

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

Gasco Energy Inc. (Gasco) has proposed to the United States Department of the Interior (USDOI) Bureau of Land Management (BLM) Vernal Field Office (VFO) to develop oil and natural gas resources within the Monument Butte–Red Wash and West Tavaputs Exploration and Development Areas. The project area is located within Uintah and Duchesne Counties, Utah and consists of approximately 187 sections located in Township 9 South, Ranges 18 and 19 East; Township 10 South, Ranges 14, 15, 16, 17, and 18 East; and Township 11 South, Ranges 14, 15, 16, 17, 18, and 19 East (see Map 1).

Gasco operates the majority of the mineral lease rights underlying both the public and private lands in the project area. The project area encompasses approximately 206,826 acres predominantly in the West Tavaputs Exploration and Development Area with some overlap into the Monument Butte–Red Wash Exploration and Development Area of the VFO. It is located primarily on BLM-administered lands (177,644 acres), but also includes lands administered by the State of Utah (25,451 acres) and privately owned lands (3,731 acres). The project area includes lands within the restored boundary of the Ute Indian Reservation, but no lands administered by the tribe or by the Bureau of Indian Affairs (BIA). Targeted geologic strata lie in the Wasatch, Mesaverde, Blackhawk, Mancos, Dakota, and Green River formations, approximately 5,000–20,000 feet below the earth's surface.

As the administrator for both subsurface and surface resources on public lands in the study area, the BLM is the lead federal agency responsible for preparation of this Environmental Impact Statement (EIS). Some of the area proposed for development was leased prior to the publication of the VFO Record Of Decision and Approved Resource Management Plan (Vernal RMP; BLM 2008c). Therefore, surface management guidance is provided by the Vernal RMP and/or by conditions attached to each lease.

ES.2 PURPOSE AND NEED

ES.2.1 PURPOSE

The purpose of BLM's action is to respond to Gasco's proposal and to facilitate action on future plans and applications related to this proposal. The BLM developed this EIS to provide information to allow the VFO to render an informed decision whether to approve the Proposed Action or another alternative. A decision to approve the Proposed Action would authorize Gasco to exercise its valid lease rights as described in the selected alternative, subject to Conditions of Approval (COAs) and additional site-specific review and approval as required.

Gasco holds federal, state and private oil leases within the 206,826-acre project area. The leases have created contractual rights and obligations between Gasco and the United States, the State of Utah, or private mineral owners. Gasco's purpose for the Proposed Action is to develop these leases and efficiently produce commercial and economic quantities of oil and gas by expanding the Monument Butte–Red Wash and West Tavaputs Oil and Gas Field infrastructure. Gasco estimates that the Proposed Action could yield nearly three trillion cubic feet (Tcf) of natural gas through 2053.

ES.2.2 NEED

The BLM's need for the project is to fulfill its responsibilities under federal laws and federal oil and gas leases to allow leaseholders to develop mineral resources to meet continuing national energy needs and economic demands. The nation's demand for natural gas is projected to increase at an average 0.7 percent per year from 22.6 Tcf in 2004 to 27.1 Tcf in 2030 (DOE 2006). The BLM oil and gas leasing program encourages development of domestic oil and gas reserves and the reduction of U.S. dependence on foreign energy sources. Increased development of gas resources on public lands in an environmentally responsible manner is consistent with the Comprehensive National Energy Strategy announced by the U.S. Department of Energy (DOE) in April 1998, the Energy Policy and Conservation Act (42 United States Code [USC] 6201), and the Energy Policy Act of 2005 (Public Law 109–58). Private production from federal oil and gas leases is an integral part of the BLM's oil and gas program under the authority of the Mineral Leasing Act (MLA), as amended by the Federal Land Policy and Management Act (FLPMA), and the Federal Onshore Oil and Gas Leasing Reform Act of 1987.

Gasco's need for the project is to fulfill its obligations and responsibilities under federal leases to explore, develop, and produce commercial quantities of natural gas.

Implementation of the Proposed Action would, among other things,

- generate federal and state taxes and/or royalty revenues,
- support local economies by providing and maintaining employment opportunities and expanding the tax base, and
- allow Gasco to develop natural gas pursuant to their rights under valid existing federal oil and gas leases.

ES.3 CONFORMANCE WITH BLM LAND USE PLANS AND OTHER LAWS AND POLICY CONSIDERATIONS

The preparation of this EIS is in accordance with NEPA and in compliance with the Council of Environmental Quality (CEQ) regulations (40 CFR Parts 1500–1508), U.S. Department of the Interior requirements (Department Manual 516), and guidelines listed in the BLM NEPA Handbook, H-1790-1 and in the BLM Utah NEPA Guidebook (BLM 2006i).

The Proposed Action would be consistent with various federal, state, county, and local laws and regulations. In addition, applicable permits will be acquired as necessary. The proposed wells would be developed in accordance with the MLA and with 43 C.F.R. Part 3100. The MLA (30 USC § 181 et seq.) requires that all public lands not specifically closed to leasing be open to lease for the exploration and development of mineral resources. The intent of the MLA and its implementing regulations is to allow and encourage lessees or potential lessees to explore for oil and gas underlying public lands. FLPMA mandates that the BLM manage public lands on the basis of multiple use (43 USC 1701[a][7]). Minerals are identified as one of the principal uses of public lands under Section 103 of FLPMA (43 USC 1702[c]).

The Proposed Action will take place within the VFO, which is managed under the VFO Record of Decision and Approved Resource Management Plan (BLM 2008c). The RMP allows for the exploration and development of oil and gas resources (including tight gas reservoirs) while protecting or mitigating other resource values. The majority of the proposed project lies within

an area that was previously partially developed for oil and gas production and is designated as Category 2 for oil and gas leasing by the BLM. Category 2 areas are open to oil and gas leasing with stipulations to protect sensitive surface resources. The Proposed Action and alternatives presented in this EIS are consistent with the management decisions of the RMP (BLM 2008c), which covers all of the BLM lands in Uintah, Duchesne, and Daggett counties (and small areas of Grand County).

ES.4 PUBLIC INVOLVEMENT

Public scoping is a process designed to meet the public involvement requirements of the National Environmental Policy Act (NEPA). This cooperative process includes soliciting input from interested agencies (federal, state, and local), organizations, and individuals on issues, concerns, needs, resource uses, resource development, and resource protection. The scoping process is an excellent method for opening dialogue between the lead agency and the general public about management of the public lands and for evaluating the concerns of those who have an interest in the area.

The BLM has conducted public and internal scoping to solicit input and identify the environmental concerns and issues associated with the proposed project. A Notice of Intent (NOI) was published in the Federal Register on February 10, 2006. The BLM then prepared a scoping information packet and provided copies of it to federal, state, and local agencies, the Ute Tribe, and members of the general public. Announcements of scoping opportunities were made in various local news media. The BLM conducted a public scoping and information open house on February 27, 2006, in Vernal, Utah; February 28, 2006, in Duchesne, Utah; and March 2, 2006, in Price, Utah.

ES.5 IDENTIFIED ISSUES

As noted above, issues to be addressed in the EIS were identified by the public and the agencies during the scoping process. Eighteen issues were identified during scoping and are summarized below. Other resource and use issues are identified in the BLM Interdisciplinary Team Checklist (Appendix A).

ISSUE 1: ALTERNATIVES

What is the viability of a reduced number of wells? How will impacts to other operators and leases in the Uinta Basin be addressed? What Best Management Practices (BMPs) are technically and/or economically feasible? How will access routes be varied to protect resources? How will the Green River, Nine Mile Canyon, and special designation areas be protected?

ISSUE 2: AIR QUALITY

How will the impacts of increased airborne dust, industrial particulates, magnesium chloride, and other dust-abating chemicals be mitigated?

ISSUE 3: CULTURAL RESOURCES

How will prehistoric and historic cultural resources, especially those located in and around Nine Mile Canyon, be protected? How will consultation with cultural preservation groups be incorporated?

ISSUE 4: MITIGATION

What BMPs will be included in the Proposed Action and all alternatives? What will be done to maximize restoration and remediation following surface disturbance?

ISSUE 5: NATIVE AMERICAN CONSULTATION

What cultural importance do local tribes place on the project area?

ISSUE 6: NOISE

How will noise from construction and operation be minimized?

ISSUE 7: PROCESS

How will the EIS best convey project information, especially information that is conceptual? What reasonable foreseeable actions will be examined in the EIS?

ISSUE 8: PUBLIC HEALTH AND SAFETY

How will public health and safety issues resulting from increased travel, potential chemical spills or fires, and increased access in the project area be minimized?

ISSUE 9: PURPOSE AND NEED

Are the stated purpose and need of the project valid?

ISSUE 10: RECREATION AND VISUAL

How will the effects of the extraction industry on recreational resources and opportunities (as well as the recreation industry) be mitigated? How will visual impacts in the project area be reduced?

ISSUE 11: SOCIOECONOMICS

How will the direct and indirect impacts to recreation and the recreation industry be balanced with the positive impacts brought by the extraction industry?

ISSUE 12: SOILS

How will long-term impacts to biological soil crusts and other soil types be mitigated?

ISSUE 13: SPECIAL DESIGNATIONS

How will Areas of Critical Environmental Concern (ACECs) and Wild and Scenic Rivers (WSRs) be protected?

ISSUE 14: TRANSPORTATION

How will direct and indirect impacts from traffic be minimized?

ISSUE 15: WILDLIFE/THREATENED AND ENDANGERED SPECIES

How will wildlife resources, threatened and endangered species, and habitat be protected?

ISSUE 16: VEGETATION

How will vegetation resources be protected, maintained, or restored? How will the spread of noxious weeds be mitigated?

ISSUE 17: WATER QUALITY

How will water resources be managed to protect and maintain water quality?

ISSUE 18: WILDERNESS CHARACTERISTICS

How will wilderness resources and attributes be protected?

ES.6 ALTERNATIVES

In addition to the Proposed Action, four alternatives to the Proposed Action have been addressed in the EIS: the No Action Alternative, a reduced development alternative, a full development alternative, and a directional drilling alternative. These alternatives are described below and compared in Table ES-1. The BLM has identified Alternative A (the Proposed Action) as the preferred alternative.

ES.6.1 ALTERNATIVE A: PROPOSED ACTION

Under Alternative A (the Proposed Action), Gasco would drill 1,491 new natural gas production wells, and construct associated access roads, water supply pipelines, and gathering lines within the Riverbend, Wilkin Ridge, and Gate Canyon areas (see Map 2). Based on an average drilling rate of 100 wells per year and assuming that the drilling program would begin in 2010, it is anticipated that the 1,491 proposed wells would be drilled by approximately 2026. The total number of wells would depend largely on geology, economic factors, and lease restrictions. The wells would be drilled to recover gas reserves from the Wasatch, Mesaverde, Blackhawk, Mancos, Dakota, and Green River formations at depths of 5,000–20,000 feet. At the end of each well's productive life (approximately 30 years), it would be plugged and abandoned and the affected area reclaimed. Thus, the total life of the project would be approximately 45 years. Although some wells may be drilled directionally from the same pad, each well was conservatively assumed to have its own pad for the purposes of analysis.

The extent of this proposed development and prospective nature of the natural gas resources is based on two-dimensional (2D) seismic data, geologic information, and data derived from exploratory wells drilled to date. The well density needed to develop the resource is expected to vary depending on the geologic characteristics of the formation being developed. The highest surface density assumed for this EIS's programmatic analysis is 1 well pad per 40 acres (in some areas of the Wasatch and Mesaverde formations), but the exact surface density would be defined during on-site review and permitting.

Approximately 325 miles of new road would be constructed to access the proposed wells. Gas would be transported via pipeline and related facilities to either intrastate or interstate pipelines. Depending on site-specific conditions, pipelines and collector lines would either be laid on the ground surface, typically next to a road, or trenched and buried. If dry, the wells would be plugged and abandoned as required by the surface management agency (SMA) and Authorizing Officer (AO). The construction of new compressor facilities is not proposed as part of the Proposed Action. However, gas treatment capacity would be expanded by a total of approximately 21,000 horsepower at two existing gas plants to handle the increased production.

Water for drilling (6,745 acre-feet) would come from a Green River well, the Myton water dock facility, the Duchesne Valley Water Treatment Plant, recycled drilling water, and other available sources. Drilling under this alternative is expected to produce about 30,300 barrels of water per day at peak development. This water would be disposed of in an evaporative facility with 30 basins on 214 acres.

The Proposed Action includes applicant-committed protection measures and BMPs for cultural and paleontological resources, invasive weeds management, road construction and maintenance, vegetation disturbance and reclamation, pipeline spill prevention, erosion reduction, range resources, hazardous materials and emergency response, special status plants, breeding raptors and nest sites, bald eagle wintering areas, mountain plover breeding habitat, and sage grouse leks and nesting areas.

ES.6.2 ALTERNATIVE B: REDUCED DEVELOPMENT

Alternative B was developed to respond to sensitive resource and land use issues in the project area expressed during public and agency scoping. Under Alternative B, natural gas development on federal leases would be implemented in a phased manner through surface disturbance restrictions imposed by the BLM. Maximum new annual surface disturbance would be limited to 485 acres per year on federal land. Under Alternative B, Gasco would drill 1,114 new gas production wells, and construct associated access roads, water supply pipelines, and natural gas gathering lines (see Map 3). Unless otherwise noted, management actions under this alternative would be the same as the Proposed Action. However, well pad locations would be either precluded from development or developed at a lower density in sensitive areas. These exclusions or reduced development densities include the following:

- No well pads would be located within 0.5 mile of known active raptor nests.
- No well pads would be located within 1,000 feet of an active sage-grouse lek.
- No well pads would be located within the existing Pariette and Lower Green River ACECs.
- No well pads would be located below the rim of Nine Mile Canyon within Nine Mile Canyon ACEC, or in areas of Nine Mile Canyon ACEC where no existing oil and gas leases are present.
- 160-acre surface spacing would be used for wells in all areas of Nine Mile Canyon ACEC where the above provision does not apply, and within areas proposed for the expansion of Nine Mile Canyon ACEC during the RMP revision process.
- 160-acre surface spacing would be used for wells within the Four Mile Wash area proposed as an ACEC during the Vernal RMP revision process (BLM 2005a).

- 160-acre surface spacing would be used for wells within the Myton Bench/Coyote Basin area proposed as an ACEC during the Vernal RMP revision process.
- No well pads would be located in areas currently managed under the BLM's Visual Resource Management (VRM) system as Class II.
- No well pads would be located on BLM-administered land within approximately 1,500 feet of river segments deemed suitable for designation under the Wild and Scenic Rivers Act, as measured from the river centerline.
- No wells would be located in areas previously inventoried as having an appearance of naturalness and having the ability to offer opportunities for solitude and primitive/unconfined recreation (BLM 2007h).

The construction of new compressor facilities is not proposed as part of this alternative. However, treatment capacity would be expanded by a total of approximately 15,600 horsepower at two existing gas plants to handle the increased production.

Water for drilling (5,040 acre-feet) would come from a Green River well, the Myton water dock facility, the Duchesne Valley Water Treatment Plant, recycled drilling water, and other available sources. Drilling under this alternative is expected to produce about 22,200 barrels of water per day at peak development. This water would be disposed of in an evaporative facility with 22 basins on 157 acres.

ES.6.3 ALTERNATIVE C: FULL DEVELOPMENT

Alternative C was developed to analyze the effects of a maximum development scenario in the project area. To develop this alternative and because of the programmatic nature of this analysis, it was assumed that all leases would be developed, with well pads located across the project area in a more-or-less evenly spaced (40–160 acre) pattern and capitalizing on existing roads where possible. Under Alternative C, it is estimated that 1,887 new gas production wells would be drilled, and associated access roads, water supply pipelines, and natural gas gathering lines would be constructed. Well pad spacing in a given area would vary based on terrain and sensitive resources; however, it is assumed that areas meeting one or more of the following criteria would generally be developed at a lower surface spacing (typically 160-acre) than the rest of the project area (see Map 4):

- Topographically rough terrain with slopes in excess of 40 degrees
- Areas within 0.5 mile of known active raptor nests
- Areas within 1,000 feet of an active sage-grouse lek
- Lands that fall within the existing Pariette and Lower Green River ACECs
- Land that falls within the Four Mile Wash area proposed as an ACEC during the Vernal RMP revision process (BLM 2005a)
- Areas classified as VRM Class II
- Areas within approximately 1,500 feet of the river centerline along segments deemed suitable for designation under the Wild and Scenic Rivers Act
- Lands estimated to have a high probability of cultural sensitivity based on the predictive modeling used for the Vernal RMP (BLM 2008b)

It is assumed that no surface disturbance would occur in areas identified in the lease terms and conditions as No Surface Occupancy (NSO) or closed to oil and gas leasing. The construction of new compressor facilities is not proposed as part of this alternative. However, treatment capacity would be expanded by a total of approximately 26,400 horsepower at two existing gas plants to handle the increased production.

Water for drilling (8,537 acre-feet) would come from a Green River well, the Myton water dock facility, the Duchesne Valley Water Treatment Plant, recycled drilling water, and other available sources. Drilling under this alternative is expected to produce about 37,500 barrels of water per day, at peak development. This water would be disposed of in an evaporative facility with 38 basins on 271 acres.

ES.6.4 ALTERNATIVE D: NO ACTION

Under the No Action Alternative, the proposed natural gas development on BLM lands as described in the Proposed Action would not be implemented. However, under this alternative, natural gas exploration and development is assumed to continue on federal, state, and private lands, albeit at a much smaller scale. Activity on federal lands would come from exploratory projects previously approved by BLM, and is assumed to also come from other subsequent authorizations by BLM, such as approval of wells to meet unit and/or lease obligations, authorization of single-well Environmental Assessments, and approval of wells that meet the requirements of Applications for Permits to Drill (APD) approval via Categorical Exclusions under the Energy Policy Act of 2005. In addition, some development is assumed to continue on State of Utah and private lands, subject to the approval of UDOGM or the appropriate private land owner. Reasonable access across public lands to proposed well pads and facilities on state and private lands could also occur under the No Action Alternative.

The No Action Alternative forms the baseline against which the potential impacts of the Proposed Action and the other action alternatives are compared. Thus, although it includes actions assumed to occur in the absence of approval of any of the action alternatives, it does not authorize any of the development assumed for the purposes of analysis.

This alternative mirrors past production trends and mineral development activities in the project area, except for areas where previously approved projects are in place, which assume higher density drilling. For purposes of analysis in this EIS, it is assumed that under the No Action Alternative approximately 368 new wells, including necessary facilities, would be developed within the project area in the next 15 years. For the sake of conservative analysis, it is assumed that each well would be placed on an individual pad; no directional drilling is anticipated. The construction of new compressor facilities is not expected as part of this alternative. However, treatment capacity would be assumed to expand by approximately 5,200 horsepower at existing gas plants to handle the increased production.

Water for drilling (1,665 acre-feet) would come from a Green River well, the Myton water dock facility, the Duchesne Valley Water Treatment Plant, recycled drilling water, and other available sources. Drilling under this alternative is expected to produce about 7,300 barrels of water per day, at peak development. This water would be disposed of in an evaporative facility with 8 basins on 57 acres.

ES.6.5 ALTERNATIVE E: DIRECTIONAL DRILLING

Alternative E was developed to respond to sensitive resource and land use issues in the project area expressed during public and agency scoping. Under Alternative E, well pad locations would be precluded from sensitive areas or would occur at a lower density in those areas, and surface impacts would be reduced throughout the field by developing multiple gas wells from each well pad. Like Alternative B, natural gas development on federal leases would be implemented in a phased manner. Under Alternative E, Gasco would drill 1,114 new gas production wells from a total of 328 pads, and construct associated access roads, water supply pipelines, and natural gas gathering lines (see Map 6). Unless otherwise noted, management actions under this alternative would be the same as the Proposed Action. However, well pad locations would be either precluded from, or developed at a lower density in, sensitive areas. These exclusions or reduced development densities include the following:

- No well pads would be located within 0.5 mile of known active raptor nests.
- No well pads would be located within 1,000 feet of an active sage-grouse lek.
- No well pads would be located within the existing Pariette and Lower Green River ACECs.
- No well pads would be located below the rim of Nine Mile Canyon within the existing Nine Mile Canyon ACEC, or in areas of Nine Mile Canyon ACEC where no existing oil and gas leases are present.
- 160-acre downhole spacing, or approximately 540 acre surface spacing, would be used for wells in all areas of Nine Mile Canyon ACEC where the above provision does not apply, and within areas proposed for the expansion of Nine Mile Canyon ACEC during the Vernal RMP revision process.
- 160-acre downhole spacing, or approximately 540 acre surface spacing, would be used for wells within the Four Mile Wash area proposed as an ACEC during the Vernal RMP revision process .
- 160-acre downhole spacing, or approximately 540 acre surface spacing, would be used for wells within the Myton Bench/Coyote Basin area proposed as an ACEC during the Vernal RMP revision process.
- No well pads would be located in areas currently managed under the BLM's VRM system as Class II.
- No well pads would be located on BLM-administered land within approximately 1,500 feet of river segments deemed suitable for designation under the Wild and Scenic Rivers Act, as measured from the river centerline.
- No wells would be located in areas previously inventoried as having an appearance of naturalness and that offer opportunities for solitude and primitive/unconfined recreation (BLM 2007h).

The construction of new compressor facilities is not proposed as part of this alternative. However, treatment capacity would be expanded by a total of approximately 15,600 horsepower at two existing gas plants to handle the increased production.

Water for drilling (5,040 acre-feet) would come from a Green River well, the Myton water dock facility, the Duchesne Valley Water Treatment Plant, recycled drilling water, and other available sources. Drilling under this alternative is expected to produce about 22,200 barrels of water per

day, at peak development. This water would be disposed of in an evaporative facility with 22 basins on 157 acres.

Table ES-1. Comparison of Alternatives

	Alternative A (Proposed Action)	Alternative B (Reduced)	Alternative C (Full)	Alternative D (No Action)	Alternative E (Directional)
Proposed new wells	1,491	1,114	1,887	368	1,114
Proposed new well pads	1,491	1,114	1,887	368	328
Proposed new roads (miles)	325	274	526	72	106
Proposed new pipeline (miles)	431	393	861	316	216
Water use over life of plan (acre-feet)	6,745	5,040	8,537	1,665	5,040
Well site surface disturbance (acres) ¹	5,666	4,233	7,171	1,398	1,370
New road disturbance (acres)	1,182	996	1,913	262	386
New pipeline disturbance (acres)	522	476	1,044	383	262
Evaporative facility surface disturbance (acres)	214	157	271	57	157
Evaporative ponds (#)	30	22	38	8	22
Generator size at evaporative facility (hp)	2,700	1,980	3,420	720	1,980
Maximum compression requirements (hp)	21,325	15,608	26,439	5,156	15,608
Total Disturbance (acres)²	7,584	5,685	9,982	2,055	2,174

¹ Surface disturbance for all alternatives was calculated at 3.8 acres per well.

² Slightly less than total of separate disturbances due to overlapping in calculation of road and pipeline disturbance areas with well site surface-disturbance areas in the GIS database.

ES.7 AFFECTED ENVIRONMENT

The project area is located in the Uinta Basin—part of the Colorado Plateau Province in northeastern Utah. The Uinta Basin is bordered to the north by the Uinta Mountain Range, which is the only major east-west oriented mountain range in the U.S. States. The eastern and southern boundary of the basin is formed by the Tavaputs Plateau of the Book Cliffs, and the western boundary is formed by the Wasatch Mountains. The center of the basin lies at an elevation between 5,000 and 5,500 feet. The vegetation within the Uinta Basin is primarily shrub/scrub, with some significant areas of evergreen forest, grasslands, and barren land. The average annual precipitation for the Uinta Basin is less than 8.5 inches. However, the basin contains a number of rivers and streams. The southern slopes of the Uintas are drained by Current Creek, the Duchesne River, Lake Creek, the Uinta River, Ashley Creek, and Big and Little Brush Creeks. The southern portion of the basin contains fewer streams that are much smaller in volume than

those in the northern region. The Green River flows through the Uintas at Split Mountain and across the Uinta Basin in a southwesterly direction.

The project area encompasses approximately 206,826 acres of land within Duchesne and Uintah Counties—in the southern part of the Uinta Basin. The project area spans a distance of approximately 27 miles east to west, and 14 miles north to south. Several segments of the project's southern boundary are defined by Nine Mile Creek, and most of the eastern boundary of the project area is defined by the Green River. The town of Vernal is approximately 25 miles northeast of the project boundary, and Duchesne, Utah, lies approximately 13 miles to the northwest.

Chapter 3 presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) of the project area as identified in the Interdisciplinary Team Analysis Record Checklist (Appendix A). A total of 25 resources of concern identified in the checklist are brought forward for analysis in Chapter 4: air quality, ACECs, cultural resources, Native American religious concerns, floodplains, invasive and non-native species, special status plants, special status animals, water quality, wetlands/riparian zones, WSRs, livestock grazing, woodlands/forestry, vegetation, fish and wildlife, soils, recreation, visual resources, geology/minerals/energy production, paleontology, fuels/fire management, socioeconomics, wilderness characteristics, and waters of the United States. Some of the resources of concern described in the checklist have been combined into single sections for purposes of consolidating analysis, so a total of 15 resource sections are presented in Chapter 3.

ES.8 ENVIRONMENTAL CONSEQUENCES

In general, the nature of environmental consequences would be similar under all five alternatives, but the magnitude of those consequences would vary among them. The magnitude would vary according to the number of wells, roads and related facilities constructed, and their placement relative to various environmental resources located within the project area.

The Proposed Action was developed to best meet the purpose and need for the project, and emphasizes both natural gas resource extraction and protection of important resources of the natural and human environment through applicant-committed environmental protection measures and best management practices. Consequently, the Proposed Action would have greater positive impacts to local economies, depending on resource extraction success, than Alternatives B and E (reduced development and directional drilling scenarios) and the No Action Alternative, as well as fewer adverse impacts to physical, biological, and social resources than Alternative C, which represents full development.

Alternative B was developed to respond to sensitive resource and land use issues in the project area expressed during public and agency scoping; it would be the most restrictive of the solely vertical drilling resource extraction alternatives (Alternatives A, B, C, and D). Of the action alternatives (the Proposed Action and Alternatives B, C, and E), Alternatives B and E would have the least beneficial impact to resource extraction-based economies. Alternative B would have less potential to adversely impact physical, biological, and social resources than the Proposed Action and Alternative C, but more than the No Action Alternative and Alternative E.

Alternative C was developed to analyze the effects of a maximum development scenario in the project area. Alternative C offers the greatest potential benefits to local economies from resource extraction, but would result in greater adverse impacts to physical, biological, and social resources than the other alternatives.

Under the No Action Alternative, the proposed natural gas development on BLM lands as described in the Proposed Action would not be implemented; however, natural gas exploration and lease production would continue, including exploratory drilling projects previously approved by the BLM, and would likely continue on State of Utah and private lands as well. In general, the No Action Alternative would have the least potential to adversely impact physical, biological, and social resources, but would have the least potential for positive impacts to local economies that depend on resource extraction.

Alternative E was developed to respond to sensitive resource and land use issues in the project area expressed during public and agency scoping. It proposes the same amount and pattern of development as Alternative B, except that surface impacts would be reduced by developing multiple gas wells from each well pad. The reduced development proposed under Alternative E would have one of the smallest potentials for positive impacts to resource extraction-based economies. Because the increased cost of directional drilling could make the project infeasible under some economic conditions, this alternative may not be implementable. Of the action alternatives, Alternative E would have the least potential to adversely impact physical, biological, and social resources.

Table 2-9 near the end of Chapter 2 summarizes the potential impacts to each resource of concern under each alternative. Detailed descriptions of the impacts under each alternative are provided in Chapter 4, along with a discussion of the cumulative impacts, irretrievable and irreversible commitments of resources, and unavoidable adverse impacts that would result from implementation of the alternatives.

ES.8 NEXT STEPS

The comment period on this Draft EIS will extend for 45 days following publication of the EPA's Notice of Availability in the Federal Register. After comments are received they will be evaluated. Substantive comments could lead to changes in one or more of the alternatives or in the analysis of environmental consequences. A Final Environmental Impact Statement (FEIS) will then be completed and released for a 30-day public review period. After the 30-day period, a Record of Decision (ROD) would be prepared and signed.

ES.9 DECISIONS TO BE MADE AFTER THE EIS

This EIS assesses the environmental impacts of the Proposed Action, No Action, and three other alternatives and is intended to encourage public participation in the BLM's decision-making process. It provides a programmatic analysis of impacts that could result from the implementation of the Proposed Action and alternatives, and it identifies mitigation measures to address environmental consequences. The EIS does not contain final decisions regarding the Proposed Action or alternatives.

The decisions made regarding the Proposed Action and alternatives will be documented in a ROD signed by the Authorized Officer (AO). The BLM decision will only apply to public lands and leases.

Within the ROD, the BLM decision-maker (i.e., the BLM AO) will determine

- whether the analysis contained within the EIS is adequate for the purposes of reaching informed decisions regarding the Proposed Action and alternatives;
- whether the Proposed Action should be approved or whether a different alternative or a combination of alternatives should be selected;
- whether the Proposed Action and alternatives are in conformance with applicable land and resource management plans; and
- the Conditions of Approval (COA) that may be attached to the ROD.

In the event the BLM decides in the ROD to authorize the project, then it will be required, as part of its management responsibilities under the MLA and the FLPMA, to review and act on APDs and right-of-way (ROW) applications. These applications would seek approval to construct wells, pipelines, flowlines, roads, or other ancillary facilities associated with project development. Submission and approval of such applications are required prior to surface disturbance. Consequently, the ROD to be issued following this EIS will not authorize any surface disturbance or entitle the project proponent to take any action that may result in surface disturbance.

Prior to approving an APD or ROW, the BLM will conduct an on-site inspection of the proposed well pad, access road, and/or other areas of proposed surface use. During the site-specific review, the need for specific mitigation measures would be identified.

This page intentionally left blank.