SUMMARY

The Bureau of Land Management, Price Field Office (BLM) prepared an Environmental Impact Statement (EIS) in response to proposals filed by four companies to produce and transport natural gas in Carbon and Emery Counties in central Utah. Anadarko Petroleum Corporation (Anadarko); Chandler and Associates, LLC. (Chandler); and Texaco Exploration and Production, Inc. (Texaco) have proposed to develop two separate areas northeast and southwest of Price, Utah totaling about 111,520 acres. These two areas (the Project Area), called the North Area and the South Area, are adjacent to the area where River Gas Corporation is implementing the Price Coalbed Methane Project, which was approved by the BLM in 1997. Also, Questar Pipeline Company (Questar) has proposed to develop a new pipeline as part of the Proposed Action. The corridor for this pipeline encompasses about 261 acres, which brings the total area encompassed by the Proposed Action to 111,781 acres. For purposes of environmental analysis, the BLM combined the proposals of these four companies into the Ferron Natural Gas Development Plan. **Figure 1–1** shows the location of the proposed Ferron Natural Gas Project.

The Companies hold valid federal, state, and private oil and gas leases in the Project Area. The leases have created contractual and property rights for the Companies from the United States, the State of Utah, and private mineral landowners to develop natural gas resources. The purpose of the Companies' proposal is to produce and transport natural gas at a profit from the portions of the Project Area leased by them.

The EIS addresses the effects of implementing a level of natural gas development within the Project Area that is conceptual in nature. The locations of wells, roads, pipelines, and ancillary facilities depicted in the EIS represent a maximum level of development and tentative locations. The final location for each component of this proposed project would be determined through future site-specific analyses that would be required for each facility. These analyses would occur when applications, such as an Application for Permit to Drill (APD), a Forest Service Special Use Permit, or a BLM Right-of-Way Grant, are filed by the Companies for each project component. Therefore, the EIS serves two purposes. It provides the basis to analyze and disclose the impacts of the level of development proposed within the Project Area. It also identifies mitigation measures to address issues and approval conditions for the subsequent site-specific applications for individual locations.

The BLM, Price Field Office in Price, Utah is the responsible federal agency for preparing this EIS. The USDA Forest Service, Manti-La Sal National Forest and the Utah Division of Oil, Gas, and Mining, are cooperating agencies.

The EIS is not a decision document; it documents the process used to analyze the potential environmental consequences of implementing the proposed natural gas development project and alternatives to the Proposed Action. The decisions regarding the proposed project are documented in separate Records of Decision (ROD) signed by the responsible BLM and Forest Service officials. The BLM and Forest Service decisions will apply primarily to federal lands and leases. Decisions by other jurisdictions to issue or not to issue approvals related to this proposal may be aided by the disclosure of impacts available in this analysis.

The RODs associated with the EIS are not the final review nor the final approvals for all actions associated with the Ferron Natural Gas Project. While the RODs would approve a level of natural gas development and its general location, the analysis of each project component that involves surface disturbance to federal lands must be approved on a site-specific basis by the BLM and, if applicable, the Forest Service.

LAND STATUS, LEGAL AND POLICY CONSIDERATIONS

Land Status

The North and South areas encompass approximately 111,520 acres. Surface and mineral estate ownership within these areas is divided among federal (BLM and Forest Service administered), School and Institutional Trust Lands Administration (SITLA), Utah Division of Wildlife Resources (UDWR), and private entities. BLM-administered federal surface lands account for approximately 44,240 acres (40 percent of the Project Area); National Forest System lands total 10,976 acres (10 percent); state surface lands total 28,041 acres (25 percent); and the remaining 28,263 acres (25 percent) are held in private ownership. Mineral ownership within the Project Area is split roughly equally between federal and state/private ownership.

Surface ownership along the pipeline corridor also is divided among the BLM, State of Utah, and private entities. BLM-administered federal surface lands account for about 62 acres. The State of Utah's lands encompass about 3 acres. The remaining 196 acres are held in private ownership.

The Companies currently hold leases on federal, state, and private lands within the Project Area. Within the Project Area, unleased lands and leases held by others also exist.

Land Exchange/U.S. Government and State of Utah

The DEIS identified and described an exchange of lands proposed by the U.S. Government and State of Utah. This exchange included some federally-owned lands in the Project Area. The exchange was proposed in an agreement signed on May 8, 1998 by the Secretary of the Interior Bruce Babbitt and Utah Governor Mike Leavitt. Before the DEIS' publication, legislation supporting the agreement was passed by the U.S. House of Representatives (June 24, 1998). Since the DEIS' publication, the U.S. Senate passed the same legislation (October 9, 1998) and the President signed the legislation into law (October 31, 1998). The legislation required completion of the exchange within 70 days of the President's date of signature.

With implementation of the exchange, about 17,400 acres of BLM-administered surface and mineral estates in the Project Area were conveyed to the State of Utah. Because the exchange was completed before the FEIS' completion, the FEIS was revised to incorporate the exchange into the analysis fully. Consequently, all figures, plates, and the results of all analyses presented in this document were based on post-exchange patterns of land ownership.

Conformance with Federal Management Plans

The Proposed Action and all alternatives described in this EIS would take place within the Price River Resource Area and the San Rafael Resource Area of the BLM. The Price River Resource Area is managed under a Management Framework Plan (MFP) (BLM 1984a), an MFP Supplement (BLM 1984b), and the subsequent Environmental Assessment (EA) Supplement (BLM 1988). The San Rafael Resource Area is managed under a Resource Management Plan (RMP) approved in 1991.

The decision in the Price MFP pertaining to oil and gas development states: "Establish oil/gas production as the priority land use for Known Geologic Structures that have been or may be identified." The San Rafael RMP decision states: "Management Objective is to lease public lands for oil and gas development and to

allow geophysical activity to occur, only so long as the RMP goals are met; and to administer operational aspects of federal oil and gas leases where BLM does not manage the surface."

The Proposed Action and all alternatives analyzed in the EIS have been determined to be in conformance with both land use plans. Consequently, a plan amendment would not be required for either plan.

While development of natural gas resources is in conformance with both the Price River MFP and San Rafael RMP, the scale of development for the Ferron Natural Gas Project exceeds the scale of development analyzed by either plan. This EIS will update the 1983 Environmental Assessment supplement for the Price River MFP and the "Reasonable Foreseeable Development Scenario" for the San Rafael RMP, by analyzing the higher level of natural gas development in the Project Area.

The Manti-La Sal National Forest is managed under its Land and Resource Management Plan (LRMP), which was approved in 1986. Oil and gas leasing decisions were made for the Forest in the LRMP as modified by the Record of Decision associated with the Oil and Gas Leasing EIS, which was completed in 1992.

Consistency with Local Plans

Carbon and Emery counties have completed Master Plans that recognize oil and gas development in the area. Cooperation among the counties, land management agencies, and the companies, is emphasized in the plans for the minimization, mitigation, and compensation of the impacts from natural gas development. The Carbon County plan identifies the need to monitor public land use decisions through the creation of the Public Lands Committee. Emery County has a Public Lands Council, which is tasked with monitoring and participating in land use decisions.

Zoning regulations and requirements for both counties allow oil and gas development in all identified zones encompassing the Project Area. In Emery County, site plans require approval and fees to the county for permits before construction of facilities. Carbon County requires site plan approval by the County Commission for activities in certain zoned areas.

As identified in the plans, the Counties' objectives are to maintain and protect rural, recreational, cultural, and water resources. Concerns include the reclamation of the Project Area and the preservation of the open spaces, cultural resources, and recreation resources contained within the counties.

In the North Area, the Carbon County Trails Plan (Trails Plan), prepared in 1995, set out to establish an organized and formal trails system throughout the county (Keleher 1995). The Utah Centennial Trail System is a series of trails (interconnected and separate) that are within and around the North Area. The Wood Hill/ Kenilworth Loop is a series of dirt and gravel roads that has developed into a traditional community trail system. The Trails Plan identifies this area as the most important for implementation due to user needs and the proximity to communities. The Wood Hill/Kenilworth Loop would be the hub for the entire Trails Plan and could connect all the other trails systems throughout the county.

An inconsistency exists between the Proposed Action and the Trails Plan in that both intend to develop the area for separate and in some cases incompatible purposes. Oil and gas leases were issued under the provisions of Price River MFP. The Federal leases grant valid rights to develop the lands. The inconsistency between the proposed development and the Trails Plan is further affected by the number of different landowners and management agencies present within the affected area. Some trails within this area have

already been affected by natural gas development on private, State, and Federal leases. Roads have been transformed to allow larger vehicle and heavy equipment travel and vehicle use has increased.

The Trails Plan calls for several actions to help in facilitating trail implementation where other competing development exists. Joint planning, identification of trails corridors through areas of development, and funding as a form of mitigation from developing companies are identified as methods available to help with implementation of the Plan. The Trails Plan calls for designation of priorities for trail development. The Wood Hill/Kenilworth Loop is designated the first area of concern by the county. The Trails Plan suggests that the developed areas be mitigated by creating parallel trails along affected roads. The Trails Plan also mentions requesting funding from companies pursuing CBM projects as possible mitigation in the affected area.

PUBLIC INVOLVEMENT/SCOPING OF ISSUES

In February 1997, the BLM conducted public and internal scoping to solicit input to identify the environmental issues and concerns associated with the proposed Ferron Natural Gas Project. A Notice of Intent (NOI) to prepare an EIS was published in the Federal Register on January 28, 1997. An amendment to the NOI was published in the Federal Register on February 3, 1998, which adjusted the western boundary of the South Area to the location evaluated in this EIS. The BLM prepared a scoping information packet and provided copies of it to federal, state, and local agencies; Native American groups; and members of the general public. In addition, the BLM conducted public scoping meetings in Price, Utah; Castle Dale, Utah; and Salt Lake City, Utah on February 11, 12, and 13, 1997, respectively. The environmental issues identified for the proposed project are described in the following sections. A summary of the results of scoping is available for review in the Price Office of the BLM.

Geology and Minerals

- Effect of seismic activity on project facilities, such as pipelines, and the risks to public safety.
- Potential for conflicts between gas drilling and existing or potential underground coal mining.
- Effect of irretrievable commitment of natural gas.

Water Resources

- Effects of underground disposal of produced water on the natural flow and quality of water in the target and shallower formations.
- Effect of dewatering the Ferron coal zone on shallower groundwater sources and surface waters.
- Advantages, disadvantages, and feasibility of available produced water disposal methods.
- Effects of potential spills at various locations and the means to prevent and control spills.
- Consumption of domestic and irrigation waters during the project and the effects on current users.
- Control of stormwater runoff.
- Erosion effects on surface waters.
- Effects of surface water quality and quantity in the project area and leaving the project area.
- Effectiveness of monitoring to detect and quantify potential surface water impacts.
- Effects of the project on existing water users rights.
- Effects of the project on the value of water rights.

Air Quality

- Effects of fugitive dust from construction, drilling, production and abandonment operations, and traffic.
- Effects of criteria pollutant emissions from construction, drilling, production, and abandonment operations and vehicles.
- Effects on atmospheric visibility.

Soils

- Effects of surface disturbance operations on soil stability, structure, texture and biotic components.
- Effects of increased sedimentation and runoff, including soil and salt loads increases.
- Effects of disturbed soils on rehabilitation potential.

Vegetation and Riparian/Wetland

- Effects of the loss of vegetative productivity.
- Effects of fugitive dust on vegetation and crops near roads.
- Effects of noxious weed infestation and control.
- Effects to wetlands and riparian areas from road, pipeline and well site construction.

Reclamation

- Reclamation potential of disturbed areas.
- Bonding adequacy.

Terrestrial and Aquatic Wildlife

- Displacement of wildlife from development operations and increased human presence.
- Effects on wildlife habitat suitability.
- Effects of the loss of high value and critical winter range for big game (mule deer and elk) from disturbances associated with the development.
- Offsite mitigation of critical winter range for big game.
- Effects on raptors.

Threatened, Endangered, Candidate, and Special-Status Species

- Effects on Federally listed species.
- Effects on BLM, Forest Service, and UDWR identified sensitive species.

Livestock Management

- Effects of vegetation loss on livestock productivity.
- Effects of road construction, well sites and facilities, and increased human presence on rangeland improvements and livestock management.
- Effects on livestock management facilities.

Cultural Resources

- Effects of project activities on Native American sites with religious or cultural significance.
- Effects of the project on historic landscapes, including the Emery County irrigation system.
- Effects of ground disturbances and indirect impacts to cultural resources including archaeological sites.
- Effects on cultural resources on private lands.

Land Use

- Effect of project-related traffic on local roads used by the public.
- Private property owner rights in relation to the project.
- Effects on existing land uses, including residential and agricultural.
- Coordination with local governments for land and road use and local plans.
- Consistency with adopted plans and policies of federal, state and local agencies.
- Need for a transportation plan that would eliminate/minimize duplication of existing roads.

Recreation

- Effects of the development on recreational opportunities and amenities, particularly those close to towns and residential areas.
- Effects of the development on recreational activities.
- Potential for change in the quality of recreational experiences.

Visual Resources

- Effects of the development on scenic qualities.
- Regional haze effects on visual resources.
- Effects of night lighting of facilities (skyshine).
- Effects on Visual Resource Management classifications.

Noise

- Effects of the development and vehicular traffic on ambient noise levels.

Social and Economic Values

- Effects of demographic changes.
- Effects of employment changes.
- Effects on infrastructure.
- Costs and benefits of the proposed project.
- Effects of a possible economic boom/bust cycle.
- Effects of the project taxes and mineral royalties.
- Effects on “quality of life.”
- Effects on tourism.

Health and Safety

- Effects of project activities on public health and safety.
- Effects of increased traffic associated with the development on public safety.
- Effects of potential methane seeps in soils and at the Ferron outcrop.
- Effects of increased human use of the lands on wildfire ignitions.

Hazardous Materials and Waste

- Hazardous materials identification.
- Waste disposal.
- Pollution prevention.
- Potential for hazardous substance releases and effects on the public and the environment.

ALTERNATIVES

Three alternatives were considered in detail. They were Alternative 1 — Proposed Action, Alternative 2 — Proposed Action with Additional Environmental Protection Measures, and Alternative 3 — No Action. The alternatives are graphically shown on **Plates 2–1, 2–4, and 2–6** found at the end of this summary. Additionally, the electric power option for Alternatives 1 and 2 are graphically shown on **Plates 2–2** and **2–5**, respectively. **Table S–1** summarizes and contrasts the three alternatives in terms of their physical characteristics.

Alternative 1 — Proposed Action

The Proposed Action consists of the development of 353 natural gas wells, various ancillary facilities, and a transmission pipeline. Sixty-five new wells would be developed in the 18,350-acre North Area and 220 new wells would be developed in the 93,170-acre South Area. Of these 353 wells, 68 have already been drilled and 285 are proposed. The development of the wells involves the development of ancillary facilities including access roads, pipelines for gathering gas and produced water, electrical utilities, central production facilities (CPFs) for treating and compressing gas and disposing of produced water, and pipelines for delivering gas under high pressure to a transmission pipeline which would be 20 inches in diameter and almost 27 miles in length and would transport gas from the field to production facilities and ultimately to consumers.

Although the Companies would prefer to use gas-fired compressors and pumps, their proposals include the optional use of electric compressors, electric pumps, or both instead of gas-fired equipment. Under this option of the Proposed Action, all electric lines would be installed aboveground on 30-foot tall poles, which would look similar to telephone poles. Poles would be required approximately every 300 feet. Approximately 187 miles of aboveground power lines and 3,302 power line poles would be installed in the Project Area. The distribution of the lines is shown on **Plate 2–2**. **Table S–2** shows the linear extent of the power lines and the number of poles required for each classification of land ownership.

Table S–1
Comparison of Alternatives Considered in Detail

Parameter	Alternative 1	Alternative 2	Alternative 3
Facilities			
Number of Natural Gas Wells			
Existing on			
Federal lands	30	30	30
State lands	18	18	18
Private lands	20	20	20
Total	68	68	68
Proposed new on			
Federal lands	130	112	0
State lands	100	100	100
Private lands	55	55	55
Total	285	267	155
Total number of wells	353	335	223
Roads (miles)			
Potentially upgraded on			
Federal lands	47	47	26
State lands	34	34	31
Private lands	23	23	18
Total	104	104	75
Proposed new on			
Federal lands	48	36	<1
State lands	36	35	34
Private lands	14	13	10
Total	98	84	44
Total for all roads	202	188	119
Number of proposed water disposal wells	11	11	7
Proposed Compressors			
Number of existing CPFs	4	4	4
Number of proposed CPFs	7	7	4
Number of proposed compressor stations	3	3	0
Total horsepower	37,650	37,650	23,850

Table S–1 (continued)
Comparison of Alternatives Considered in Detail

Parameter	Alternative 1	Alternative 2	Alternative 3
Short-term Disturbance (acres)			
Proposed Wells on			
Federal lands	179	154	0
State lands	138	138	138
Private lands	76	76	76
Total	393	368	214
Proposed Roads on			
Federal lands	458	341	3
State lands	339	331	323
Private lands	129	118	91
Total	926	790	418
Proposed CPFs	43	43	25
Proposed Compressor Stations	9	9	0
Total for all facilities	1,371	1,210	657
Long-term Disturbance (acres)			
Proposed Wells on			
Federal lands	107	93	0
State lands	83	83	83
Private lands	45	45	45
Total	236	221	128
Proposed Roads on			
Federal lands	235	175	2
State lands	174	170	166
Private lands	66	61	47
Total	475	405	214
Proposed CPFs	43	43	25
Proposed Compressor Stations	9	9	0
Total for all facilities	763	678	367
Workforce Requirements			
Construction and Installation (number of workdays for the project)	117,768	110,600	58,544
Operation and Maintenance (number of workdays for the project)	206,800	206,800	206,800
Reclamation and Abandonment (number of workdays for the project)	14,616	14,152	8,424
Water Requirements (acre-feet)	84	77	42
Sand and Gravel Requirements (cubic yards)	553,393	518,397	312,030

Table S–2
Summary of Above Ground Power Lines for the Proposed Action

	Land Ownership			
Facility/Area	**BLM**	**State**	**Private**	**Total**
Miles of Power Line				
North Area	30	10	3	43
South Area	59	56	29	144
Total	89	66	32	187
Number of Poles				
North Area	525	182	55	762
South Area	1,040	990	510	2,540
Total	1,565	1,172	565	3,302

The primary targeted reservoir for the Project is coal bed methane gas from the Ferron Sandstone Member of the Mancos Formation. The wells are proposed to be developed on a 160-acre well density pattern (four wells per square mile with one well in each quadrant of the section). Construction of the Ferron Natural Gas Project would begin during 1999 and, generally, construction would be completed within five years (by the end of 2004). The production lifetime of the wells is expected to be about 20 years and final reclamation is expected to be completed during the two to three years following the end of production.

The construction, operation, maintenance, and abandonment of CBM natural gas wells requires that the pressure in the coal seam be reduced by the removal of water before the gas can flow to the surface. The water production rates are the highest and the CBM gas rates are the lowest when a well is first brought on line. Over time, water production decreases steadily after reaching a peak during the first one to two years. The gas production increases steadily for a few years, then gradually declines. For this project, the produced water will come from the Ferron Sandstone and disposed of into the Navajo-Nugget Aquifer.

Alternative 2 — Proposed Action with Additional Environmental Protection Measures

Alternative 2 was developed in response to issues raised during the public and agency scoping process. This alternative would incorporate the same construction and operational components as the Proposed Action with the addition of Environmental Protection Measures applied to proposed activities on Federal lands. None of the Environmental Protection Measures would disallow lawful access to develop a Federal lease, but they may require relocation of well pads, roads, or ancillary facilities within the lease, restrict development during certain periods of the year, or require special construction, operational and reclamation methods to reduce potential environmental impacts. A full description of the Environmental Protection Measures is contained in Section 2.2 of the FEIS. Under Alternative 2's electrical equipment option, 97 miles of power lines would be installed aboveground on 1,704 poles (30 feet tall) spaced at approximately 300-foot intervals and 73 miles would be buried. The distribution of the lines is shown on **Plate 2–5** and summarized on **Table S–3**.

Table S–3
Summary of Above Ground and Buried Power Lines for Alternative 2

	Land Ownership			
Facility/Area	BLM	State	Private	Total
Aboveground Power Lines				
Miles of Power Lines				
North Area	6	3	2	11
South Area	23	47	16	86
Total	29	50	18	97
Number of Poles				
North Area	113	48	28	189
South Area	412	821	282	1,515
Total	525	869	310	1,704
Buried Power Lines				
Miles of Power Lines				
North Area	20	7	2	29
South Area	26	8	10	44
Total	46	15	12	73

Alternative 3 — No Action

The No Action Alternative is required by NEPA for comparison to other alternatives analyzed in the EIS. For this project, the No Action Alternative would not authorize additional natural gas development on Federal leases within the Project Area. Drilling could continue on State and private leases and access and pipelines across Federal lands to reach such proposed State and fee wells would be granted as required by BLM policy.

ALTERNATIVES CONSIDERED BUT NOT EVALUATED IN DETAIL

In addition to Alternatives 1, 2 and 3, several alternatives were considered as a result of issues raised during scoping. However, these alternatives were not evaluated in detail for various technical, legal, and environmental reasons, which are fully described in Section 2.4 of the FEIS. The alternatives considered but not evaluated in detail included alternative well densities, the Proposed Action with certain areas excluded from development, specific buffers around residences, no disposal wells, deeper disposal wells, alternate produced water disposal methods, directional drilling, staged development, and alternative transmission pipeline routes.

AFFECTED ENVIRONMENT

The Project Area is in Carbon and Emery Counties, Utah. Elevations in the North Area range from 5,770 feet to 7,300 feet. Elevations in the South Area range from 5,670 feet to 9,090 feet. Both the North Area and South Area lie near the San Rafael Swell, which is a large, elongate, asymmetric anticline that plunges to the northeast.

The Project Area lies within the watersheds of the Price River (North Area) and San Rafael River (South Area). No perennial surface waters exist in the North Area. However, four tributaries of the San Rafael River in the South Area (Huntington, Cottonwood, Rock Canyon, and Ferron Creeks) flow perennially. The Price and San Rafael Rivers drain into the Green River, which eventually drains into the Colorado River.

Groundwater in the Project Area occurring in geohydrologic units have been categorized into a series of major aquifers separated by confining units. Beginning at the surface and extending downward, these units are the Quaternary Alluvium (actually a group of discontinuous aquifers), the Mesaverde Aquifer, the Mancos confining unit, the Dakota Aquifer, the Morrison confining unit, the Morrison Aquifer, the Curtis-Stump confining unit, the Entrada-Preuss Aquifer, the Carmel-Twin Creek confining unit, the Navajo-Nugget Aquifer, and the Chinle-Moenkopi confining unit (Freethey and Cordy, 1991). The Ferron Sandstone member of the Mancos Shale, from which natural gas and associated produced water would be extracted, is an aquifer in the Project Area. In general, units designated as aquifers are composed of sandstone, while confining units consist principally of shale, siltstone, limestone, and claystone (although confining units may include interbedded sandstone). In the project area, both the Ferron and Navajo-Nugget Aquifers are saline.

Overall, air quality in the Project Area is good. Based on measured data, the region's remoteness, and a lack of major urban communities, the region around Price is designated as an attainment area for all criteria pollutants. That means all criteria pollutants are below the designated levels of the National Ambient Air Quality Standards (NAAQS) established by the U.S. Environmental Protection Agency and the Utah Department of Environmental Quality. Concentrations of criteria pollutants greater than the NAAQS are considered potentially harmful.

Eleven vegetation types have been identified in the Project Area. They include pinyon/juniper, salt desert shrub, sagebrush/grassland, barren land, spruce fir, mountain fir, agriculture, wetland and riparian, aspen, mountain shrub, and urban. The sagebrush/grassland, pinyon/juniper, and salt desert shrub cover about 90 percent of the Project Area.

The Project Area supports a variety of wildlife. Two species of big game occur regularly in the Project Area: elk and mule deer. Various species of raptors, upland game, furbearers, songbirds, waterfowl, and reptiles and amphibians also frequent the area. Aquatic species are present in the South Area in the four perennial streams. About 48 species that have a special-status designation (e.g., threatened, endangered, or sensitive) may occur in the Project Area.

Carbon and Emery Counties offer varied scenic terrain, which provides a setting for many forms of outdoor recreation. Public lands in the Project Area provide opportunities for camping, backpacking, hiking, mountain biking, fishing, picnicking, hunting, horseback riding, all-terrain vehicle and motorcycle riding, and winter sports. The primary users of recreational resources in the Project Area are local residents.

Historically, the economies of Carbon and Emery Counties were founded on resource extraction and have been subject to changes in the coal mining and energy markets. Presently, the counties' economies differ somewhat in composition. The government, trade, services, and mining industries comprise more than 70 percent of Carbon County's total employment. In contrast, employment in the mining and utilities sectors characterize Emery County's economy. Per capita income in Carbon County is lower than both the Utah and national averages, whereas per capita income in Emery County is higher than both the Utah and national averages.

The principal land uses in the Project Area include range, agriculture, residential, coal mining, oil and gas development and utility corridors. Current land ownership in the Project Area includes BLM, State, National Forest, and private lands.

Livestock grazing is a primary use for both public and private lands in the region. While livestock grazing has had a historic presence in the area, its economic success has been marginal due to the low carrying capacity of the land. This restrictive carrying capacity is due to the arid vegetation types within the area ranging from pinyon-juniper and sagebrush grassland to salt desert. Grazing patterns are typically managed to maximize what production does exist. The higher altitudes are utilized in the growing season, and the valley floor is grazed from spring to early summer, and during the fall and winter.

Soils within the area have developed on mesas, benches, hill slopes, to slopes, and outwash plains. Parent materials are residuum, colluvium, alluvium, and glacial outwash which, were derived from sandstone and shale. These soils have formed on nearly level to moderately steep slopes. They range from shallow to very deep and are well-drained. They have developed in the semi-arid to arid climatic regime of this area.

For cultural resources, the general area that includes Castle Valley is known for numerous rock art sites and many Fremont period sites in the canyons and closely adjacent ecotone settings. The comparatively brief history of the region has been dominated by Mormon settlement beginning in the 1870s, the arrival of the railroad, coal mining made feasible by the railroad, and the development of farming and ranching. The known prehistory and history of the region has been summarized by Spangler (1993) from the perspective of research in Nine Mile Canyon to the northeast. The latter treatment is much more exhaustive than is possible within the constraints of this environmental impact document.

ENVIRONMENTAL CONSEQUENCES

The likely environmental consequences of Alternatives 1, 2 and 3 are summarized in **Table S–4**. In general, all three alternatives would have similar kinds of effects. However, the effects' magnitudes would vary according to the number of wells and other facilities that would be constructed.

Table S–4
Ferron Natural Gas EIS Summary of Impacts

Type of Potential Impact	Alternative 1 — Proposed Action	Alternative 2 — Proposed Action with Environmental Protection Measures	Alternative 3 — No Action
GEOLOGY AND MINERALS			
Removal of natural gas resources	680 bcf Project total	645 bcf Project total	430 bcf Project total
Conflict with exiting coal leases or KCRA	No conflict with active coal leases; one potential conflict with KCRA on State land.	No conflict with active coal leases; one potential conflict with KCRA on State land.	No conflict with active coal leases; no conflict with KCRA.
WATER RESOURCES			
Effects to groundwater	Disposal of produced water would transfer saline groundwater from the Ferron Sandstone to the Navajo Aquifer. Shallow alluvial aquifers could be affected by spills and construction activities. Blasting near springs and water wells could affect flows.	Similar to Alternative 1. Produced water would be transferred from the Ferron Sandstone to the Navajo Aquifer. Environmental protection measures would limit construction near streams and in floodplains to reduce effects on shallow aquifers. Protection measures for avoidance of construction and blasting near springs would protect springs and seeps and reduce impacts.	Same effects as the Proposed Action, but at a proportionally lower rate as 130 fewer wells would be drilled.
Effects to surface water	Increased sedimentation and salinity due to surface disturbances. Sedimentation and salinity would be more pronounced from construction near water courses and from pipelines and roads that cross streams and ephemeral drainages. Sediment delivery would be 4.5 tons/acre/yr. Salinity delivery would be 0.319 tons/acre/yr. These rates would occur on 763 acres of long-term disturbance. Increased risk of spills of chemicals, drilling fluids, fuels and produced water from wells and facilities near streams and drainage.	Similar impact to Alternative 1, but protection measures would safeguard springs and reduce spill impacts. Sediment delivery would be reduced to 4.0 tons/acre/yr. Salinity delivery would be 0.239 tons/acre/yr. These rates would occur on 678 acres of long-term disturbance.	Same effects as the proposed action but at a proportionally lower rate. Sediment delivery would be 4.4 tons/acre/year. Salinity delivery would be 0.306 tons/acre/yr. These rates would occur on 367 acres of long-term disturbance. Increased risk of spills of chemicals, drilling fluids, fuels and produced water from wells and facilities near streams and drainage.
AIR QUALITY			
Construction dust effects	Construction dust would be controlled per Utah Air Conservation Rules by watering, chemical application, wind breaks, vegetative or synthetic covering. Companies are not proposing dust control on roads during operations. Dust levels from operational vehicles may be locally high.	Construction dust would be controlled per Utah Air Conservation Rules by watering, chemical application, wind breaks, vegetative or synthetic covering. BLM would require dust suppression techniques to be applied on roads near residences and high traffic volume.	Construction dust would be controlled per Utah Air Conservation Rules by watering, chemical application, wind breaks, vegetative or synthetic covering. Dust levels from operational vehicles may be locally high if dust suppression is not applied to roads near residences and high traffic volume.

Table S–4 (continued)
Ferron Natural Gas EIS Summary of Impacts

Type of Potential Impact	Alternative 1 — Proposed Action	Alternative 2 — Proposed Action with Environmental Protection Measures	Alternative 3 — No Action
Operational compressor effects	Ambient air levels of NO_2 would be moderate on elevated terrain within one mile of compressors. Maximum levels would be below NAAQS in all cases. Maximum levels of NO_2 would exceed Class II PSD increment near compressors at elevated terrain nearby. No other standards would be exceeded. If recommended mitigation are implemented, no NO_2 Class II incremental increase would be exceeded. With the electric power option, no NO_x or CO emissions would occur.	Ambient air levels of NO_2 would be moderate on elevated terrain within one mile of compressors. Maximum levels would be below NAAQS in all cases. Maximum levels of NO_2 would exceed Class II PSD increment near compressors at elevated terrain nearby. No other standards would be exceeded. If recommended mitigation are implemented, no NO_2 Class II incremental increase would be exceeded. With the electric power option, no NO_x or CO emissions would occur.	Ambient air levels of NO_2 would be moderate on elevated terrain within one mile of compressors. Ambient air levels of NO_2 may exceed PSD Class II increment if compressors are constructed near elevated terrain.
Effects to regional haze.	Regional visibility may be reduced by 10 percent 4 days per year at Capitol Reef National Park. If recommended mitigation measures are implemented, visibility at Capitol Reef would not be reduced by more than 10 percent on any days. With the electric power option, the Proposed Action would not affect regional visibility.	Regional visibility may be reduced by 10 percent 4 days per year at Capitol Reef National Park. If recommended mitigation measures are implemented, visibility at Capitol Reef would not be reduced by more than 10 percent on any days. With the electric power option, this alternative would not affect regional visibility.	Regional visibility would not be reduced by more than 10 percent at any of the nearby National Parks.
SOILS			
Erosional effects from facilities located on critical soils with slopes greater than 6 percent	178 wells and portions of the access roads would be on critical soils with slopes in excess of 6 percent. Water and wind erosion would increase, especially with disturbances on critical soils. Soil loss from 763 acres of long-term disturbances would be 11.2 tons/acre/year.	Environmental protection measures would reduce impacts to soils by avoiding critical soils on slopes where possible. 160 wells and portions of the access roads would be on critical soils with slopes greater than 6 percent. Water and wind erosion would increase. Increased soil loss from 678 acres of long-term disturbance would be 9.9 tons/acre/year. Overall soil loss is projected to be about 88 percent of loss associated with the Proposed Action.	Effects similar to Alternative 1, but proportionally less. 39 wells would be constructed on critical soils with slopes in excess of 6 percent. Soil loss increase from 367 acres of long-term disturbance would be 6.6 tons/acre/year. Overall soil loss would be 59 percent less than the Proposed Action.
Facility location of slopes greater than 25 percent	44 wells and portions of their access roads would be located on slopes greater than 25 percent. Water and wind erosion would increase and reclamation success would be difficult on these well pads and roads.	No wells or roads would be located on slopes greater than 25 percent. Wells and access roads would be relocated to exclude construction on slopes greater than 25 percent.	Effects similar to Alternative 1, but proportionately less. No roads would be constructed on slopes greater than 25 percent on BLM lands.

Table S–4 (continued)
Ferron Natural Gas EIS Summary of Impacts

Type of Potential Impact	Alternative 1 — Proposed Action	Alternative 2 — Proposed Action with Environmental Protection Measures	Alternative 3 — No Action
Effects on soil properties	Soil compaction, loss of soil productivity and soil profile and a breakdown in soil structure from facility and road construction, and surface disturbances.	Same as Proposed Action, but slightly less, as 18 fewer wells would be drilled.	Same as the Proposed Action but, proportionally less because 155 new wells would be drilled instead of 285.
VEGETATION			
Loss of vegetation	1,633 acres of vegetation (1.5 percent of the Project Area) would be removed for construction. After partial reclamation, long-term vegetation loss would be 763 acres (0.7 percent of the project Area). 46 percent of disturbance would be on BLM land. 97 percent of vegetation would be pinyon-juniper, sagebrush/grassland, and salt desert shrub.	1,472 acres of vegetation (1.3 percent of the Project Area) would be removed for construction. After partial reclamation, long-term vegetation loss would be 679 acres (0.6 percent of the project Area). 41 percent of disturbance would be on BLM land. 98 percent of vegetation would be pinyon-juniper, sagebrush/grassland, and salt desert shrub.	916 acres of vegetation (0.8 percent of the Project Area) would be removed for construction. All vegetation removal would be on State and private land. After partial reclamation, long-term vegetation loss would be 367 acres (0.3 percent of the project Area). 96 percent of vegetation would be pinyon-juniper, sagebrush/ grassland, and salt desert shrub.
Invasion of noxious weeds	Disturbance would increase potential for spread of noxious weeds. Implementation of the Weed/ Vegetation Management Plan would reduce potential for establishment of noxious weeds.	Disturbance would increase potential for spread of noxious weeds. Implementation of the Weed/Vegetation Management Plan would reduce potential for establishment of noxious weeds.	Disturbance would marginally increase potential for spread of noxious weeds. Noxious weeds would be controlled by Companies in accordance with State and County laws.
RIPARIAN AREAS			
Riparian communities loss	Construction would remove 10.3 acres of riparian communities in South Area. One-half would be on BLM land. Effects would be long-term after the project ends because of the long time required for regrowth of riparian overstory.	Construction would remove 9.3 acres of riparian communities in South Area. About 18 percent would be on BLM land. Effects would be long-term after the project ends because of the long time required for regrowth of riparian overstory.	Construction would remove 6.9 acres of riparian communities in South Area. Almost all would be on private land. Effects would be long-term after the project ends because of the long time required for regrowth of riparian overstory.
WILDLIFE			
Effects on aquatic species	12 wells would be located in floodplains adjacent to perennial streams. Increased sedimentation could occur during heavy precipitation.	Because of other environmental restraints, 6 wells would not be constructed adjacent to perennial streams. Sedimentation potential would be reduced by 50 percent.	Potential impacts would be similar to other alternatives because State and private lands contain most of the wells that would be constructed along perennial streams.

Table S–4 (continued)
Ferron Natural Gas EIS Summary of Impacts

Type of Potential Impact	Alternative 1 — Proposed Action	Alternative 2 — Proposed Action with Environmental Protection Measures	Alternative 3 — No Action
Effects on mule deer winter range	65 new wells would be constructed in North Area. Development would directly disturb 229 acres (1.2 percent of North Area winter range). Indirect disturbance to habitat would affect 4,235 acres (22.9 percent of winter range within the North Area) within 200 meters of facilities during operations. Deer normally using winter range may vacate these areas of indirect disturbance. 177 new wells in South Area would be constructed on winter range. Development would directly disturb 890 acres (1.5 percent of South Area winter range). Indirect disturbance to habitat would affect 13,505 acres (24 percent of winter range within the South Area) within 200 meters of facilities during operations. Deer normally using winter range may vacate these areas of indirect disturbance.	No construction would occur when animals are using winter range. 61 new wells in North Area would be constructed on winter range. Development would directly disturb 201 acres. Indirect disturbance to habitat would affect 3,534 acres within 200 meters of facilities during operations. 163 new wells in South Area would be constructed on winter range. Development would directly disturb 740 acres (1.3 percent of South Area winter range). Indirect disturbance to habitat would affect 11,082 acres (19 percent of winter range within the South Area) within 200 meters of facilities during operations. Deer normally using winter range may vacate these areas of indirect disturbance. Mitigation would involve direct payments for loss of winter range to enhance adjacent winter range habitat.	19 new wells on private and State land would be constructed in North Area on winter range. Development would directly disturb 67 acres (0.4 percent of North Area winter range). Indirect disturbance to habitat would affect 521 acres (2.8 percent of winter range within the North Area) within 200 meters of facilities during operations. Deer normally using winter range may vacate these areas of indirect disturbance. 105 new wells on State and private land in South Area would be constructed on winter range. Development would directly disturb 428 acres (0.7 percent of South Area winter range). Indirect disturbance to habitat would affect 6,844 acres (12 percent of winter range within the South Area) within 200 meters of facilities during operations. Deer normally using winter range may vacate these areas of indirect disturbance.
Effects on elk winter range	No elk winter range occurs in the North Area. 50 wells would be constructed in winter range in the South Area directly disturbing 207 acres (0.8 percent of the winter range). Construction would occur when animals are using winter range and would drive animals away from construction during winter range times. Indirect disturbance to habitat would affect 11,969 acres (49 percent of winter range within the South Area) within 800 meters of facilities during operations. Elk normally using winter range may vacate these areas of indirect disturbance.	No construction would be allowed during time elk use winter range. 49 wells would be constructed within winter range directly disturbing 128 acres 0.5 percent of winter range within the South Area). Indirect disturbance would affect 11,011 acres (45 percent of winter range within the South Area) within 800 meters of facilities during operations. Elk normally using winter range may vacate these areas of indirect disturbance. Mitigation would involve direct payments by Companies for loss of winter range to enhance adjacent winter range habitat.	46 wells would be constructed within winter range directly disturbing 179 acres (0.7 percent of winter range within the South Area). Indirect disturbance would affect 10,096 acres (41 percent of winter range within the South Area) within 800 meters of facilities during operations. Elk normally using winter range may vacate these areas of indirect disturbance.

Table S–4 (continued)
Ferron Natural Gas EIS Summary of Impacts

Type of Potential Impact	Alternative 1 — Proposed Action	Alternative 2 — Proposed Action with Environmental Protection Measures	Alternative 3 — No Action
Effects on raptors	No construction would occur within ½ mile of raptor nests during the breeding season, February 1 through August 15. Construction during breeding season would not occur within ½ mile of 140 known and active nests. This restriction would affect 59 proposed wells. Operational activities within ½ mile of active nests could lead to nest abandonment, increased disturbance from Companies and public using roads, and temporary reduction in prey populations. With the electric power option, additional disturbance would be minor and the power lines would be constructed according to the APLIC's guidelines, so the potential for electrocuting raptors would be minimized.	Same as Alternative 1 for timing restrictions. Environmental protection measure would preclude permanent surface occupancy within ½ mile of an active raptor nest precluding the construction of 12 wells in the South Area. With the electric power option, additional disturbance would be minor and the power lines would be constructed according to the APLIC's guidelines, so the potential for electrocuting raptors would be minimized.	No seasonal or construction restrictions within ½ mile of raptor nests. 22 wells could be constructed within ½ mile of known raptor nest.
SPECIAL STATUS SPECIES			
Effects to Special-status species	5 wells and 1,800 feet of access roads would be constructed in or near Winkler cactus populations. 6 wells and 6,120 feet of access road would be constructed in or near known populations of Creutzfeldt-flower. Pre-construction surveys would identify exact location and facilities would be re-located to avoid these species. 12 wells and access roads are proposed for construction within the one-mile buffer around peregrine falcon aerie. Impact should be minimal because of widespread hunting habitat on adjacent Forest Service lands. With the electric power option, disturbance associated with construction of the power lines would be minor because the power lines could be moved to avoid known populations. Power lines would be constructed according to the APLIC's guidelines, so the potential for electrocuting special-status raptors would be minimized.	Same as Alternative 1 except one-mile buffer would be imposed around peregrine falcon aerie. 8 fewer wells and access roads would be constructed on federal lands because of the no surface occupancy within one mile of a peregrine falcon aerie. With the electric power option, disturbance associated with construction of the power lines would be minor because the power lines could be moved to avoid known populations. Power lines would be constructed according to the APLIC's guidelines, so the potential for electrocuting special-status raptors would be minimized.	Four wells would be constructed on State lands within the one-mile of a peregrine falcon aerie buffer. Populations of special status plants, if present, may be uprooted by development.

Table S–4 (continued)
Ferron Natural Gas EIS Summary of Impacts

Type of Potential Impact	Alternative 1 — Proposed Action	Alternative 2 — Proposed Action with Environmental Protection Measures	Alternative 3 — No Action
CULTURAL RESOURCES			
Effects to Cultural resources	Construction activities could affect 77 sites in addition to the 10 known significant sources in the Project Area. Some of these sites could be destroyed before they are discovered. Four sites eligible for the NRHP could be inadvertently destroyed. If found, construction would cease, authorities would be notified, and mitigation of site would be carried out according to the Ferron Natural Gas Project Cultural Resource Treatment Plan. Pre-construction surveys would allow the opportunity to find and evaluate previously unknown cultural resources. With the electric power option, an additional six sites could be affected directly or indirectly. Also, one additional site may be affected by inadvertent destruction.	Construction activities could affect 69 sites in addition to the 10 known significant sources in the Project Area. Some of these sites could be destroyed before they are discovered. Four sites eligible for the NRHP could be inadvertently destroyed. If found, construction would cease, authorities would be notified, and mitigation of site would be carried out according to the Ferron Natural Gas Project Cultural Resource Treatment Plan. Pre-construction surveys would allow the opportunity to find and evaluate previously unknown cultural resources. With the electric power option, an additional six sites could be affected directly or indirectly. Also, one additional site may be affected by inadvertent destruction.	Construction activities could affect 40 sites in addition to the 10 known significant sources in the Project Area. Some of these sites could be destroyed before they are discovered. Two sites eligible for the NRHP could be inadvertently destroyed. If found, construction would cease, authorities would be notified, and mitigation of site would be carried out according to the Ferron Natural Gas Project Cultural Resource Treatment Plan. Pre-construction surveys would allow the opportunity to find and evaluate previously unknown cultural resources. With the electric power option, an additional six sites could be affected directly or indirectly. Also, one additional site may be affected by inadvertent destruction.
LAND USE			
Effects to land use	Total long-term disturbance would be 763 acres, or 0.7 percent of the Project Area. About 50 percent of disturbance would be on BLM land. Most of disturbance would be on rangeland. 53 wells would be constructed within one mile of residences. Dust levels and noise at these residences would be temporarily elevated during construction activities at these residences.	Total long-term disturbance would be 678 acres, or 0.6 percent of the Project Area. 41 percent of disturbance would be on BLM land. Most of disturbance would be on rangeland. 53 wells would be constructed within one mile of residences. Dust levels and noise at these residences would be temporarily elevated during construction activities at these residences.	All wells and most access roads would be constructed on State and private lands. 26 wells would be constructed within one mile of residences. Dust levels and noise at these residences would be temporarily elevated during construction activities at these residences.
Effects to transportation	Construction related traffic would average 110 trips per day, an increase of 1 to 5 percent over present levels, from Price area to Project Area. Operational traffic would average less than one percent of present levels. Slight increase of traffic accident potential (2 to 5 percent) during construction activities where project traffic would enter paved highways.	18 fewer wells would be drilled. Effects would be similar, but slightly less, to Alternative 1.	Construction traffic would be similar to the Proposed Action for the three years required for construction. Operational traffic would be considerably less than the Proposed Action because only 82 wells would be operated.

Table S–4 (continued)
Ferron Natural Gas EIS Summary of Impacts

Type of Potential Impact	Alternative 1 — Proposed Action	Alternative 2 — Proposed Action with Environmental Protection Measures	Alternative 3 — No Action
LIVESTOCK MANAGEMENT			
Effects to livestock management	During construction, grazing would be reduced by almost 70 AUMs, (49 AUMs BLM) a decrease of less than 1 percent. Grazing would be reduced by 46 AUMs (33 AUMs BLM) during the operational phase. Increased traffic and access may lead to harassment and minor loss of livestock.	Effects on grazing would be similar to the Proposed Action. Environmental protection measure dictates range improvements must meet BLM standards and reduce the potential for traffic-related conflicts. Increased traffic and access may lead to harassment and minor loss of livestock.	Grazing on State and privately-owned land would be reduced by about 13 AUMs.
RECREATION			
Effects to recreation opportunities	Construction activities would alter the recreational experience for users through a loss of solitude and the natural setting. After construction, the loss of solitude would be less because of greatly reduced traffic. Installation and operation of facilities would still affect the natural setting of the Project Area for the life of the project. BLM recreation management objectives would not be met in Semi-primitive Motorized areas.	Construction activities would alter the recreational experience for users through a loss of solitude and the natural setting. After construction, the loss of solitude would be less because of greatly reduced traffic. Installation and operation of facilities would still affect the natural setting of the Project Area for the life of the project. BLM recreation management objectives would not be met in Semi-primitive Motorized areas.	No impacts to recreation on BLM lands would occur. Loss of solitude and natural setting could occur on State lands.
VISUAL RESOURCES			
Effects to visual resources	114 wells, associated access roads, and 5 CPFs would be constructed on VRM Class III areas and the Class III management objectives may not be met. With the electric power option, about 187 miles of aboveground power lines and 1,532 power poles would be constructed in VRM Class III areas and may not meet management objectives.	114 wells, associated access roads, and 5 CPFs would be constructed on VRM Class III areas and the Class III management objectives may not be met. With the electric power option, about 32 miles of aboveground power lines and 552 power poles would be constructed in VRM Class III areas and may not meet management objectives.	BLM Class II and III objectives designated for non-federal lands may not be met on State and private lands.

Table S–4 (continued)
Ferron Natural Gas EIS Summary of Impacts

Type of Potential Impact	Alternative 1 — Proposed Action	Alternative 2 — Proposed Action with Environmental Protection Measures	Alternative 3 — No Action
NOISE			
Noise effects	Construction noise would be above 55 dBA within 1,500 feet of activities. 5 residences would experience noise above 55 dBA from construction on BLM land. 14 residences would experience noise above 55 dBA from construction on private land. Noise from drilling would be above 55 dBA at distances out to 2,000 feet. Noise would be short-term (1 to 4 days) but would occur 24 hours per day at the 14 residences. Operational noise from pumping units would be below 55 dBA at distances beyond 200 feet from these units. Therefore, after construction activities, noise levels would not be significant.	Noise effects would be similar to the Proposed Action. The location of the 18 fewer wells would be far away from residences.	Noise levels would be above 55 dBA for the 14 residences within 2,000 feet of wells constructed on State and private land.
SOCIOECONOMICS			
Effects to employment	98 people would be employed for construction activities. 40 percent would be locally hired and 60 percent would be specialists from outside the area. Employment would be seasonal during the 8-month construction period. Construction period would be 5 years. Secondary activities (services, supply) would create about 25 jobs annually during construction phase. 43 people would be permanently employed during the operational phase of the Project.	With 18 fewer wells, 94 people would be employed for construction activities. 40 percent would be locally hired and 60 percent would be specialists from outside the area. Employment would be seasonal during the 8-month construction period. Construction period would be 5 years. Secondary activities (services, supply) would create about 25 jobs annually during construction phase. 43 people would be permanently employed during the operational phase of the Project.	Since 155 new wells would be constructed, employment level would occur only for three years.
Effects to wages	Combined annual payroll of the three Companies would average about $900,000 during initial construction phase. This amount would be less than one percent of Carbon and Emery counties. The combined payroll during the operational phase would average about $1,150,000.	Combined annual payroll of the three Companies would average about $867,000 during initial construction phase. This amount would be less than one percent of Carbon and Emery counties. The combined payroll during the operational phase would average about $999,000.	Combined annual payroll would be reduced to $621,000 because a maximum of 155 wells would be constructed.
Effects on housing and community services	Small influx of transient employees (59 people) would not have significant effect. Workers would tend to live in spread out communities in and near the Project Area.	Influx of transient employees (56 people) would not have significant effect. Workers would tend to live in spread out communities in and near the Project Area.	Small flux of transient employees would only occur for the three-year construction period.

Table S–4 (continued)
Ferron Natural Gas EIS Summary of Impacts

Type of Potential Impact	Alternative 1 — Proposed Action	Alternative 2 — Proposed Action with Environmental Protection Measures	Alternative 3 — No Action
Royalties generated	Federal royalties would be $53 million over life of project. $27 million would be paid to State of Utah of which $6.8 million would be distributed directly to Carbon and Emery Counties. With the electric power option, employment would increase an additional three percent.	Federal royalties would be $50 million over life of project. $23 million would be paid to State of Utah of which $6.6 million would be distributed to Carbon and Emery Counties. With the electric power option, employment would increase an additional three percent.	There would be no federal royalties. Therefore, none would be distributed to Carbon and Emery counties. All wells would be constructed on State and private land.
HEALTH AND SAFETY			
Risk associated with construction and operations	Risks to employees, subcontractors and public would be similar to those associated with heavy construction and industry.	Risks wold be similar to Proposed Action but slightly less because 18 fewer wells would be constructed and operated.	Risks less than Proposed Action because only 154 wells would be constructed and operated.
RECLAMATION			
Reclamation potential	1,633 acres disturbed. 77 percent of disturbance would involve soils unsuitable for reclamation. Reclamation in these areas would require multiple growing seasons and reseeding to generate vegetative cover similar to cover that currently exists.	1,473 acres disturbed. About 75 percent of disturbance would involve soils unsuitable for reclamation. Reclamation in these areas would require multiple growing seasons and reseeding to generate vegetative cover similar to cover that currently exists.	917 acres disturbed on State and private lands. 68 percent of disturbance would involve soils unsuitable for reclamation. Reclamation in these areas would require multiple growing seasons and reseeding to generate vegetative cover similar to cover that currently exists.