

1. PURPOSE AND NEED

1.0 INTRODUCTION

Fidelity Exploration & Production Company (Fidelity), representing itself and five other Operators (Noble Energy, Inc.; Decker Operating, LLC; Omimex Canada, Ltd.; Athena Energy, LLC; and Bitter Creek Pipelines, LLC), has notified the United States Department of the Interior (DOI), Bureau of Land Management (BLM), Great Falls Field Station (GFFS) of its intent to drill additional exploration and development wells in the Bowdoin Natural Gas Project Area (BNGPA).

1.1 PROJECT DESCRIPTION AND LOCATION

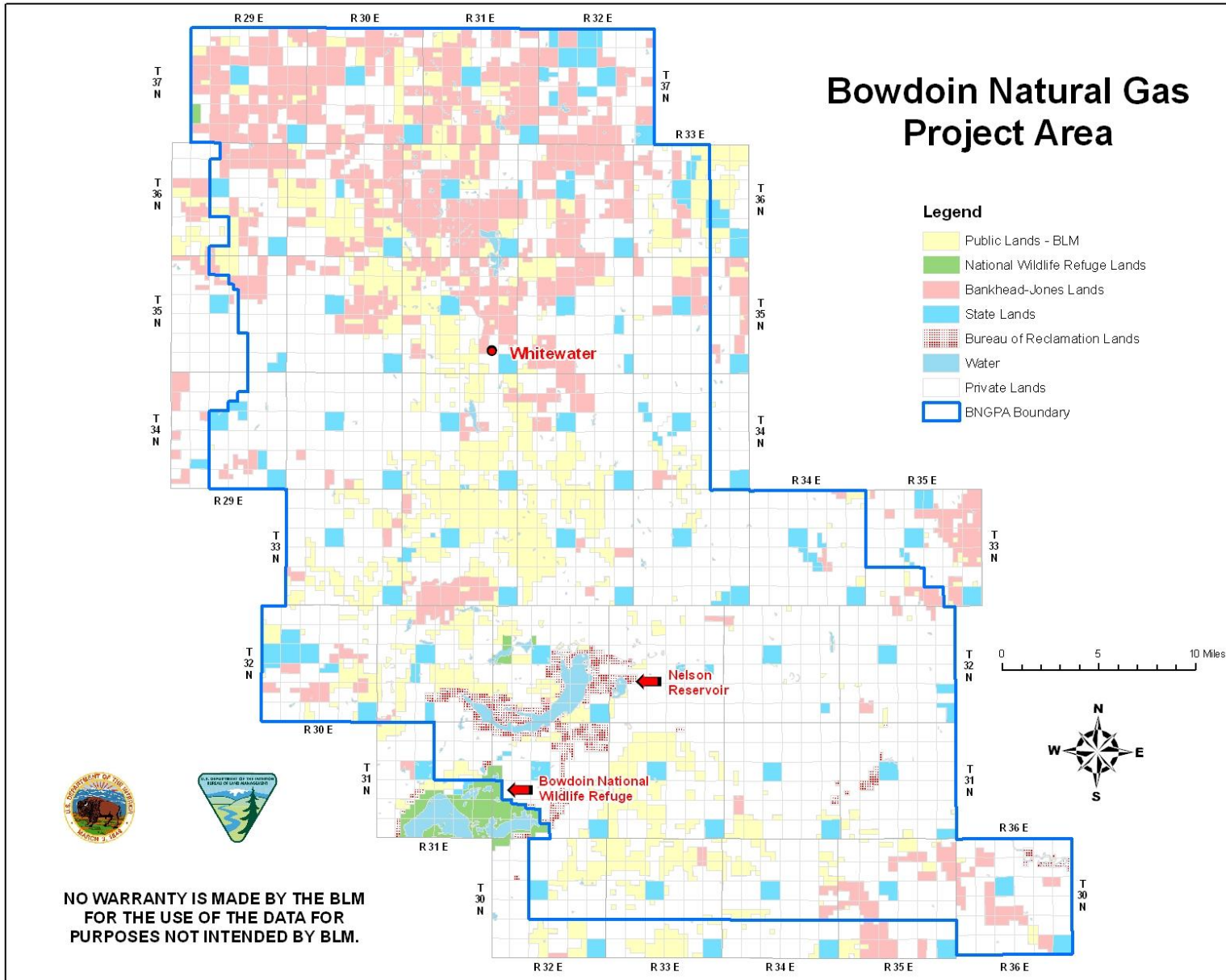
The proposed BNGPA is generally located in Townships 30 through 37 North, Ranges 29 through 36 East, in Phillips and Valley counties, Montana, as shown in Figure 1.1-1. The project area is entirely within the Malta Field Office and Great Falls Field Station management areas.

The BNGPA presently contains several active fields which are predominantly spaced at four (4) wells per section for drilling of the Upper Cretaceous including, but not limited to the Niobrara, Bowdoin (Carlile), Greenhorn, Mowry, Phillips, and Belle Fourche Formations (a/k/a Colorado Group). Some sections within the BNGPA currently have eight wells per section approved, or 80-acre spacing. A previous operator, Freeport McMoran, appeared before the Montana Board of Oil and Gas Conservation (MBOGC) in 1992 and 1993 to obtain formal approval for these wells. Eighty-acre spacing is not part of the Proposed Action to be analyzed in this document. This area contains several active federal units. The BNGPA has approximately 1,500 active producing gas wells, with accompanying production-related facilities, roads, artificial lift devices, and pipelines. The project area consists of approximately 813,000 acres, with surface ownership of 33 percent federal, 61 percent private, and 6 percent State of Montana.

For purposes of conducting an environmental analysis, the Operators have indicated that an additional 140 exploratory wells (80 federal), 680 development wells (340 federal) and 435 replacement wells (215 federal) may be drilled at individual locations in the BNGPA. Replacement wells are wells that replace existing producing wells. The existing wells will be plugged and abandoned and the respective locations will be reclaimed or reused. However, 10 percent of the proposed development wells are high geological risks and are dependent on success. Drilling is expected to last for approximately 10 to 15 years, with a life-of-project (LOP) of 30 to 50 years.

The BNGPA is currently accessed by an existing road network developed to service existing drilling and production activities. Drilling any additional wells within the analysis area may require the construction of additional roads. The gas produced within the BNGPA would be transported by existing pipelines and new pipelines, including an upgraded gathering system with tie-ins to existing interstate pipelines. Additional new compression and produced-water evaporation pits are also proposed.

Figure 1.1-1. General Location Map, Bowdoin Natural Gas Development Project



1.2 PURPOSE OF AND NEED FOR ACTION

Exploration and development of federal oil and gas leases by private industry, including transport and delivery of produced oil and gas, is an integral part of the BLM's oil and gas program under authority of the Mineral Leasing Act of 1920 as amended; the Mining and Minerals Policy Act of 1970; the Federal Land Policy and Management Act 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.

The proposed project will assist in the exploration and supply of natural gas necessary to meet the nation's growing demand for U.S. domestic gas production. Projections indicate that demand for natural gas will increase from the 2002 level of 18 trillion cubic feet (TCF) to 21 TCF in 2025. The remaining demand will be met by imports of foreign natural gas, primarily from Canada. A portion of the increase in domestic supply is projected to be met by growth in production from the Rocky Mountain region. In addition, the Report of the National Energy Policy Development Group (NEPDG) states that 90 percent of electric power generation capacity additions between 1999 and 2020 are projected to be natural-gas fueled. The quantity of natural gas consumed for power generation is expected to triple from 1999 to 2020 (NEPDG, 2001). Natural gas production from the Bowdoin Natural Gas Development Project would help meet this demand.

The purpose of the project, as described by the Operators, would be to allow the Operators to produce natural gas from existing leases in the Bowdoin natural gas field for the long term (approximately 30 to 50 years), deliver to multiple markets, and provide for the sale of developed minerals.

1.3 PURPOSE OF THE ENVIRONMENTAL ANALYSIS PROCESS

The BLM, Malta Field Office and Great Falls Field Station, is the lead agency responsible for preparation of this EA.

The evaluation of this proposal and alternatives was developed through interdisciplinary field review with representatives from the Operators, the BLM, and the project interdisciplinary team (IDT). In addition, for purposes of this EA, reference to the Operators as the project proponent includes all contractors, subcontractors, or other parties that would be involved in the design, layout, and operation of the proposed Bowdoin Natural Gas Development Project.

The BLM, as authorized by the Council for Environmental Quality (CEQ) and the National Environmental Policy Act (NEPA) directives, analyzes actions involving federal lands to determine their impact on the human environment (40 CFR, Parts 1500-1508). Prior to issuing decisions on the proposal, the BLM must comply with the requirements of NEPA. NEPA requires federal agencies to use a systematic, interdisciplinary approach to ensure the integrated use of natural and social sciences in planning and decision-making. NEPA also directs that an environmental analysis of proposed federal actions must be completed to determine reasonable alternatives and effects of the federal action on the environment. The analysis is to determine whether approval of the Proposed Action would constitute a 'major' federal action significantly affecting the human environment. An IDT conducted the evaluation of the Proposed Action and project alternatives with representatives from the BLM and a third-party contractor approved by and working under the direction of the BLM.

Factors considered during the environmental analysis process regarding the project include a determination of whether the proposal and alternatives are in conformance with the following:

- BLM policies, regulations, and approved resource management plan direction; and
- policies and regulations of other agencies likely associated with the project.

This EA is not a decision document. It documents the process used to analyze the potential impacts of the Proposed Action and alternatives and discloses the effects of the Proposed Action and alternatives to that action. A Decision Record (DR), signed by the responsible official (Field Station Supervisor, Great Falls, and Field Manager, Bureau of Land Management, Malta Field Office) will document the final decision regarding the selected alternative. The BLM will document whether or not significant impacts would occur with implementation of any of the alternatives. If the BLM determines that no significant impacts would occur, a Finding of No Significant Impact (FONSI) Decision Record would be issued. If significant impacts are identified, the BLM decision would be to complete an Environmental Impact Statement (EIS), with subsequent public input and additional analysis of the alternatives. The BLM decision will relate to BLM-administered lands. Decisions by the responsible official regarding the use of transportation networks in the project area by the Operators may affect private land-owners, county administration of these roads, and public access to BLM-administered lands.

1.4 RELATIONSHIP TO POLICIES, PLANS, AND PROGRAMS

1.4.1 Conformance With Land Use Plan

The *Judith Valley Phillips Resource Management Plan* (JVPRMP), approved in September 1994, provides management direction for resources contained within the Bowdoin Natural Gas Development Project. The best management practices identified in Appendix A of the JVPRMP are applicable to this proposal. These practices apply to all surface-disturbing activities. The proposed development is in conformance with the JVPRMP. The environmental analysis that will be prepared on the Bowdoin proposal will incorporate appropriate decisions, terms, and conditions of use described in the JVPRMP.

1.4.2 Relationship to Other Plans and Documents

The Proposed Action would comply with all relevant federal, state, and local laws, the Phillips and Valley counties land use plans, and *Surface Operating Standards and Guidelines for Oil and Gas* (the Gold Book).

The *Environmental Assessment for Proposed FMP Operating Company Drilling Program in the Loring Unit, East Loring Field, West Loring Field, Whitewater Unit, East Whitewater Field, Swanson Creek Field, Ashfield Unit, Hinsdale Unit, and the Bowdoin Unit* (BLM 1989) was approved on May 10, 1989, and provided an analysis of the environmental impacts of proposed natural-gas development in the above-mentioned units and fields. The BLM's decision allowed natural-gas development to occur up to a spacing of four wells per section subject to prescribed stipulations.

The Master Application for Permit to Drill (APD), titled *Fieldwide Drilling Operations Plan for Drilling and Surface Use for All Fields/Units/Leases (Federal) in Phillips County and All Fields/Units/Leases West of Hinsdale in Valley County*, is dated March 21, 2005 (see **Appendix A**). The document includes detailed requirements for well site location, drilling and surface operations, maintenance, mitigation, well abandonment, and reclamation.

Use Authorizations—Use authorizations (i.e., rights-of-way, permits, etc.) for well pads, roads, pipelines, and well site facilities would be processed through the BLM APD and Sundry Notice permitting process when located on-lease. If and when additional power lines are needed for electricity used in natural gas production, the respective Operator would make a site-specific proposal. Any activity located off-lease would require an approved right-of-way.

Lease Stipulations—Some leases within the proposed area include special stipulations on occupancy. These are in addition to the standard lease terms. These stipulations are designed to protect surface resources such as soils, water, and wildlife by restricting periods of activity and areas of disturbance. Application of these lease stipulations will be handled on a case-by-case basis for each APD submitted to the BLM. **Appendix A** details APD stipulations that would be applied to all wells in the BNGPA.

1.5 DECISIONS REQUIRED

1.5.1 Montana Board of Oil and Gas Conservation

Decisions to be made by the MBOGC include whether to approve the APDs for fee wells and state wells or to modify the proposals with mitigation measures.

1.5.2 Bureau of Land Management

BLM must determine whether to:

- approve the Proposed Action,
- approve individual federal components of the Proposed Action (as presented in Table 2.3-1),
or
- modify the Proposed Action with mitigation measures and monitoring activities that may be necessary for federal actions in addition to those measures proposed by the Operator.

BLM will not make decisions on construction, well drilling, or completion and production for any private and state wells, or their supporting infrastructure. The Montana Department of Environmental Quality (MDEQ), Department of Natural Resources and Conservation (DNRC) and MBOGC have jurisdiction over their individual components of this project. Their respective decisions have been incorporated into Section 1.4.2, **Relationship to Other Plans and Documents**.

1.6 ISSUES AND CONCERNS

Public issues and comments regarding the Bowdoin Natural Gas Development Project proposal were solicited for incorporation in this EA through the scoping process. A Scoping Statement that described the actions to be analyzed was prepared and submitted to the public on March 27, 2006, with comments due no later than May 1, 2006. The statement identified preliminary land and resource management issues, concerns, and opportunities, and outlined timing needs for public involvement. Environmental and social issues of local importance associated with natural gas production, gathering, and treatment were identified as follows:

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- Potential impacts to wildlife habitats within the analysis area, including big game winter range, sage grouse, and raptors
- Potential impacts from road development, increased traffic, and associated impacts on existing county, state, private, and BLM roads
- Potential social and economic impacts
- Potential impacts to surface and groundwater resources
- Potential impacts to steep slopes and sensitive soils within the project area
- Potential impacts from emissions resulting from additional drilling and production activities
- Reclamation of disturbed areas and control of noxious weed invasions
- Potential conflicts with livestock management operations in the analysis area, including possible impacts to range improvements
- Potential impacts to cultural and historical resources within the analysis area
- Potential impacts to Native American sacred sites and Traditional Cultural Properties
- Potential impact to listed, or proposed for listing, plant and animal species
- Cumulative effects of drilling and development activities when combined with other ongoing and proposed developments on lands adjacent to the Bowdoin project area
- Potential impacts to recreation
- Potential impacts to paleontological resources

1.7 AUTHORIZING ACTIONS

The proposed federal, state, county, and local actions required to implement the Bowdoin Natural Gas Development Project are listed in Table 1.7-1.

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Table 1.7-1. Federal, State, and County Authorizing Actions

AGENCY	NATURE OF ACTION
DEPARTMENT OF THE INTERIOR	
Bureau of Land Management (Great Falls Field Station and Malta Field Office)	<ul style="list-style-type: none"> • NEPA compliance and approval of APDs for wells and right-of-way applications for pipelines, compressor stations, power lines (as needed), and temporary use permits. Approval of disposal of produced water on federal lands. Coordination with Bureau of Reclamation (BOR) on BOR-managed lands. • Coordination with Fish and Wildlife Service (FWS) on FWS-managed lands. • Coordination with Montana Fish, Wildlife and Parks (MTFWP) on MTFWP-managed lands.
U.S. Fish and Wildlife Service	Coordination, consultation, and impact review on federally listed or proposed for listing, threatened or endangered species of fish, wildlife, and plants. Migratory bird impact coordination.
U.S. ENVIRONMENTAL PROTECTION AGENCY	
	<ul style="list-style-type: none"> • Spill Prevention Control and Countermeasures (SPCC) Plans. • Regulate hazardous waste treatment, storage, and/or disposal.
DEPARTMENT OF THE ARMY	
U.S. Army Corps of Engineers	Issue permits(s) (Section 404) for placement of dredged or fill material in or excavation of waters of the U.S. and their adjacent wetlands.
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY	
Permitting and Compliance Division	<ul style="list-style-type: none"> • Montana Pollution Discharge Elimination System (MPDES) permits for discharging waste water and storm water runoff. • Conformance with all surface water standards; permit to construct and permit to operate. • Administrative approval for discharge of hydrostatic test water. • New Source Review (NSR) Permit: All pollution emission sources, including compressor engines and portable diesel and gas generators.
MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION	
Water Resources Division	<ul style="list-style-type: none"> • Issue permits to appropriate groundwater and surface water. • Issue temporary water rights for construction permits to appropriate surface water.

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AGENCY	NATURE OF ACTION
Montana Board of Oil and Gas	<ul style="list-style-type: none"> • Primary authority for drilling on state and privately held mineral resources and secondary authority for drilling on federal lands. • Authority to allow or prohibit flaring or venting of gas on private or state owned minerals. • Regulate drilling and plugging of wells operating on private or state-owned minerals. • Aquifer Exemption Permit. • Directional drilling. • Rules and regulations governing drilling units. • Gas injection well permits. • Permits to construct settling ponds and waste water systems, including groundwater injection and disposal wells. • Regulate disposal of drilling fluids from abandoned reserve pits. • Disposal of produced water on state and private lands.
MONTANA STATE HISTORIC PRESERVATION OFFICE	
	<p>Consultation concerning identification, evaluation, assessments effect and treatment of adverse effects on historic properties.</p>
PHILLIPS AND VALLEY COUNTIES	
	<ul style="list-style-type: none"> • Zoning certificates for site development and construction. • Small wastewater system permits, where applicable. • Road use agreements and/or oversize trip permits when traffic on county roads exceeds established size and weight limits or where the potential for excessive road damage exists. • Construction and conditional use permits for all new structures. • Zoning changes where applicable. • Control of noxious weeds. • Permits to bore or trench county roads or for any crossing or access off a county road.
MONTANA DEPARTMENT OF TRANSPORTATION	
	<ul style="list-style-type: none"> • Conformance with applicable size and weight limits for trucks. • Encroachment permits.