

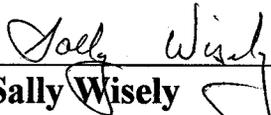
**RECORD OF DECISION**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT**  
**FERRON NATURAL GAS PROJECT**

**U.S. DEPARTMENT OF INTERIOR**  
**BUREAU OF LAND MANAGEMENT**  
**PRICE FIELD OFFICE**  
**UTAH**

**COOPERATING AGENCIES**

**U.S. Forest Service**  
**Utah Division of Oil, Gas and Mining**

**July 6, 1999**

  
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**Sally Wisely**  
**Utah State Director**  
**Bureau of Land Management**



**Bureau of Land Management  
Price Field Office**

**Record of Decision  
for  
Ferron Natural Gas Project  
Environmental Impact Statement**

**I. INTRODUCTION**

This document records the decision made by the Bureau of Land Management (BLM) for managing public lands in the Ferron Natural Gas Project. The project area is located in Carbon and Emery Counties, Utah in the vicinity of Price and Castle Dale. The project area encompasses approximately 111,782 acres of mixed Federal, State and private lands. The BLM administers approximately 40 percent of the lands in project area; about 10 percent of the lands are managed by the U.S. Forest Service (FS); 25 percent of project lands are managed by the State of Utah; and 25 percent are privately owned.

The Ferron Natural Gas Environmental Impact Statement (EIS) was prepared by BLM in response to separate proposals filed by four companies to produce and transport natural gas. Anadarko Petroleum Corporation (Anadarko), Chandler and Associates, LLC (Chandler), Texaco Exploration and Production, Inc. (Texaco), and Questar Pipeline Company (Questar) have proposed to develop two separate areas called the North Area and the South Area. For the purpose of environmental analysis, the BLM combined the proposals of these four companies into the Ferron Natural Gas Project.

The approved project would involve the construction, drilling, completion, and stimulation of approximately 335 natural gas wells drilled into coal beds of the Ferron Formation over a 5 year period. Associated access roads, gas and water pipelines, electrical distribution lines, compressor stations, disposal wells and related facilities would also be constructed. A 27 mile long, 20 inch gas transmission line would be constructed to transport produced gas. The production life of the project is estimated to be 20 years. Currently, there are 68 existing wells in the project area. There are other leases within the Ferron Natural Gas Project Area that could develop an additional 335 wells and associated facilities as projected in the cumulative impact development scenario of the EIS. There is also an ongoing approved project (Price Coalbed Methane Project) adjacent to the Ferron Natural Gas Project where approximately 500 wells have been proposed and another 500 wells have been projected in a development scenario.

The FS, Manti-La Sal National Forest, participated in the preparation of the EIS as a cooperating agency, as there are FS lands included in the Project Area. The FS is responsible for making a decision on individual drilling and special use permit applications on National Forest lands. The FS will consider a separate Record of Decision for the portions of the Ferron Natural Gas Project within the Manti-La Sal National Forest.

The State of Utah, Division of Oil, Gas and Mining participated as a cooperating agency to provide technical support during preparation of the EIS.

Environmental impacts from the proposed project and alternatives were considered and analyzed in a Draft Environmental Impact Statement (DEIS), prepared and released for public review in October, 1998.

The DEIS was reviewed by other Federal agencies, State agencies, local government entities, private organizations and individuals. Based on comments received on the DEIS, modifications and revisions were made. The Record of Decision (ROD) and Final Environmental Impact Statement (FEIS) are being released concurrently for review as allowed by 40 CFR §1506.10(b)(2) for agencies that have a formally established appeal process.

During preparation of the Ferron Natural Gas EIS, a land exchange between the United States and the State of Utah was completed. With implementation of the exchange, about 17,400 acres of BLM administered surface and mineral estate within the Project Area were conveyed to the State of Utah. The FEIS was revised to fully incorporate the exchange into the analysis.

Details of the project, issues identified during the analysis process, alternatives, impacts, mitigation and results of public participation are contained in the FEIS.

## **II. DECISION**

It is the decision of the Utah State Director of the Bureau of Land Management to allow the development of oil and gas leases including wells, roads, compressors, pipelines and other necessary facilities within the project area according to Alternative 2, *Proposed Action with Additional Environmental Protection Measures* (Appendix 1) including the following modifications:

- If electricity is chosen as a power source for wells and facilities, power lines will be buried where soil characteristics used for analysis of the electric power option are present on the ground (depth to bedrock is more than 18 inches and cobbly rock soils are not present). Burial of power lines will be determined as individual applications are analyzed and considered for approval.
- The mitigation provisions (Appendix 2) developed through the environmental analysis of this project will be followed. This mitigation will be used as approval conditions for individual applications received in the Project Area.
- The monitoring requirements developed from the Environmental Protection Measures and mitigation measures of the FEIS (See Section VI of this document) will be followed.
- All well, road and facility locations on public lands and/or Federal mineral estate will undergo a site specific review and will be adjusted, to meet the objectives of this decision and minimize impacts to the environment and other resources, consistent with lease rights. If necessary, site specific National Environmental Policy Act (NEPA) documentation will be completed prior to consideration of applications for approval.
- Anadarko, Chandler, Texaco and Questar must obtain all other necessary Federal, State and local permits and comply with all applicable Federal, State and local laws.
- Individual well, facility or right-of-way applications submitted for public lands and/or Federal leases in the Project Area will not be considered for approval until the Cultural Resources Programmatic Agreement for the Ferron Natural Gas Project is signed by all involved parties.

Alternative 2 and the electric power option are detailed in Section 2.2 of the FEIS for the Ferron Natural Gas Project.

The decision is consistent with all required Federal, State and County authorizing actions (See Table 1-2 of the FEIS.). All pertinent statutory requirements applicable to this alternative were considered. These include consultation with the U.S. Fish and Wildlife Service regarding threatened and endangered species and coordination with the State of Utah regarding wildlife, environmental quality and oil and gas conservation.

This decision applies only to the public land surface and/or Federal mineral estate subject to administration by the BLM.

### **III. 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. Several other alternatives were considered but not analyzed in detail. A complete description of each alternative is included in Chapter 2 of the FEIS

#### **Alternative 1 - Proposed Action**

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. 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 coal bed 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 coal bed 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 few years. The gas production increases steadily for a few years, then gradually declines. For this project, the produced water would come from the Ferron Sandstone and be disposed into the Navajo-Nugget Aquifer.

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 construction of ancillary facilities including access roads, pipelines for gathering gas and produced water, electrical utilities, central production facilities for treating and compressing gas and disposing of produced water, and pipelines for delivering gas under pressure to a transmission pipeline. The transmission line would be 20 inches in diameter and almost 27 miles in length (262 acres), and would transport gas from the field to production facilities and ultimately to consumers. Approximately 31 miles of existing roads in the North Area would be upgraded and 15 miles of new roads would be constructed. In the South Area, about 73

miles of existing roads would be upgraded and 83 miles of new roads would be constructed. Gas and water pipelines would generally follow road routes. Eleven water disposal wells would be drilled to dispose of an estimated 78,050 barrels of water per day. Seven new central production facilities (compressors, treatment facilities and disposal wells) are proposed in addition to the four existing facilities. Three compressor stations are also proposed.

The proposed action also includes the optional use of electric compressors, electric pumps, or both instead of gas-fired equipment. Under this option, all electric lines would be installed aboveground on 30-foot tall poles, about 300 feet apart, and would generally follow access routes. Approximately 187 miles of aboveground power lines and 3,302 power line poles would be installed in the Project Area if all facilities were to be powered by electricity.

### **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. Three hundred thirty-five wells and associated facilities would be constructed and drilled under this alternative. Of these 335 wells, 68 have already been drilled. Sixty-one new wells would be developed in the North Area, and 206 wells would be drilled in the South Area. Approximately 31 miles of existing roads in the North Area would be upgraded and 12 miles of new roads would be constructed. In the South Area, about 73 miles of existing roads would be upgraded and 72 miles of new roads would be constructed. Gas and water pipelines would generally follow road routes. The 27 miles of gas transmission line would be constructed as described in the Proposed Action. Eleven water disposal wells would be drilled to dispose of an about 75,300 barrels of water per day. Seven new central production facilities would be constructed in addition to the four existing facilities. Three new compressor stations would also be constructed. Under the electrical equipment option of Alternative 2, it has been estimated that 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 of power line would be buried.

None of the Environmental Protection Measures would completely 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. Under this alternative, 18 fewer wells would be drilled when compared to the proposed Action. Site specific, on-the-ground investigations of individual applications would be necessary to determine if these proposed sites can be considered for approval. The Environmental Protection Measures are listed in Appendix 1 of this document.

### **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 private wells would be granted as required by BLM policy.

This alternative would incorporate the same construction and operational components as the Proposed Action. Two hundred twenty-two wells and associated facilities would be developed under Alternative 3. Sixty-eight wells have been drilled. Nineteen new wells would be drilled in the North Area and 135 wells would be drilled in the South Area. Approximately 15 miles of existing roads would be upgraded, and four miles of new road constructed in the North Area. In the South Area, 60 miles of existing roads would be upgraded and 40 miles of new road would be constructed. Seven disposal wells would be drilled to dispose of an estimated 45,300 barrels of water per day, and four new central production facilities would be constructed. Electric power lines would not be anticipated with this alternative. The gas transmission line would be constructed as described in the Proposed Action.

#### **Alternatives Considered, but Not Analyzed in Detail**

In addition to Alternatives 1, 2 and 3, several alternatives 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 were considered as a result of issues raised during scoping. These alternatives were not evaluated in detail for various technical, legal, and environmental reasons, as described in Section 2.4 of the FEIS.

#### **IV. ENVIRONMENTALLY PREFERRED ALTERNATIVE**

Identification of the environmentally preferred alternative involves difficult judgements because the effects to the biological, physical and human environment must all be considered along with the social, economic requirements of present and future generations. On the basis of effects on only biological and physical factors, Alternative 3 - No Action, is the environmentally preferred alternative. In comparison to the other alternatives, the No Action alternative would result in the least effect to biological and physical resources. However, based on consideration of the biological and physical environment and the human environment, including social and economic factors, Alternative 2 is also considered an environmentally preferred alternative. This alternative allows for gas development while mitigating impacts to an acceptable level, and would result in more earnings from employment and revenue from rents and royalties.

#### **V. MANAGEMENT CONSIDERATIONS AND RATIONALE**

BLM has selected Alternative 2 because it provides for development of leases in the project area to meet oil and gas production objectives while protecting resource values. The decision recognizes that the area has undeveloped gas resources to meet public needs, the companies hold valid oil and gas leases, and there are other natural resource values within the area which require consideration and protection from unnecessary or undue degradation. In addition to the Environmental Protection Measures of Alternative 2, mitigation measures have been adopted to ensure that all practicable means to avoid or reduce environmental harm have been incorporated into the project. Based on review of all components and impacts associated with Alternative 2, combined with adherence to regulations, stipulations, Environmental Protection Measures and mitigation, it has been determined that the project, under this alternative, is not likely to result in unnecessary or undue degradation of public lands. All practicable

means to avoid or reduce environmental harm have been adopted. A summary of management considerations which includes environmental and administrative factors is presented below:

### **Plan Conformance**

Section 202 of FLPMA requires the Secretary to develop land use plans, and manage the public lands according to them. The Price River Management Framework Plan (1983) with its Environmental Supplement on Cumulative Impact on Oil and Gas Categories (1988), and the San Rafael Resource Management Plan (1991) are the current land use plans encompassing the project area. The plans identified oil and gas leasing and development as a primary land use in the project, area and leases were issued under the provisions of these plans. The selected alternative has been determined to be in conformance with these two plans.

While the development of natural gas resources is in conformance with the Price River Management Framework Plan and the San Rafael Resource Management Plan, the scale of development in the Ferron Natural Gas Project exceeds the scale of development analyzed by either plan. This EIS updates the development scenarios of the San Rafael Resource Management Plan and the 1998 Environmental Assessment supplement for the Price River Management Framework Plan.

### **Wildlife**

The BLM's authority to implement a decision that would deny the proponents right and privilege to drill for, mine, extract, remove and dispose of oil and gas deposits in the leased lands is somewhat limited because the Federal mineral leases are in the nature of a contract between the Secretary of the Interior and the lessees. However, leases are subject not only to the explicitly attached terms and stipulations, but to the laws and regulations applicable to the management of the public lands including the Federal Land and Policy Management Act (FLPMA) and BLM oil and gas regulations (43 CFR Parts 3100 and 3160).

BLM has the authority and responsibility to prevent unnecessary or undue degradation of the environment as specified in Section 302 of FLPMA, and required by regulations that implement the Mineral Leasing Act of 1920. As specified in the regulations at 43 CFR §3101.1-2, *at a minimum*, BLM can require movement of proposed well locations up to 200 meters and/or place timing restrictions of up to 60 days and conform to rights granted in a lease. In accordance with BLM policy, in the absence of a specific lease stipulation, any relocation by more than 200 meters or timing restriction in excess of 60 days cannot be imposed unless failure to require the modifications would result in unnecessary or undue environmental degradation or would result in a violation of applicable laws or regulations.

Analysis of information collected during scoping identified the need to prohibit construction and drilling activities from December 1 through April 15 to limit threats to big game herds in crucial and high priority deer and elk winter range. Without this restriction, impacts could result in a decrease in the mule deer carrying capacity of the area and displacement of elk from crucial winter range resulting in substantial adverse effects. However, impacts could be diminished by restricting activities during this critical period.

Several leases in the area include winter timing restriction stipulations for protection of big game, but others do not. Imposing a 60 day restriction on the leases that do not have a timing stipulation, as allowed in 43 CFR §3101.1-2, would not be sufficient to reduce adverse impacts to deer and elk to an acceptable level. A 76 day residual period would remain during which construction and drilling impacts would pose risks to deer and elk which would constitute undue and unnecessary degradation. Therefore, a uniform winter restriction on construction and drilling activities in crucial and high priority big game habitat has been deemed necessary to reduce such impacts.

Similarly, a year round one-half mile “no surface occupancy” buffer zone around “occupied” raptor nests and avoidance of temporary disturbances such as pipeline and power line construction between the period of February 1 through August 15, were determined necessary to prevent undue and unnecessary degradation to these species. Only a few leases in the area contain stipulations for seasonal restrictions around raptor nests. Habitat fragmentation due to concentrated well densities associated with coal bed methane development could limit the use of alternative nest sites. Without year round buffer zones around nests, well and facility maintenance activities and continuous human presence in the vicinity of the nests could result in abandonment and the loss of eggs or young. Buffers around active nests are reasonable means to provide insulation from facilities, human activities and altered habitat.

The one-half mile prohibition area around occupied raptor nests is consistent with U.S. Fish and Wildlife Service draft guidelines for raptor protection (Raptor Protection Proximal to Disturbance from Land Use Activities, 1998). The permanent buffer zones would be applied to applications on an individual basis at the time they are submitted. Site specific evaluations at that time may allow for modifications to the restriction or identification of alternative well site or drilling methods. At the time of EIS analysis, 12 wells would not be permitted as they are proposed within the one-half mile buffer zone of raptor nests identified during yearly surveys conducted during 1998 and 1999.

## **Air Quality**

Potential adverse impacts to visibility at Capitol Reef National Park were predicted during analysis of the 12 gas fired compressors of the proposed action and Alternative 2. Under the modeling scenario used for analysis, visibility was estimated to be reduced by more than ten percent on four days in a year. The use of lower equipment emission rates and more refined compressor exhaust parameters, which are currently available in the industry, were also analyzed as a mitigation measure, and no direct adverse impacts to visibility at the park were predicted from the Ferron Natural Gas Project. However, even with the mitigation measures identified to reduce emissions, the cumulative analysis of gas fired compressors of the Ferron Natural Gas Project combined with other existing and proposed activities in the area identified a likelihood of adverse visibility impacts at Capitol Reef National Park.

All compressor sites have been proposed on State or private lands. BLM has no jurisdiction on approving compressors for this project, and cannot require the emission reducing mitigation measures be installed on compressors, or require the power source for compressors. Air quality permitting is the responsibility of the Utah Department of Environmental Quality, Division of Air Quality, who would evaluate the effects of incremental compressor emissions during any future permitting processes. At such time, the State may require more refined air quality pollutant dispersion modeling if development indicates a potential adverse impact on visibility at Class I areas. The Division could, for example, require best available control technologies be employed and could also require any future installation of compressors be electrically powered to prevent adverse impacts on visibility.

## **Water Resources**

Two principal issues concerning water resources are dewatering of the Ferron Sandstone aquifer and disposal of produced water into the Navajo-Nugget Aquifer. Neither aquifer is used in the Project Area due to depths and high salinities. Dewatering of the Ferron aquifer associated with coal gas production would not affect water quantity in the bedrock aquifers overlying the Ferron within the Project Area or along its boundaries. The Mancos Shale Formation overlies the Ferron coal beds and forms an impervious barrier. The Navajo-Nugget aquifer is very saline in the Project Area, and is directly overlain by impervious layers of the Carmel Formation which contains anhydrite and is important for confining disposal waters. Modeling indicated that produced water disposal into the Navajo-Nugget aquifer would temporarily affect pressures adjacent to the disposal wells, but should not impact the fresh water contained in the aquifer outside the Project Area.

## **Recreation**

Gas development would change the natural setting in areas where the development is concentrated. In the North Area, conflicts with the recreational use of existing roads would exist, especially during the 5 year construction period. In the South Area, Semi-Primitive Motorized Recreation Opportunity Spectrum objectives may not be met. Mitigation has been identified to lessen the effects on recreation while still honoring rights previously granted with the oil and gas leases.

## **Unavoidable Impacts**

Some impacts that would result from the implementation of Alternative 2 cannot be avoided, but none of those impacts warrant disapproval of the project. Descriptions of unavoidable adverse impacts for each resource analyzed are contained in Chapter 4 of the FEIS.

## **VI. MITIGATION AND MONITORING**

This decision incorporates the terms, conditions and stipulations of the Federal oil and gas leases, BLM regulations for oil and gas leasing and operations (43 CFR Parts 3100 and 3160), Federal Onshore Oil and Gas Orders, the proposed development procedures of the operators, Environmental Protection Measures of Alternative 2 and the additional mitigation identified in Chapter 4. Anadarko, Chandler, Texaco and Questar must participate and comply with a Programmatic Agreement for Cultural Resources with the BLM, the State Historic Preservation Officer, and the President's Advisory Council on Historic Preservation. The Companies will also be required to obtain all other necessary Federal, State and local permits and to comply with all applicable Federal, State and local laws. All practicable means to avoid or reduce environmental harm have been adopted subject to the contractual nature of the Federal oil and gas leases.

The Environmental Protection Measures of Alternative 2 should be incorporated by applicants into proposals for individual well/facility/road applications on BLM administered lands and leases. If not, these measures will be included by BLM as approval conditions to individual authorizations, when appropriate. The mitigation measures developed through the environmental analysis of the FEIS will be used as approval conditions for individual authorizations for project applications in the Ferron Natural

Gas Project Area. A list of the Environmental Protection Measures is included in Appendix 1 and the mitigation measures to be used for approval conditions are included in Appendix 2 of this document.

There are different types of monitoring associated with this project including monitoring required as part of BLM's decision for this project. The first type involves standard inspections conducted by regulatory agencies to determine compliance with regulations and approval conditions and, in some cases, to determine the effectiveness of mitigation. For example, monitoring to determine compliance with certain Environmental Protection Measures and mitigation measures for this project would be conducted as part of the BLM's inspection and enforcement program for oil and gas operations. Similarly, the Utah Division of Oil Gas and Mining would monitor components of the disposal wells through their Underground Injection Control program through inspection and monthly reporting, mechanical integrity testing and annual injection fluid sampling.

Another type of monitoring is data gathering of various agencies. The Utah Division of Wildlife Resources monitors big game herds in the area. Water monitoring sites, as identified in the FEIS, are maintained by the U.S. Geological Survey and Utah Department of Environmental Quality, Division of Water Quality. The Utah Division of Oil Gas and Mining also plans to continue their soil-gas monitoring program in the area.

The final type is monitoring identified through the analysis of this EIS. Some of the monitoring is identified for agency consideration and others were developed as mitigation requirements. The various monitoring from the Ferron Natural Gas Project EIS are as follows:

- Establishing a monitoring workgroup among Federal and State regulatory agencies and local governments to track nonpoint source controls for sedimentation and salinity would validate the success of operational practices, Environmental Protection Measures and mitigation measures. Modifications of the control measures should be developed as appropriate. The BLM will consider establishing such a workgroup dependant on staffing and budget availability.
- Anadarko, Chandler, Texaco shall participate with Carbon and Emery counties and Federal and State agencies to help replace lost recreational opportunities in the Project Area. The operators and the BLM will complete an agreement to study the development of trails to offset lost recreation opportunities in the Project area. The agreement shall be completed within nine months of the effective date of this document.
- Anadarko, Chandler and Texaco shall participate in raptor surveys to determine the status of known nests and verify the presence of additional nests for all Federal leases within the Project Area. The surveys shall be conducted by qualified consultants and approved by the BLM Authorized Officer. The surveys shall be conducted by helicopter during May of each year, prior to proposed drilling and APD approval. Costs for the surveys and preparation of a report of findings shall be borne by the lessees. This survey may be conducted in cooperation with annual raptor surveys conducted by other companies in the area in order to share costs.
- Monitoring of cultural resource sites by applicants shall be conducted in conformance with the provisions of the Programmatic Agreement for Cultural Resources developed for this project.

## **VII. PUBLIC INVOLVEMENT**

As part of the environmental analysis and identification of issues and concerns for this EIS, a Notice of Intent to prepare an EIS was published in the Federal Register on January 28, 1977, and three public scoping meetings were conducted on February 11, 12 and 13, 1997 in Price, Castle Dale and Salt Lake City, Utah. Seventy Native American Tribes/Groups/Bands were contacted about this project during scoping. Copies of the FEIS were provided to the Uintah and Ouray Tribe. Additional consultation and coordination with the Uintah and Ouray, Southern Ute and Ute Mountain Ute Tribes were conducted during preparation of the Cultural Resources Programmatic Agreement.

A Notice of Availability for the Draft EIS was published in the Federal Register on October, 2, 1998. Three hundred copies of the DEIS were distributed. During the 55 day review period, public hearings on the DEIS were conducted in Castle Dale, Price and Salt Lake City on October 27, 28 and 29, 1998. Fifty-seven separate comment letters were received on the DEIS in addition to comments submitted at the public hearings. Substantive comments were considered during preparation of the FEIS. Appendix F of the FEIS contains a summary of the comments received, and BLM's response to the comments. The Final EIS is being distributed to the public, agencies and organizations who expressed interest in the project. The availability of documents and meetings was published in local and regional media.

## **VIII. APPEALS**

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 VFR Part 3165.4(c) and 43 CFR Part 4.. If an appeal is filed, a notice of appeal must be filed with the Bureau of Land Management, Utah State Office within 30 days of the date the Notice announcing availability of the Ferron Natural Gas Final EIS and Record of Decision is published in the Federal Register. An appellant has the burden of showing that the decision is in error. If an appellant wishes to stat the effectiveness of this decision, a petition for stay must accompany the notice of appeal.

Any future approval of site specific rights-of-way for project facilities may be appealed through the procedures described in the previous paragraph. Approval of individual Applications for Permit to Drill may be appealed to the Utah State Director in accordance with the provisions of 43 CFR Part 3165.3(b). Such requests, including supporting documentation, must be filed with the Utah State Director within 20 business days from the date of the decision.

## **Appendix 1**

### **Ferron Natural Gas Project**

#### **Environmental Protection Measures**

1. Avoid surface disturbance within 330 feet of the centerline or within a designated 100-year floodplain of perennial streams.
2. Avoid surface disturbance within 660 feet of springs, whether flowing or not.
3. Avoid blasting or geophysical drilling within 0.25 mile of a spring or water well.
4. Avoid construction on frozen or saturated soils. The Authorized Officer (BLM or FS) will determine what is wet, muddy, or frozen based on weather and field conditions at the time. This does not apply to maintenance of existing roads and wells.
5. Exclude road and pad construction on slopes in excess of 25 percent. Pipeline construction on slopes in excess of 25 percent would be determined on a site-specific basis.
6. On critical soils, avoid construction on slopes greater than 6 percent. Where construction cannot be avoided, operations and facilities will be located to reduce erosion and improve the opportunity for revegetation.
7. New roads will be constructed to avoid critical soil areas, where possible. Where roads must be allowed, new roads will be constructed in accordance with agency-specified design standards to minimize watershed damage.
8. On critical soils, avoid road grades greater than 10 percent. The Authorized Officer (BLM or FS) may allow grades in excess of 10 percent with a maximum length of 1,000 feet. No road grades in excess of 15 percent will be allowed.
9. On critical soils, pipelines will avoid slopes in excess of 15 percent.
10. In accordance with a weed control plan developed for this project (Appendix C), treat and control noxious weed infestations within 100 feet of disturbed areas associated with well sites and facilities and roads or rights-of-way constructed or improved by the Companies, to the extent the infestation is caused by the Companies.
11. Avoid construction, development, and rights-of-way within 220 feet of the boundary of riparian areas. Where these areas must be disturbed, minimize impacts and perform post-disturbance reclamation.
12. All project roads designated for reclamation (or partial reclamation) and all well sites, facility sites, and pipelines shall be reclaimed (recontoured and reseeded) in the fall season or at a period specified by the Authorized Officer.
13. Disturbed areas will be restored to approximately the original contour.

14. Reclamation on sites with critical soils will be graded using slopes of 5 percent or less where feasible and grading the site so as to collect water for revegetation. Site-specific evaluation by the surface managing agency may allow for modification to this standard.
15. Selected roads in big game winter range habitats shall be gated and signed. The gates shall be locked during the critical period for wildlife (December 1 to April 15). The gate locations shall be determined by the Authorized Officer for the BLM in consultation with Emery or Carbon counties. A cooperative agreement will be developed to detail maintenance responsibilities, design of gates, and contingency methods for excessive vandalism to the gates. The BLM shall provide the verbiage for the signs, which shall explain the reasons for the seasonal closure and agencies participating in the closure shall be identified.
16. In elk and mule deer winter range (crucial and high priority), exploration, drilling, and other development shall occur only during the period of April 16 to November 30. This shall not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year shall be requested in writing to the Authorized Officer of the BLM or Forest Service.
17. In elk and mule deer crucial winter range, all non-emergency workover operations, as defined in this EIS, shall occur only during the period April 16 to November 30. The proponent shall provide notice for all emergency work requiring use of heavy equipment during the winter period (December 1 to April 15). The notice shall be provided within five days of the work.
18. Minimize the number of actual visits by personnel needed to monitor well operations.
19. Reclamation on big game crucial winter range will include hand planting of seedling browse plants and use of seedling protectors.
20. In order to provide winter range protection for mule deer and elk, avoidance areas would be created in big game wildlife corridors on Federal lands. The big game corridors (shown on Plates 3–5 and 3–6 of the FEIS) include drainages and critical areas within winter range habitat. Under existing regulations (43 CFR 3101.1–2) and lease rights, BLM would relocate wells, roads, or facilities within the boundary of the proposed 160-acre legal subdivision of a lease to minimize surface disturbance and/or surface occupancy within the designated big game corridors. It is recognized that in some instances, wells, roads, and facilities would be located within the big game corridors. Evaluation of the need to relocate any facility would be conducted during the site-specific, on-site evaluation of a proposed well at the time an APD is submitted. BLM shall not identify relocation of facilities that would result in a well being situated off the lease or outside the 160-acre legal subdivision. BLM would not recommend relocating wells, roads, or facilities outside the corridors in those circumstances where useable roads already exist. With corroboration by BLM geologists, BLM would not recommend relocation of wells that would prevent the proponent from hitting a specific geologic target with regard to presence and alignment of known fault lines. Wells, roads, or facilities would not be relocated to a position that would be more environmentally damaging or exceed provisions of this EIS or appropriate land use plan. The Companies may choose to alter the location of wells adjacent to the big game corridor to achieve desired drainage of gas and water resources.
21. To offset direct impacts to mule deer and elk, when disturbance exceeds 10 acres in elk or mule deer winter range (crucial and high priority), an equivalent acreage of adjacent habitat will be enhanced to accommodate increased use by the animals. The habitat enhancement will be completed commensurate with the surface disturbing activity. All costs associated with project

planning through completion shall be the obligation of the lessee. To satisfy this mitigation provision of the governing land use plans, the companies and BLM have agreed to establish a Wildlife Habitat Mitigation Fund that includes provisions for monetary contributions of \$1,301.26 (1998 dollars) per well on Federal surface/subsurface ownership in big game crucial and high priority winter range. This mitigation fund would be used to complete habitat enhancement projects to directly benefit wildlife by being used within the herd unit affected. Administration of this fund, including objectives for habitat enhancement, would be formalized in an agreement developed between the proponents, BLM and the UDWR.

22. Individual companies will attend yearly meetings with BLM to coordinate and organize APD processing for yearly drilling plans of the companies to assure that expected reworking of newly completed wells occurs before the winter closure period.
23. Avoid temporary surface disturbance and occupancy (i.e., seismic lines and pipeline, power line, and project construction) within one-half mile of active raptor nests during the critical nesting period (February 1 to August 15). Site-specific evaluation in coordination with the USFWS and UDWR may allow for modifications. This mitigation does not apply to maintenance and operation of existing wells and access roads constructed prior to occupancy of the nest.
24. Permanent surface disturbance and occupancy shall be prohibited within 0.5 mile of raptor nests that have been documented as occupied within the 3-year period preceding construction. Site-specific evaluations in coordination with USFWS and UDWR may allow for modifications to this requirement.
25. Permanent surface disturbance and occupancy shall be prohibited within 1.0 mile of peregrine falcon eyries. Section 7, Endangered Species Act consultation with USFWS shall be required for modifications to this requirement.
26. Perform raptor surveys to determine the status of known nests and to verify the presence of additional nests for all federal leases within the Project Area. Surveys shall be conducted by consultants qualified to conduct such surveys and approved by the BLM's Authorized Officer. All surveys shall be conducted by helicopter during May of each year, prior to the proposed drilling and prior to APD approval. The surveys shall be done in the same year as the proposed drilling so the current nest activity status data are available. Costs for the survey and preparation of a report of the findings of the survey shall be borne by the lease holder. This survey could be conducted in cooperation with the annual raptor surveys conducted by other companies (coal and power) so that the companies may share costs.
27. All APDs, Sundry Notices, and rights-of-way submitted for proposed wells and other surface-disturbing activities within Winkler cactus habitat shall be submitted before April 1 of any given year. This would allow the clearances for T & E plants at the optimum time. Any applications for surface-disturbing activities received after April 1 shall be held until the next year. On extremely dry years, the cactus does not surface or bloom and clearances shall be delayed until conditions are better, possibly until the next year.
28. Avoid surface disturbance in special-status plant habitats. Site-specific evaluations or Section 7 Endangered Species Act consultation with the USFWS may allow for modifications to this requirement.

29. Any replacements, improvements, or additions of rangeland facilities shall meet BLM or Forest Service standards as applicable. [BLM Handbook H-1741-1 (fencing), BLM Manual Section 9100 (roads, reservoirs, dams, pipelines, cattle guards, gates, etc.), BLM Manual Section 9200 (Integrated and Chemical Pest Management and Control), Forest Service Manual 2242.03, and BLM Price Field Office and Manti-La Sal National Forest policies.]
30. In the North Area, all existing recreational trails identified in the 1998 Carbon County Trails Plan that are disturbed by the Companies would be reclaimed to pre-development conditions upon abandonment of individual roads and locations. Reclamation of company-constructed roads throughout the Project Area would be determined by the Authorized Officer on a case-by-case basis in consultation with the County.
31. The Companies and the BLM will complete an agreement to study the development of trails to offset recreational impacts in the Project Area.
32. Where topography permits, well sites would be positioned to prevent “sky lining”.
33. Existing vegetation and topographic features would be used to screen wells, facilities, and roads from the viewshed of Key Observation Points.
34. To eliminate broadside views of pumping units, design well locations so the pumping units are situated “in line” with Key Observation Points.
35. When installing chain link fences, use non-reflective materials to reduce visibility from a distance.
36. Avoid straight line-of-sight bulldozing. Design roads through wooded areas to take a curvilinear path.

## Appendix 2

### Ferron Natural Gas Project

#### Mitigation/Approval Conditions

1. Where usable quality water and/or prospectively-valuable minerals are encountered by the well bore, those formations shall be isolated and/or protected by the cement program for the production casing.
2. Potential conflicts with coal operations shall be coordinated with the coal companies and the authorizing agencies.
3. Drill pads and facility sites shall be designed and constructed to prevent overland flow of water from entering or leaving the sites through the use of berms, terraces and grading to form depressions.
4. Roads shall be designed to divert stormwater runoff and reduce erosion by:
  - Proper design and installation of erosion control structures, such as water bars and diversion channels.
  - Road ditch turnouts shall be equipped with energy dissipaters.
  - Use rock energy dissipators and gravel dispersion fans or other designs where roads interrupt overland sheet-flow of water to convert this runoff to channel flow.
  - Cut banks, road drainages and road crossings shall be armored or otherwise designed to prevent headcutting.
5. Maintain stream channel stability road crossings on channels having 10 year flows by:
  - Crossing designs shall be based on cross-sections, longitudinal profile, and other pertinent physical characteristics specific to each crossing.
  - A culvert diameter of 30 inches or greater shall be engineered to allow flows to pass through the crossing at the same velocity and position (i.e., on the floodplain or in the channel) as would occur if the crossing were absent.
  - Bankfull flow shall be determined and crossings designed to pass this flow within the channel. Flows in excess of this quantity shall be channeled separately through the crossing (i.e., on the floodplain).
  - Flows shall not be converged from a floodplain into a channel when passed through by a road crossing. Multiple culverts or combination low-water crossing designs are encouraged in these circumstances.
  - Where multiple culverts are used, the minimum cumulative capacity of all culverts shall be the 10-year flow.
  - Floodplain culvert outlets shall be equipped with energy brakes and dispersion fans if needed to preserve existing flow velocity and position. Such stream crossing designs will preserve the physical dimensions of channels such as slope, width, depth, pool/riffle ration, etc.
6. Spills, leaks, and contaminated soils shall be cleaned up, excavated, or treated, to prevent pollution to surface or ground waters.

7. During production operations, dust suppression (watering or chemical application) shall be applied along roads near residential areas and at congested project traffic areas as determined necessary by the AO.
8. An Approval Order from the UDEQ will be required for each individual gas fired compressor.
9. Road construction or routine maintenance shall be performed during periods when soils are dry enough to adequately support construction equipment. Soils would be deemed too wet if construction equipment creates ruts more than six inches deep.
10. During construction, topsoil shall be removed by clearing and stripping and stockpiled within or adjacent to the drill pad. Topsoil depths will be determined for individual applications by the authorizing agency.
11. To stabilize topsoil stockpiles, any areas left disturbed for more than one year shall have stockpiles seeded with mixtures specified by the authorizing agency.
12. Topsoil from access road construction shall be windrowed along the uphill side of the road for uses as a seed bed top coating during road rehabilitation.
13. Reclamation of roads and facilities will include planting of seedlings to speed up the reclamation of riparian areas.
14. Loop roads will not be allowed to access a well.
15. The Companies shall not allow the discharge of firearms in the project area by on-duty employees and contractors.
16. The Companies should not allow harassment of wildlife by employees and contractors.
17. The Companies shall schedule non-emergency visits to project facilities from one hour after sunrise until one hour before sunset during the big game critical winter period.
18. Potential effects to significant cultural resources resulting from direct and indirect project impacts will be mitigated through the Programmatic Agreement developed between the operators, BLM, SHPO, and the Advisory Council.
19. All new roads or upgraded roads across Public or National Forest lands shall be constructed to BLM or Forest Service standards as appropriate.
20. The companies shall notify landowners and livestock permittees prior to any surface activities and/or disturbances of existing livestock facilities.
21. During construction activities, the companies shall install signs on access roads that are also used for recreation to warn users of heavy equipment and truck traffic. Sign placement on BLM lands will be determined by the AO.
22. Speed limits along project roads shall be kept to a maximum of 25 miles per hour unless otherwise posted.

23. In the Semi-primitive Motorized areas of the South Area (see Plate 3–10 of the FEIS), any electric power lines to well sites shall be buried, unless an exception is granted by the authorized officer.
24. In Semi-Primitive Motorized areas, to reduce noise effects on recreationists, gas powered pumping units shall utilize sound reducing techniques such as mufflers, multi-cylinder muffled engines and sound barriers as determined by the AO.
25. Effects to visual resources shall be reduced by completing the following measures where possible: minimizing pumping unit height, using vegetative and topographic screening when siting well locations, avoiding highwall cuts and shielding drilling rig lights.
26. In general, each pumping unit shall be aligned parallel to a road unless it has been determined that this type of alignment is not feasible.
27. Power poles shall blend in with the surroundings.
28. Reclamation operations shall utilize the following measures as prescribed by the AO:

#### Site Preparation

- The entire roadbed and drill site shall be obliterated and brought back to the approximate original contour. Drainage control shall be reestablished as necessary. All areas affected by road construction shall be recontoured to blend in with the existing topography. All berms shall be removed unless determined to be beneficial by the AO. In recontouring the disturbed areas, care shall be taken to not disturb additional vegetation.
- Water bars shall be installed at all alignment changes (curves), significant grade changes, and as determined necessary by an approved engineer. Water bars shall be sloped with the grade and cut to a minimum 12-inch depth below the surface. The grade of the water bar should be 2 percent greater than the grade of the road.

#### Seedbed Preparation

- An adequate seedbed shall be prepared for all sites to be seeded. Areas to be revegetated shall be chiseled or disked to a depth of at least 12 inches unless restrained by bedrock.
- Ripping of fill materials shall be completed by a bulldozer equipped with single or a twin set of ripper shanks. Ripping shall be done on 4-foot centers to a depth of 12 inches. Ripping shall be followed by final grading and precede seedbed material application. Ripping shall be completed at a speed that maximizes ripper shank action and promotes soil material disruption to the specified depth. Ripping shall be repeated until the compacted area is loose and friable.
- Seedbed preparation will be considered complete when the soil surface is completely roughened, the number of rocks (if present) on the site will be sufficient to cause the site to match the surrounding terrain, and topsoil is redistributed.

#### Fertilization

- Commercial fertilizer with a formula of 16–16–8 shall be applied at a rate of 200 pounds per acre. The rate may be adjusted depending on soil test results.

- Fertilizer shall be applied not more than 48 hours before seeding and cultivated into the upper 3 inches of soil.
- Fertilizer shall be broadcast over the soil using hand-operated “cyclone-type” seeders or rotary broadcast equipment attached to construction or revegetation machinery as appropriate to slope. All equipment shall be equipped with a metering device. Fertilizer application shall take place before the final seeding preparation treatment. Fertilizer broadcasting operations shall not be conducted when wind velocities would interfere with even distribution of the material.

#### Mulching

- Mulching shall be conducted as directed by the authorized officer. The type of mulch shall meet the following requirements: Wood cellulose fiber will be natural or cooked, shall disperse readily in water, and shall be nontoxic. Mulch shall be thermally produced and air dried. The homogeneous slurry or mixture shall be capable of application with power spray equipment. A colored dye that is noninjurious to plant growth may be required. Wood cellulose fiber shall be packaged in new, labeled containers. A minimum application of 1,500 pounds per acre shall be applied. A suitable tackifier will also be applied with the mulch at a rate of 60 to 80 pounds per acre.
- An acceptable alternative method of mulching on small sites is the application of straw or hay mulch at a rate of 2,000 pounds per acre. Hay or straw shall be certified weed free. Following the application of straw or hay, crimping shall occur to ensure retention.

#### Reseeding

- All disturbed areas shall be seeded with the seed mixture required by the authorizing agency. The seed mixture(s) shall be planted in the fall of the year (September through November), in the amounts specified in pounds of pure live seed (PLS)/acre. There shall be no noxious weed seed in the seed mixture. Seeds will be tested. The viability testing of seeds shall be done in accordance with State law(s) and within 12 months prior to planting. Commercial seed will be either certified or registered seed. The seed mixture container shall be tagged in accordance with State law(s) and available for inspection by the authorized officer. Seed is to be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area. (Smaller/heavier seeds tend to drop to the bottom of the drill and are planted first. Appropriate measures should be taken to ensure this does not occur.) Where drilling is not possible, seed shall be broadcast and the area raked or chained to cover the seed. Woody species with seeds that are too large for the drill will be broadcast. When broadcasting the seed, the pounds per acre are to be increased by 50 percent. Reseeding may be required if a satisfactory stand is not established to specifications. Evaluation of the seeding's success will not be made before completion of the second growing season after the vegetation becomes established. The Authorized Officer shall be notified a minimum of seven (7) days before seeding of a project.
- Seed mixes will be specified by the authorizing agency and distributed immediately after the topsoil is replaced.