves for supply and economic stability.

Between 1991 and 2000, the U.S. used 17% more energy than in the previous decade while, during that same period, domestic energy production rose by only 2.3%. As a result, the U.S. has met almost all of its increased energy demand over the past 10 years through increased imports. U.S. energy consumption is expected to increase by 32% by the year 2020 (National Energy Policy, Report of the National Energy Policy Development Group, May 2001). According to the U.S. Department of Energy's Energy Information Administration, U.S. natural gas consumption is expected to range between 27 and 33 trillion cubic feet (TCF) by the year 2025, which represents a 21-48% increase over 2003 consumption. By developing domestic reserves of natural gas in the MAA, it will help to reduce dependence on foreign energy sources.

1.4. Decisions to Be Made

As a result of the analysis presented in this DEIS, the BLM will decide whether to allow, and under what conditions to allow, the development, operation, maintenance, and reclamation of expanded development/surface disturbances on federal lands and the federal mineral estate within the Project Area. The BLM will determine what levels of impacts are approved, and what Conditions of Approval (COAs), BMPs, mitigation, monitoring, and surveying would be required.

The ROD associated with this DEIS will not be the final review or the final approval for all actions associated with this Project. The BLM must review and authorize each component of the Project that involves the disturbance of federal lands on a site-specific basis. The method used to evaluate and authorize each surface-disturbing activity is normally an Application for Permit to Drill (APD), right-of-way (ROW) grant, or Sundry Notice, with supporting environmental record of review, which would be required before any construction can occur. Evaluations at this level include more precise locations for wells for thorough analyses, unlike the conceptual level analysis included in this DEIS.

1.5. Regulatory Setting

This DEIS incorporates key provisions of the FLPMA of 1976, which directs the BLM to manage public lands and their resource values to “best meet the present and future needs of the American people” (Section 103 [43 USC 1702]) and to coordinate resource management “without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or greatest unit output” (Section 103 [43 USC 1702]). The FLPMA also states that it is appropriate that some lands be used “for less than all of the resources” (Section 103 [43 USC 1702]).

The BLM KFO is the lead agency for this DEIS because the vast majority of development is proposed for lands under its jurisdiction. The BLM has provided guidance, input, participation, and independent evaluation during DEIS preparation. Previously listed federal and state agencies and local governments participated in the preparation of this DEIS as cooperators. The BLM, in accordance with 40 Code of Federal Regulation (CFR) 1506.5(a) and (c), is in agreement with the information and

analyses presented in this DEIS and approves and takes responsibility for the scope and content of this document.

This DEIS was prepared in accordance with NEPA, and CEQ regulations implementing NEPA (40 CFR 1500–1508), and is in compliance with all applicable regulations and laws subsequently passed, including USDI requirements (Department Manual [DM] 516 [516 DM 1 through 6, 11], Environmental Quality (U.S. Department of the Interior 2005), guidelines listed in the BLM National Environmental Policy Act Handbook, H-1790-1 (BLM 1988), Guidelines for Assessing and Documenting Cumulative Impacts (BLM 1994), Washington Office Instruction Memorandum (IM) 2005-247 National Environmental Policy Act Compliance for Oil, Gas, and Geothermal Development, CEQ’s Considering Cumulative Effects under the National Environmental Policy Act (Council on Environmental Quality 1997), and the Energy Policy Act (EPAAct) of 2005.

1.5.1. Federal Permits, Authorizations, and Coordination

Consistent with regulations regarding federal oil and gas leasing and operations (43 CFR Parts 3100 and 3160, respectively), oil and gas leases are issued by the BLM. Stipulations may be added as terms of a lease at the time of lease issuance to reflect management guidance established in the applicable RMP.

Once the lease is issued, the leaseholder/operator must apply for and receive site-specific authorization(s) prior to drilling within the leasehold area. To meet required environmental obligations, the leaseholder/operator must submit to the BLM an APD or its associated application for ROW so that the appropriate environmental review may be prepared. Environmental documents such as an EA, Categorical Exclusion (including Energy Policy Act 390 Categorical Exclusions), or the appropriate environmental record of review for APD or ROW authorizations often include site-specific COAs that add further site-specific operation requirements. Drilling of federal minerals is subject to the BLM’s Onshore Oil and Gas Orders (43 CFR Subpart 3164 – Special Provisions). BLM Onshore Order Nos. 1 and 2 require an applicant to comply with the following conditions:

- Operations must result in the diligent development and efficient recovery of resources;
- All activities must comply with applicable federal, state, and local laws and regulations applicable to federal leases;
- All activities must include adequate safeguards to protect the environment;
- Disturbed lands must be properly reclaimed; and
- All activities must protect public health and safety.

Onshore Order No. 1 specifically states that lessees and operators should be held fully accountable for their contractor’s compliance with the requirements of the approved permit and/or plan (43 CFR Part 3160, March 7, 2007).

Pipeline and road ROWs on federal lands would be issued under the authority of the MLA of 1920, as amended, or the FLPMA. ROW grants authorizing construction of ancillary facilities, access roads, and pipelines would grant Operators certain rights subject to the terms and conditions incorporated into the grant by the BLM.

Nine Presidential Executive Orders (EOs) also affect implementation of the proposed Project. These EOs, which are binding on all government agencies, place restrictions on government approval of construction activities and apply to wetlands (EO 11990), floodplains management (EO 11988), migratory birds (EO 13186), environmental justice (EO 12898), Native American sacred sites (EO 13007), historic trails (EO 13195), cultural resources and historic preservation (EO 11593 and EO 13287), and invasive species (EO 13112).

The BLM must adhere to specific provisions regarding the draining of federal minerals from adjoining nonfederal lands. These provisions are codified in 43 CFR 3100.2, which states that, upon determination that lands owned by the U.S. are being drained of oil or gas by wells drilled on adjacent lands, the BLM may execute agreements with the owners of adjacent lands whereby the U.S. and its lessees shall be compensated for such drainage. In addition, where lands in any lease are being drained of their oil and gas content by wells either on another federal lease, issued at a lower rate or royalty, or on nonfederal lands, the lessee shall both drill and produce all wells necessary to protect the lease lands from drainage. In lieu of drilling necessary wells, the lessee may, with the consent of the BLM, pay compensatory royalty. These provisions are also incorporated in the lease terms contained in all federal oil and gas leases (Form 3100-11). A list of the major permits, approvals, and authorized actions necessary to construct, operate, maintain, and abandon project facilities is provided in Table 1-1.

Table 1-1. Major Federal, State, and Local Permits, Approvals, and Authorizing Actions for the Moxa Arch Area Infill Gas Development Project.

Agency	Permit, Approval, or Action	Authority
Office of the President of the United States	Protection and enhancement of the cultural environment	EO 11593
	Floodplains management	EO 11988
	Protection of wetlands	EO 11990
	Environmental justice	EO 12898
	Native American sacred sites	EO 13007
	Invasive species	EO 13112
	Protection of migratory birds	EO 13186
	Trails for America in the 21st century	EO 13195
Preserve America	EO 13287	
BLM	On Federal onshore lands: Permit to drill, deepen, or plug back (APD/Sundry process); authorization for flaring and venting of natural gas; plugging and abandonment of a well	MLA of 1920 (30 USC 181 et seq.); 43 CFR 3162, Onshore Oil and Gas Orders No 1 and No 2, Approval of Operations
	ROW grants and temporary use clearances on federal lands	MLA of 1920, as amended (30 USC 185); 43 CFR 2880; FLPMA (43 USC 1761–177 1); 43 CFR 2800
	Antiquities and cultural resource clearances on BLM-managed land	Antiquities Act of 1906 (16 USC Section 431– 433); Archaeological Resources Protection Act of 1979 (16 USC Sections 470aa–470ll); Preservation of American Antiquities (43 CFR 3); National Historic Preservation Act (NHPA) Section 106 (36 CFR 60.4)
	Approval to dispose of produced water from BLM/federal oil and gas wells	MLA of 1920 (30 USC 181 et seq.); 43 CFR 3164; Onshore Oil and Gas Order No. 7
Endangered species clearances on BLM-managed lands	Endangered Species Act (ESA) of 1973, as amended et seq. (16 USC 1531)	

Agency	Permit, Approval, or Action	Authority
Reclamation	ROW grants and temporary use clearances on federal lands	MLA of 1920, as amended (30 USC 185); 43 CFR 2880
U.S. Army Corps of Engineers (USACE)	Section 404 permits and coordination regarding placement of dredged or fill material in area waters and adjacent wetlands	Section 404 of the Clean Water Act (CWA) of 1972 (40 CFR 122-123, 230)
USFWS	Coordination, consultation, and impact review on federally listed threatened and endangered (T&E) species	Fish and Wildlife Coordination Act (16 USC Sec. 661 et seq.); Section 7 of the ESA of 1973, as amended (16 USC et seq.); Bald Eagle Protection Act, as amended (16 USC 668–668dd)
EPA	Spill Prevention, Control, and Countermeasure Plans (SPCCPs)	40 CFR 112
	Regulation of hazardous waste treatment, storage, and/or disposal	Resource Conservation and Recovery Act (42 USC 6901)
U.S. Department of Energy (DOE)	Regulation of interstate pipeline product transportation	Various sections of the USC and CFR
U.S. Department of Transportation (USDOT)	Control of pipeline maintenance and operation	49 CFR 191 and 192
Wyoming Department of Agriculture	Weed and pest control – county agency	Wyoming Weed and Pest Control Act (Wyoming Statute [WS] 11-5-102)
Wyoming Board of Land Commissioners/ Land and Investments Office	Approval of oil and gas leases, ROWs for long-term or permanent off-lease/off-unit roads and pipelines, temporary use permits, and developments on state lands	WS 37-1-101 et seq.
Wyoming Department of Environmental Quality - Water Quality Division (WDEQ/WQD)	Regulation of off-lease disposal of drilling fluids from abandoned reserve pits	Wyoming Environmental Quality Act (WS 35-11-301 through 35-11-311)
	National Pollutant Discharge Elimination System (NPDES) permits for discharging waste water and stormwater runoff	WDEQ Rules and Regulations, Chapter 18, Wyoming Environmental Quality Act (WS 35-11-301 through 35-11-311); Section 405 of the Clean Water Act (40 CFR 122–124)
	Administrative approval for discharge of hydrostatic test water	Wyoming Environmental Quality Act (WS 35-11-301 through 35-11-311)
Wyoming Department of Environmental Quality - Air Quality Division (WDEQ/AQD)	Permits to construct and permits to operate	Clean Air Act; Wyoming Environmental Quality Act (WS 35-11-201 through 35-11-212)

Agency	Permit, Approval, or Action	Authority
Wyoming Department of Environmental Quality - Solid Waste Division	Construction fill permits and industrial waste facility permits for solid waste disposal during construction and operations	Wyoming Environmental Quality Act (WS 35-11-501 through 35-11-520)
Wyoming Department of Transportation (WYDOT)	Permits for oversize, overlength, and overweight loads	Chapters 17 and 20 of the Wyoming Highway Department Rules and Regulations
Wyoming Oil and Gas Conservation Commission (WOGCC)	Permit to use earthen pit (reserve pits) on nonfederal lands	WOGCC Regulations (Section III; Rule 305)
	Authorization for flaring or venting of gas	WOGCC Regulations (Section III; Rule 326)
	Permit for Class II underground injection wells	WOGCC Regulations (Section III; Rule 346)
	Well plugging and abandonment	40 CFR 146; 40 CFR 147.2551
	Permit to drill, deepen, or plug back (APD process)	WOGCC Regulations (Section III; Rule 315)
	Change in depletion plans	Wyoming Oil and Gas Act (WS 30-5-110)
Wyoming State Engineer's Office (WSEO)	Permits to appropriate groundwater (use, storage, wells, dewatering)	WS 41-121 through 147 (Form UW-5)
	Permits to appropriate surface water	WS 41-201 (Form SW-1)
SHPO	Cultural resource protection, programmatic agreements, consultation	Section 106 of NHPA and Advisory Council Regulations (36 CFR 800)
Lincoln County	Oil and gas permits	Office of Planning and Development
	Small wastewater permits	Office of Planning and Development
	Driveway access permits	Office of Planning and Development
	Certified land corner recordation	Office of Planning and Development
	County road use agreement	Office of Planning and Development
Sweetwater County	Mineral extraction permit	Planning and Zoning Department
	Access permit	Planning and Zoning Department
	Building permit	Planning and Zoning Department
	ROW permit	Planning and Zoning Department
Uinta County	Land use permit	Planning Department
	Road access permit	Planning Department
	Encroachment permit	Planning Department
	Septic system permit	Planning Department

Note: This list is intended to provide an overview of the key regulatory requirements that would govern project implementation. Additional approvals, permits, and authorizing actions may be necessary.

1.5.2. Wyoming BLM Mitigation Guidelines and Practices for Surface-Disturbing and Disruptive Activities

The Wyoming BLM has adopted a standard set of guidelines and post-lease COAs that apply to all surface-disturbing activities on federal lands and minerals in Wyoming (Appendix A). These mitigation guidelines address a wide variety of environmental concerns. Upon request by the applicant, an exception to a lease stipulation or a COA may be granted by the BLM, following on-site review to determine if the exception is warranted. With the exception of specific mitigations excluded from the No Action Alternative (see Chapter 2), standard Wyoming BLM mitigation guidelines are applied to all alternatives analyzed in this DEIS.

1.5.3. Conformance with the Kemmerer Resource Management Plan

The Project Area lies within BLM-administered public lands guided by the Kemmerer RMP (BLM 1985). Management objectives and actions applicable to the Project within the Kemmerer Resource Area are as follows:

- Oil and gas leasing will continue throughout the Kemmerer Resource Area. As oil and gas leases expire, or otherwise terminate, the areas will, in most cases, continue to be re-offered for lease.
- All public lands within the resource area have been approved as suitable for oil and gas leasing and development, subject to certain stipulations. Resource management and protection stipulations will be developed and implemented on an “as-needed” basis to prevent undue adverse impacts to other resources.

The proposed natural gas infill drilling, field development, and production project is in conformance with management objectives defined in the Kemmerer RMP.

This DEIS references and incorporates NEPA documents that were previously developed for the Project Area, including the Expanded Moxa Arch Natural Gas Development Project EIS (BLM 1995a). The Project Area includes all of the lands analyzed in the 1996 DEIS and implemented through its ROD in March 1997 (BLM 1997a).

1.5.4. State and Local Permits, Authorization, and Coordination

The Proposed Action and alternatives are in conformance with the Wyoming State Land Use Plan (Wyoming State Land Use Commission 1979) and the current applicable land use, zoning, and/or growth plans for Lincoln, Sweetwater, and Uinta counties. The alternatives comply with all relevant state and county laws and regulations (Table 1-1).

1.6. Public Scoping

NEPA regulations (40 CFR 1500-1508) require the BLM to use an early scoping process to identify significant issues in preparation for impact analysis within the EIS development process. The principal goal of public scoping is to allow and encourage public participation, including federal, state, and local government agencies, which culminates in the public’s identification of issues, concerns, potential impacts, and potential mitigations that require detailed analysis in the EIS. A proactive public scoping process was implemented by the BLM for this proposed Moxa Arch Area Infill Gas Development Project EIS.

1.6.1. Public Scoping Process

The formal public scoping process began with the publication of the Notice of Intent (NOI) in the Federal Register on October 7, 2005. The NOI announced the BLM's intent to prepare an EIS for the Operators' proposed Project and invited the public to comment and/or provide resource information. To support public understanding of the proposed Project and the EIS process and to provide an early opportunity for interested parties to submit scoping comments, the NOI also announced the BLM's intent to hold four public scoping meetings, one each in Evanston, Wyoming; Rock Springs, Wyoming; Lyman, Wyoming; and Kemmerer, Wyoming. Public notice of the dates, times, and locations of the four meetings were published in the Casper Star-Tribune, Rock Springs Rocket-Miner, Kemmerer Gazette, Uinta County Herald, Bridger Valley Pioneer, and the Little Chicago Review and was based on a BLM press release. The press release was also sent to the following radio stations for airing of public service announcements: KUGR, KZWB, KYCS, KFRZ, KAOX, KDWY, KOTB, and KEVA.

The four evening public meetings were held over a one-week period in mid-November 2005. The meetings were held in Evanston, Wyoming, on November 14, 2005; Rock Springs, Wyoming, on November 15, 2005; Lyman, Wyoming, on November 16, 2005; and Kemmerer, Wyoming, on November 17, 2005.

Numerous issues and concerns were identified and comments were submitted (post-marked) to the BLM from October 7, 2005 to December 2, 2005. While no written comments were received from the public during the scoping meetings, informal comments were shared with BLM staff and were noted.

All comments received during the scoping process were reviewed and analyzed. The BLM identified 15 key issues, based primarily on the assumed quantity, intensity, or duration of a potential impact; and/or the volume of agency or public interest in the issue. The range of alternatives was developed in response to the key issues identified during scoping, and the potential effects to these issues expected to result from varying levels of surface disturbance and/or inclusion or exclusion of various development guidelines/management protocols.

1.6.2. Key Issues

The following is a summary of the key issues that were brought forward during the scoping process for this EIS. More detailed descriptions of the comments, including the exact comments made, are provided in the scoping report that was developed for the project record for this EIS.

1.6.2.1. Ranching and Grazing

Comments directed toward grazing focused on the loss of animal unit months (AUMs) and how grazing permittees would be compensated for these losses. Respondent suggestions included hay or monetary compensation, new range improvements, or land purchase opportunities. Comments included concerns about other impacts to local economies that depend on ranching, and whether ranchers would be kept informed during the process. There was much interest in the reclamation and monitoring process and the ability to control erosion and weed infestation. Other issues raised included impacts of new or widened roads, property damage due to range improvements, loss of livestock to vehicle collisions, livestock competition with displaced game animals, proper fencing of well pads, and whether the proposed well density was necessary or whether more directional drilling could be done. Ranchers' comments also focused on potential adverse affects to private property values, as well as the loss of open space, scenic vistas, and historic landscapes, especially with the checkerboard pattern of land management.

1.6.2.2. Air Quality

Most comments directed toward air quality centered on the potential increase in emissions from sources such as drill rigs, compressors, and increased traffic associated with gas development. Suggested solutions included using low-emission equipment, using dust suppressants on roads, and requiring car-pooling to work sites. There were requests for less or no flaring at wells, and more use of air quality modeling. Other comments were related to better monitoring with proper analyses and effective mitigation techniques when standards are not met or visibility is degraded. One individual noted being affected by odors, seemingly from wells, plants, or traffic; and another expressed concern over effects on ozone concentrations.

1.6.2.3. Wildlife

A variety of concerns directed toward wildlife were raised during scoping. Primary issues addressed include the protection of crucial ranges, winter relief habitat, and breeding/spawning/nesting and other reproduction areas. Species of concern mentioned were sage-grouse, especially winter and breeding areas; pronghorn; and moose. Sensitive habitats listed included sagebrush steppes and fish-supporting waters. The general public had concerns about the effect of increased human activity on resident wildlife. Road-related issues included habitat displacement and fragmentation, more traffic/public access into habitats, and increased erosion and sedimentation that could result from constructing roads on slopes.

Specific mitigating measures mentioned in comments included protecting leks from noise, conducting a pronghorn study, developing a Wildlife Monitoring Plan for sage-grouse winter use, analyzing sagebrush treatments effects on species, using directional drilling to minimize habitat fragmentation and road building, maintaining connectivity and linkages between habitat parcels, focusing on the protection of keystone species and keystone resources (e.g., springs, mineral licks, riparian areas), prohibiting surface disturbance until the ESA consultation process is complete, and conducting off-site mitigation. There was also a reference to following guidelines in the BLM manual “Special Status Species Management, MS-6840.” WGFD referred to its 2004 “Minimum Recommendations to Sustain Important Wildlife Habitats Affected by Oil and Gas Development” as the provisions to be adopted.

Suggestions for the EIS process included early ESA consultation with the USFWS and retaining reputable scientists for the ESA analyses, making wildlife stipulations part of any project activity, and disclosure of land disturbance by habitat/vegetation type. Respondents commented that data analyses should include compiling all available data (including that from the WGFD) to date for WGFD review; using scientifically supported methods to analyze indirect, related, cumulative, and long-term impacts, especially to sagebrush areas; and conducting a thorough documentation of groundwater and surface water flows and quality in order to analyze potential depletion effects to downstream listed fish.

1.6.2.4. Transportation

The most common concern related to transportation was avoidance of additional access points to U.S. Highway 30 (US 30) between Opal and Granger. The WYDOT expressed interest in being involved in transportation planning, and in keeping gas field access to a minimum. Individual respondents suggested adding turn lanes to US 30 and/or using the old highway as a service road for oil and gas trucks. Increased traffic (especially trucks) was a general concern, including the increase in fugitive dust on unimproved roads. One individual expressed concern about additional crossings of riparian areas and suggested using bridges to reduce habitat disturbances.

1.6.2.5. Recreation

The major concern related to recreation was that additional public access to the gas field would increase hunter success and, therefore, reduce opportunities for other hunters. One respondent noted that license sales might decrease with increased success in the area. Also, there was concern that the presence of gas wells might decrease the areas in which hunting is allowed.

1.6.2.6. Economics

Many comments related to economics focused on the beneficial impacts to local economies that would occur as a result of tax revenues collected from Operators. Other respondents had concerns about economic losses due to decreased access to leases, loss of grazing opportunities, and lower property values. Operators expressed concern about economic losses due to permitting delays, restrictions or stipulations on drilling, and the cost of using alternative-drilling technologies (e.g., directional drilling). Operators also voiced concerns about sustaining the economy and avoiding boom and bust cycles that are often associated with oil and gas development. Regarding economic analyses, some respondents suggested collecting data from local Operators already doing business in the area, rather than basing the analyses on the cost of well development.

1.6.2.7. Water

Comments directed toward water resources focused on potential effects to surface water and groundwater from releases of water used in construction or production, especially in riparian areas. There was concern that this water would contain elements from the soil or other pollutants. Comments noted that some water features within the Project Area are already considered “impaired” and that these would be further degraded, and could potentially be improved through mitigation. Other comments mentioned erosion and sedimentation, and the effects of new crossings on channel stability or flow velocities. Suggestions included keeping seismic activity away from streams and wetlands, and following the state water quality standards. Some landowners were also concerned about Project water needs competing with private water rights.

1.6.2.8. Cultural Resources

The respondents primarily referred to conducting necessary consultations with state and tribal traditional and religious leaders. Also, there were requests to comply with pertinent federal acts and to perform sufficient inventories prior to ground-breaking activities to determine resource values. Respondents stated that if “at risk” areas are identified, protections should be placed on an adequate-sized parcel to facilitate management.

1.6.2.9. Noxious Weeds

The primary concern related to noxious weeds was the continued spread of halogeton (*Halogeton glomeratus*) and cheatgrass (*Bromus tectorum*), which has already adversely impacted the sheep industry, and the loss of native species diversity. Respondents suggested that the BLM be aware of all the possible vectors for weed spread, work with landowners to develop native seed mixes, use mulch and some type of quick cover crop to reduce erosion, and comply with federal EO 13112. Another issue raised was poisonous plants. For the analysis, respondents would like to see the extent of the weed problems discussed along with probable causes, options for prevention, and restoration. One suggestion was to clean equipment prior to entering project sites.

1.6.2.10. Health and Human Safety

Public comments focused on the increased number of workers potentially leading to increased crime in the area in the form of thefts, trespassing, illegal hunting, and drug use. A general decreased feeling of safety was expressed. One respondent suggested mandatory drug tests for workers.

1.6.2.11. Surface Disturbance

These comments covered a variety of issues, including visual resources, riparian and habitat areas, and mitigation ideas. The most common comment was to decrease land disturbance by using directional drilling from existing pads. There was concern of degrading lands by adding to the cumulative effects from current disturbance. There was also concern regarding the success of past and ongoing reclamation efforts in the MAA.

Suggestions to minimize visual impacts included using low-profile structures and natural topography, avoiding ridgelines, applying appropriate coloration, and keeping well pad size to the minimum necessary.

Riparian areas were singled out for protection. Where crossings are necessary, respondents suggested using only perpendicular angles, trenching pipe for intermittent drainages, and boring under perennial drainages. A respondent commented that parallel pipelines should stay outside 100-year floodplains. Other comments were to crush instead of remove riparian vegetation where possible; revegetate as soon as possible; and use the smallest ROW possible.

One respondent stated that cumulative effects should take into consideration the conversion of mature vegetation into grasslands where seeding is conducted. Respondents were concerned about keeping total new disturbance on any one grazing lease to less than 150 acres, not including reclaimed areas. Regarding surface disturbance, WGFD pointed out that the proposed well density in the core area falls into their “high impact” category for some critical wildlife habitats and that off-site mitigation and/or habitat replacement should be considered early in the process.

1.6.2.12. Environmental Quality

The greatest concerns in this category were with noise impacts from drilling and ongoing operations, given the remoteness of the area; the release of test waters directly into streams; and adequate protection of sensitive, rare, and unique natural features and their ecosystems. One respondent stated that according to the FLPMA, natural resources and ecosystems on public lands are more important to the American public than are extractable resources. Suggestions to minimize disturbances included piping oil and gas away from sites rather than trucking the product, monitoring wells remotely, releasing test waters into retention basins, and conducting surveys for sensitive species so that areas where development is inappropriate can be identified and protected. Areas where disturbance effects are visible for long distances or long periods of time should also be taken into consideration.

1.6.2.13. Best Management Practices

Many of these comments focused around hazardous material handling and the need to exercise caution in storage and disposal, especially around riparian and wetland areas. Compliance with all U.S. EPA and Wyoming requirements for storm-water discharge was suggested, as was designing well pads to drain to an adequate-sized pit. Published BLM oil and gas BMPs were referred to. Closed-loop drilling was preferred, as well as the use of non-toxic drilling fluids, with no reserve pit or evaporation of these fluids permitted. Drilling fluids should be disposed of off-site at licensed facilities. Respondents requested that production water be re-injected into the formations where withdrawn, and that any holding ponds be lined and covered to protect birds. Comments indicated that drilling should only occur on areas of less than 25% slope and that staging, storage, and refueling areas should be

located more than 500 feet from wetlands, riparian areas, and floodplains. Respondents favor non-chlorine-based deicers and dust control agents.

1.6.2.14. General Industry Comments

Several respondents requested the use of existing roads to the extent possible. It was mentioned that the use of “Gold Book” standards for roads may encourage more public access, which brings increased weed spread, poaching potential, off-road vehicle use, and other disturbances. Other suggestions included using existing ROWs for utilities, burying utilities where possible, and to using anti-perching devices in areas where sage-grouse may be present. Reference was made to federal and state protection policies for sage-grouse areas. It was requested that any necessary lighting be redirected or shaded where possible. The public felt that the BLM should review appropriate well spacing based on best available environmental and technological data.

Industry respondents were concerned about “Adaptive Management” techniques that present unclear or changing goals and objectives that may favor special interest groups and be difficult for Operators to comply with. Also, it was stated that the BLM should adapt BMPs to fit new technologies where necessary. A number of respondents stated that Operators have existing lease rights and access to them should not be restricted.

1.6.2.15. BLM Management and NEPA Compliance

Several respondents provided a number of BLM management-related comments that focused primarily on the BLM’s application of and compliance with the NEPA EIS process:

- Use the previous EIS (BLM 1995a) and ROD (BLM 1997a) as much as possible to minimize duplicated efforts.
- Because the previous EIS is 10 years old, new data should be gathered and analyses conducted in sound science manner according to NEPA, CEQ, FLPMA, and the MLA regulations.
- Do not use Categorical Exclusions during APD process to reduce or eliminate site-specific analyses.
- Avoid additional environmental degradation.
- For cumulative effects, consider all activities in area that have affected habitats.
- BLM should work with proponents, state and local agencies, and the general public.
- Use a whole ecosystem approach, despite the checkerboard land ownership.
- EIS purpose and need should consider environmental protection of public land.
- Include a rationale for all alternatives.
- Keep multiple uses in mind.