
1.0 PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

Bill Barrett Corporation, Chevron USA Inc., Pogo Producing Company, and Prima Energy Corporation (the Operators) have notified the Casper Field Office (CFO), Bureau of Land Management (BLM), of their intent to continue natural gas exploration and development activities within the boundaries of the Cave Gulch, Bullfrog, and Waltman Fields in western Natrona County, Wyoming, and areas directly adjacent thereto (Figure 1.1), hereinafter referred to as the Cave Gulch Infill Development Project (CGIDP). The CFO prepared the *Cave Gulch-Bullfrog-Waltman Natural Gas Development Project Draft Environmental Impact Statement* (Cave Gulch EIS) (BLM 1997a) pursuant to the *National Environmental Policy Act of 1969* (NEPA) to analyze the impacts of additional exploration and development within the Cave Gulch-Bullfrog-Waltman project area (Cave Gulch EIS area). The BLM subsequently issued a Final EIS (BLM 1997b) and Record of Decision (Cave Gulch ROD) (BLM 1997c) for the project that approved the drilling of a maximum of 160 wells from 107 new well pads and 24 enlarged existing well pads within the overall Cave Gulch EIS area. The level of surface disturbance originally analyzed in the Cave Gulch EIS has now been reached; however, additional drilling will be required to fully develop known hydrocarbon reserves within the analysis area.

The Cave Gulch EIS area encompassed approximately 25,093 acres (see Figure 1.1). The CGIDP area for this environmental assessment (EA) would include an additional 1,920 acres (Sections 34, 35, and 36 in Township 36 North [T36N], Range 87 West [R87W]) adjacent to the southwest corner of the original Cave Gulch EIS area (see Figure 1.1), for a total project area of 27,013 acres. The Operators now propose to drill up to 154 additional wells from 110 individual well pads within the CGIDP area over a 10-year period. Approximately 116 of these wells would be drilled to the Fort Union and Lance formations, with the majority of the remaining wells drilled to the slightly deeper Cody and Mesaverde formations. There is some potential for commercial production from the much-deeper Muddy Formation; however, it is unlikely that any substantial number of wells would be drilled to the Muddy Formation at this time. Much of the additional infill drilling would occur in a “core” area centered in Sections 29, 30, 31, and 32, T37N, R86W (see Figure 1.1) where well spacing would vary from 10 to 20 acres. (Well spacing refers to the density of wells that can be drilled in a given area. Ten-acre spacing means that a well can be drilled every 10 acres, or 64 wells in a 640-acre section. The density does not refer to the surface location where the well is drilled but to the location of the borehole at total depth.) Directional drilling activities would occur in the core area to the extent practicable to reduce surface disturbance.

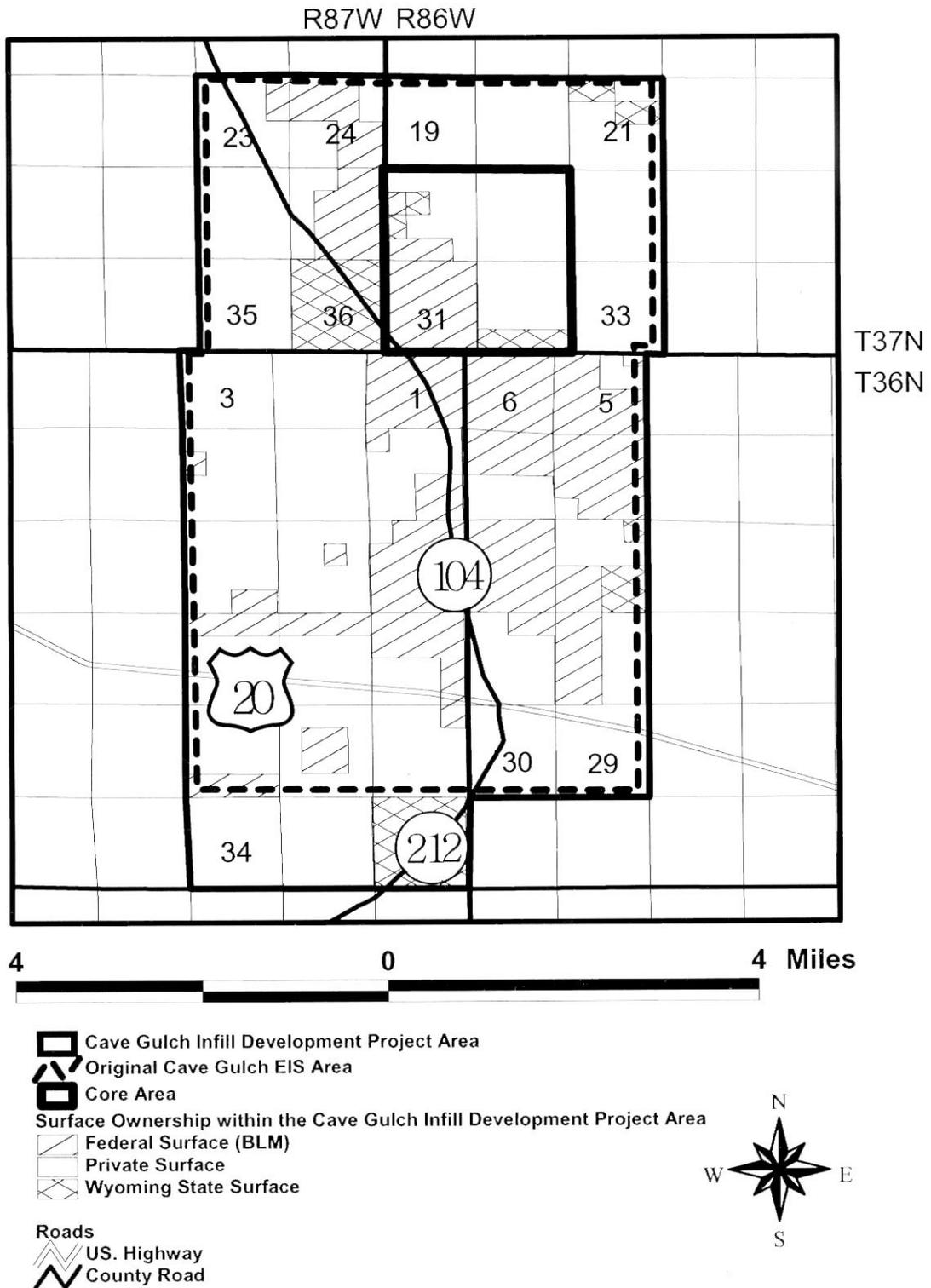


Figure 1.1 The Project Location and Surface Ownership Within the CGIDP Area.

As of January 1, 2004 (the baseline date decided upon at the start of EA preparation), the Operators have permitted 108 of the 160 wells authorized by the Cave Gulch ROD, 98 of which have been drilled. Drilling these 98 wells has resulted in project-related surface disturbance (i.e., well pads, roads, pipelines, etc.) of approximately 789 acres. Continued exploration and development activity within that area will be allowed under the terms and conditions of the Cave Gulch ROD until such time as the maximum number of authorized wells is reached. However, any additional exploration and/or development (drilling) activity within the Cave Gulch EIS area will only be allowed from existing well pads using directional drilling techniques--no new surface disturbance will be allowed pending additional environmental analysis.

The CGIDP would maximize recovery of natural gas resources within the CGIDP area. BLM's Wyoming Reservoir Management Group (WRMG) has determined that the structural geology of the area is such that most of the individual sandstone bodies in the Lower Fort Union and Lance formations containing natural gas are less than 10 acres in size, and the incremental reserves are large enough to warrant the additional infill-wells proposed herein (WRMG 2004).

The CGIDP would authorize the efficient recovery of federally owned natural gas by the Operators pursuant to their rights under existing oil and gas leases issued by the BLM, thereby preventing the waste of these hydrocarbon reserves. National mineral leasing policies and the regulations by which they are enforced recognize the statutory right of lease holders to develop federal mineral resources in order to meet continuing national needs and economic demands as long as undue and unnecessary environmental degradation is not incurred.

As previously discussed, 108 wells in the Cave Gulch EIS area have been permitted by the Operators. Of these 108 permitted wells, 79 are producing gas wells, eight gas wells are shut-in, 10 wells have been spudded, and one well was drilled and completed as a water injection well. Ten of the permitted wells had not been drilled as of January 1, 2004 (Wyoming Oil and Gas Conservation Commission [WOGCC] 2004a).

Additional exploration and development within the CGIDP area under the Proposed Action would include the following.

- Construction of a maximum of 110 well pads disturbing approximately 398 acres. Of the 398 acres of total disturbance, an estimated 140 acres would be long-term for the life-of-project (LOP) and 258 acres would be short-term (less than 5 years).
 - Construction of approximately 26.5 miles (mi) of new road to provide access to the additional well locations proposed by the Operators. The Operators estimate that there would be approximately 145 acres of total disturbance associated with access roads, 90 acres of which would be LOP disturbance.
 - Installation of approximately 26.5 mi of new buried natural gas and produced water pipelines to gather and transport gas and produced water from those wells approved in this EA to compression (gas) and disposal (water) facilities. These pipelines would be constructed in common corridors directly adjacent to the proposed access roads. Assuming a 30-ft wide disturbed right-of-way (ROW) adjacent to the access road ROW, this would result in approximately 96 acres total surface disturbance, all of which would be reclaimed shortly after disturbance.
 - Construction of up to 16.4 mi of pipeline to transport produced water from existing wells to the Cave Gulch Unit #4 Water Treatment and Disposal Facility. These pipelines would be constructed in common corridors with existing access roads. Assuming a 30-ft wide disturbed ROW adjacent to the access road ROW, this would result in approximately 60 acres of total disturbance, all of which would be reclaimed shortly after disturbance.
 - Development of up to four additional water disposal (injection) wells within the CGIDP area to provide for subsurface disposal of produced water. Total surface disturbance associated with drilling these injection wells would be approximately 13 acres, 5 acres of which would be LOP disturbance. Construction of access roads and water disposal pipelines in conjunction with these injection wells would result in additional disturbance of 33 and 22 acres, respectively, approximately 21 acres of which would be LOP disturbance.
 - Abandonment and reclamation of wells, well pads, access roads, gas collection pipelines, water disposal pipelines, and other associated facilities as appropriate.
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This infield development project incorporates the Cave Gulch EIS and Cave Gulch ROD (BLM 1997a, 1997b, 1997c) by reference and expands upon those documents as necessary to provide guidance for the implementation of additional development within the CGIDP area. Through interdisciplinary evaluation and review, consideration of reasonable alternatives, and public participation, this EA will serve as follows:

- to determine the significance of environmental impacts associated with the Proposed Action and alternatives;
- to assist in the decision-making process;
- to identify and develop appropriate mitigation measures to minimize the environmental impacts from the Proposed Action and alternatives; and
- to determine the need to prepare an EIS.

1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

As indicated above, the Operators propose to drill 154 additional oil/gas wells from a maximum of 110 new well pads within the CGIDP area over a 10-year period to allow for the efficient recovery of natural gas reserves within the CGIDP area. This activity would be in addition to the 160 wells on 107 new well pads and 24 enlarged existing well pads previously approved in the Cave Gulch ROD.

The development of federal oil and gas leases is an integral part of the BLM oil and gas leasing program under the authority of the *Mineral Leasing Act of 1920* (MLA) as amended (30 *United States Code* [U.S.C.] 181, *et seq*), the *Federal Land Policy and Management Act of 1976* (FLPMA) (*Public Law* [P.L.] 94-579), the *Federal Onshore Oil and Gas Royalty Management Act of 1982* (30 U.S.C. 1701, *et seq*), and the *Federal Onshore Oil and Gas Leasing Reform Act of 1987* (43 *Code of Federal Regulations* [C.F.R.] Part 3100). The BLM's oil and gas leasing program is intended to encourage the development of domestic oil and gas reserves, thereby reducing national dependence on foreign energy supplies.

1.3 NEPA COMPLIANCE

This EA was prepared pursuant to the following rules and regulations:

- NEPA, as amended;
 - subsequent regulations adopted by the Council on Environmental Quality (CEQ) found in 40 C.F.R. Part 1500-1508; and
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- applicable BLM rules, regulations, and policies regarding implementation of NEPA and compliance with CEQ regulations.

This EA is a public document that analyzes the potential impacts on the human environment that may result from implementation of the Proposed Action and alternatives. However, this EA is not a decision document; rather, it provides documentation of the process used to evaluate the potential impacts of the Proposed Action and alternatives on the human environment.

Decisions regarding implementation of the Proposed Action or project alternatives will be fully documented in a *Decision Record* (DR) that will be prepared and issued by the BLM and will apply only to those lands and resources for which the BLM has specific management responsibility. Furthermore, this EA is designed to provide the BLM with both documented evidence and a level of evaluation sufficient to allow for the preparation of a DR that supports a determination that either:

- the potential impacts from the Proposed Action (or project alternatives) to the human environment are not significant, thereby allowing the BLM to prepare a Finding of No Significant Impact (FONSI) and the Operators to implement the Proposed Action; or
- the potential impacts from the Proposed Action (or project alternatives) to the human environment are significant and require the BLM to prepare an EIS should the Operators wish to pursue the project.

Various aspects of the CGIDP are regulated by other federal, state, and/or local agencies. This EA is not intended to eliminate the need for the Operators to pursue permit(s) or approval(s) from these regulatory authorities. Information that can assist these agencies in determining whether to approve or disapprove the issuance of the specific permits or approvals may be found in this EA. However, this EA is not intended to provide all of the information that may be required by other federal, state, or local regulatory agencies.

This EA considers direct, indirect, residual, and cumulative impacts of the Proposed Action and the No Action Alternative. Evaluations presented in this EA are restricted to the potential environmental impacts associated with additional development of the federal leases in the CGIDP area, including the effects of well pad and access road construction, additional drilling activities, production testing, disposal of produced water, production and maintenance operations, site abandonment, and final reclamation. These analyses include the direct, indirect, and residual impacts of construction and drilling activities within the

CGIDP area as well as the cumulative impacts of the Proposed Action on the human environment. In addition, this EA includes the following:

- a determination as to whether the Proposed Action is in conformance with BLM policies, regulations, and approved land management direction pertaining to oil and gas exploration and development activities;
- a determination as to whether the Proposed Action is compatible with other resources and permitted land uses in the analysis area;
- a determination as to whether locations exist for the proposed facilities that would be environmentally acceptable and would meet the needs of other resource management activities; and
- methods to mitigate surface resource impacts while honoring the leaseholder's rights.

A tiered approach was used to prepare this EA, and much of the information contained in the Cave Gulch EIS (available online at <http://www.wy.blm.gov/nepa/cfodocs/cavegulch97/index.htm>) has been incorporated into this document by reference, particularly in Chapter 2.0 (Proposed Action) and Chapter 3.0 (Affected Environment), where there have been no major changes in the information originally presented in the original Cave Gulch EIS document.

1.4 GENERAL LOCATION AND LANDOWNERSHIP

The CGIDP area includes approximately 27,013 acres of mixed federal, state, and private surface. Of this total, approximately 7,391 acres (27.4%) are owned by the federal government (administered by the BLM), 1,875 acres (6.9%) are owned by the State of Wyoming, and 17,747 acres (65.7%) are owned by private individuals (Table 1.1). Mineral ownership is 75.1% federal, 5.3% State of Wyoming, and 19.6% private (Table 1.2 and Figure 1.2).

1.5 AUTHORIZING ACTIONS AND RELATIONSHIP TO STATUTES AND REGULATIONS OR OTHER PLANS

Section 1.6 of the Cave Gulch EIS contains a discussion of federal, state, and county authorizing actions (permits/approvals) and their relationship to statutes, regulations, and/or other planning documents. All activities proposed by the Operators would be conducted in full compliance with the terms and conditions contained in the applicable federal leases, applicable Onshore Oil and Gas Orders, 43 C.F.R. Part 2800

Table 1.1 Surface Ownership Within the CGIDP Area.

Surface Ownership	Acres	Percent of Total
Federal (BLM)	7,391	27.4
State of Wyoming (State)	1,875	6.9
Private (Fee)	17,747	65.7
Total	27,013	100.0

Table 1.2 Mineral Ownership Within the CGIDP Area.

Mineral Ownership	Acres	Percent of Total
Federal (BLM)	20,287	75.1
State of Wyoming (State)	1,426	5.3
Private (Fee)	5,300	19.6
Total	27,013	100.0

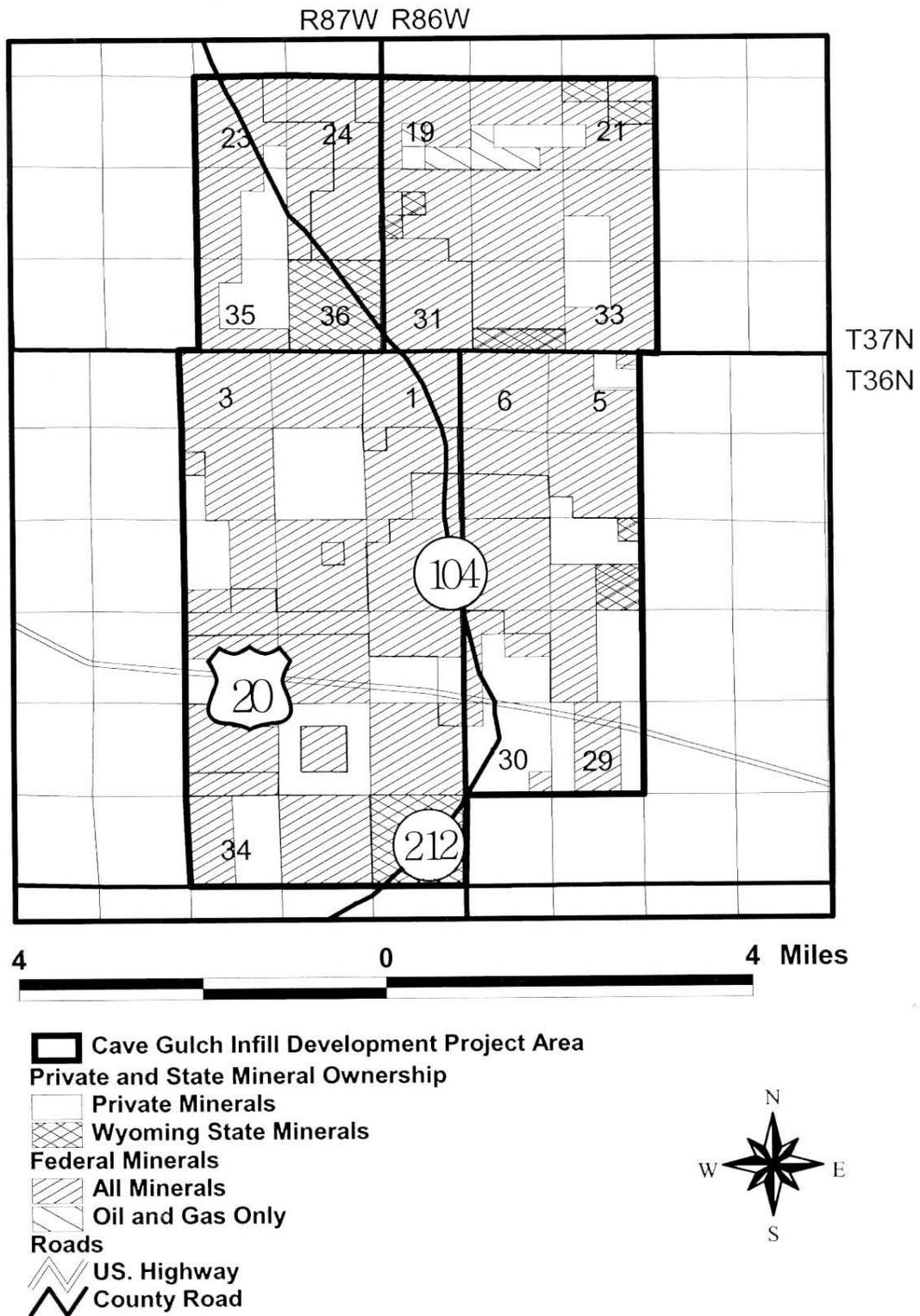


Figure 1.2 Mineral Ownership Within the CGIDP Area.

(rights-of-way), and 43 C.F.R. Part 3100--specifically subpart 3162, *Requirements for Operating Rights, Owners and Operators*.

1.6 CONFORMANCE WITH EXISTING LAND MANAGEMENT PLANS

The CGIDP is in conformance with management objectives provided in the *Platte River Resource Area Resource Management Plan Environmental Impact Statement and Record of Decision* (RMP) (BLM 1985a) and approved amendments, subject to implementation of applicant-committed environmental protection measures outlined in Chapter 2 and mitigation measures identified in Chapter 4 of this EA.

The specific planning decision that applies to federal oil and gas leases within the CGIDP area is Oil and Gas Planning Decision M-1, which states, in part, “BLM administered lands will remain open to oil and gas leasing and exploration.” This leasing decision is subject to “the provisions contained in referenced mitigation guidelines, developed to standardize the wording used by BLM in Wyoming.”

The RMP contains no specific decisions applicable to the Proposed Action. Resource management prescriptions applicable to ROWs in general are found in RMU 14: Remaining Platte River Resource Area, which states, in part, “for smaller right-of-way facilities, placement will be adjacent to existing facilities or disturbances. Cross-country right-of-way placement will be allowed only when placement in a designated corridor or adjacent to an existing facility is not practical or feasible.”

The Proposed Action is consistent with local planning and zoning.
