

U.S. Department of the Interior  
Bureau of Land Management  
Little Snake Field Office  
455 Emerson Street  
Craig, CO 81625-1129

## ENVIRONMENTAL ASSESSMENT

**EA-NUMBER:** CO-100-2008-083 EA

**CASEFILE/PROJECT NUMBER/LEASE NUMBER:**

COC1727: Blue Gravel Well #7-24 and Blue Gravel Well #8-25

**PROJECT NAME:** Two Blue Gravel Wells

**LEGAL DESCRIPTION:** Two wells in Moffat County, Colorado

Blue Gravel Well #7-24: Lot 6 Section 24, T9N, R91W, 6<sup>th</sup> PM

Blue Gravel Well #8-25: Lot 2 Section 25, T9N, R91W, 6<sup>th</sup> PM

**APPLICANT:** Merrion Oil & Gas Corporation

**PLAN CONFORMANCE REVIEW:** The proposed action is subject to the following plan:

Name of Plans: Little Snake Resource Management Plan and Record of Decision (ROD) approved on April 26, 1989; and the Colorado Oil and Gas Leasing & Development Environmental Impact Statement (EIS) and the ROD signed on November 5, 1991.

Remarks: The proposed two Blue Gravel Wells would be located within Management Unit 1 (Little Snake Resource Management Plan). The objective of Management Unit 1 is to realize the potential for development of coal, oil, and gas resources. Other resource uses/values within this unit are allowed consistent with coal, oil, and gas resource development.

The proposed action was reviewed for conformance with this plan (43 CFR 1610.5, BLM 1617.3). The proposed action is in conformance with the objectives for this management unit.

**NEED FOR PROPOSED ACTION:** To provide for the development of oil and gas resources and to supply energy resources to the American public.

**PUBLIC SCOPING PROCESS:** The Notices of Staking (NOSs) have been posted in the public room of the Little Snake Field Office for a 30-day public review period beginning August 16, 2006 when the NOSs were received, and may be viewed during regular business hours (7:45 a.m. to 4:30 p.m.), Monday through Friday, except holidays.

**DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:** The proposed action is to approve two Applications for Permit to Drill (APDs) submitted by Merrion Oil & Gas Corporation. Merrion proposes to drill two gas wells on private land in T9N, R91W. The mineral estate at these locations is administered by the BLM. Two APDs have been filed with the LSFO for the wells, Blue Gravel Wells #7-24 and #8-25. The APDs cover mitigation of impacts to vegetation, soil, surface water, and other resources. Mitigation not incorporated by Merrion in the drilling and surface use plans would be attached by the BLM as Conditions of Approval to the approved APDs.

The proposed wells would be located approximately 22 miles northwest of Craig, Colorado. The approximate date work would start is the spring or summer of 2008 and the estimated duration of construction and drilling is 45 to 60 days. Moffat County Roads 103 and 89 would be used to access the well sites. Merrion proposes to construct approximately 3,335 feet of new road access. New road construction would conform to BLM specifications for a “resource road”, with a 14-foot wide running surface. Total surface disturbance for the new access roads would be 3.8 acres. In the event that a well is commercially productive, the access road would be upgraded to an all-weather road as required by the private surface owner. The entire length of access road would be located on private surface and does not require a federal right-of-way. All access road construction would be on lease or on private surface.

The proposed well pads would be cleared of all vegetation and leveled for drilling. Topsoil and native vegetation would be stockpiled for use in reclamation. Approximately 2.5 acres would be disturbed for construction of each well pad. This would include the 255’ by 350’ well pads, the topsoil pile, and subsoil piles to be constructed at the well sites. A reserve pit would be constructed on each of the well pads to hold drill mud and cuttings. If a well is a producer, backfilling, leveling and re-contouring would be completed within 6 months of well completion or well plugging. Pit fluids will be removed or solidified before backfilling. Topsoil would be spread across the area of disturbance at the time interim reclamation takes place. If a gas well proves unproductive, the well would be properly plugged and the entire well pad and new access road would be reclaimed. The upgraded portions of the existing two-track roads would remain in place. Total surface disturbance for the proposed action would be 8.8 acres.

Merrion Oil & Gas Corporation did not include plans for gas sales pipelines with the APDs. A detailed written statement of work (Sundry Notice) would be filed with the BLM before pipeline installation. This Sundry Notice would be assessed, when it is received, for environmental impacts of gas sales pipelines to service the wells.

**NO ACTION ALTERNATIVE:** The “no action” alternative is that the two APDs would not be permitted and therefore the wells would not be drilled. Merrion is the operator for a valid and current oil and gas lease for the area where the proposed Blue Gravel Wells would be located.

Once an oil and gas lease is issued, the lessee/operator has already been given the right to drill on that oil and gas lease, subject to the stipulations of the lease. The proposed action is consistent with the ROD and the Oil and Gas Leasing EIS, rejecting the APDs for the wells is not considered to be a reasonable alternative.

**AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES/MITIGATION MEASURES**

**CRITICAL RESOURCES**

**AIR QUALITY**

Affected Environment: There are no special designation air sheds or non-attainment areas nearby that would be affected by the proposed action.

Environmental Consequences: Short term, local impacts to air quality from dust would result during and after well pad construction. Drilling operations produce air emissions such as exhaust from diesel engines that power drilling equipment. Air pollutants could include nitrogen oxides, particulates, ozone, volatile organic compounds, fugitive natural gas, and carbon monoxide. Gas flaring reduces the health and safety risks in the vicinity of the well by burning combustible and poisonous gases like methane and hydrogen sulfide. The proposed action would not adversely affect the regional air quality.

Mitigative Measures: None

Name of specialist and date: Barb Blackstun 12/06/06

**AREA OF CRITICAL ENVIRONMENTAL CONCERN**

Affected Environment: Not Present

Environmental Consequences: Not Applicable

Mitigative Measures: Not Applicable

Name of specialist and date: Rob Schmitzer 10/02/06

**CULTURAL RESOURCES**

Affected Environment: Cultural resources, in this region of Colorado, range from late Paleo-Indian to Historic. For a general understanding of the cultural resources in this area of Colorado, see *An Overview of Prehistoric Cultural Resources, Little Snake Resource Area, Northwestern Colorado*, Bureau of Land Management Colorado, Cultural Resources Series, Number 20, and *An Isolated Empire, A History of Northwestern Colorado*, Bureau of Land Management Colorado, Cultural Resource Series, Number 2.

Environmental Consequences: The proposed project, Two Blue Gravel Wells for Merrion Corporation has undergone a Class III cultural resource survey:

Darlington, David 2006 Class III Cultural Resource Inventory for the Merrion Oil and Gas Company Blue Gravel No. 7-24 Well Pad and Access Road Moffat County, Colorado (06-WAS-657; BLM#12.1.07).

Darlington, David 2006 Class III Cultural Resource Inventory for the Merrion Oil and Gas Company Blue Gravel No. 8-25 Well Pad and Access Road Moffat County, Colorado (06-WAS-658; BLM #12.8.07)

No cultural resources were encountered at any of the two well pad and access roads.

Mitigative Measures:

The following standard stipulations apply for this project:

1. The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) at (970) 826-5000. Within five working days, the AO will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again; and
- Pursuant to 43 CFR 10.4(g) (Federal Register Notice, Monday, December 4, 1995, Vol. 60, No. 232) the holder of this authorization must notify the AO, by telephone at (970) 826-5000, and with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

2. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

Name of specialist and date: Robyn Watkins Morris 11/28/06

## **ENVIRONMENTAL JUSTICE**

Affected Environment: The project would not directly affect the social, cultural, or economic well being and health of Native American, minority or low-income populations. The project area would be relatively isolated from population centers, so no populations would be affected by physical or socioeconomic impacts from the project.

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Louise McMinn 10/11/06

## **FLOOD PLAINS**

Affected Environment: Active floodplains and flood prone zones would be avoided.

Environmental Consequences: No threat to human safety, life, welfare, or property would result from the proposed action.

Mitigative Measures: None

Name of specialist and date: Barb Blackstun 12/06/06

## **INVASIVE, NONNATIVE SPECIES**

Affected Environment: Invasive species and noxious weeds occur within the affected area. Downy brome (cheatgrass), yellow alyssum, blue mustard and other annual weeds are common along roadsides and on other disturbed areas. Halogeton has become a very noticeable problem in the western portion of Moffat County and efforts have been increased to avoid this invasive species from increasing in the project area. Canada thistle and several species of biennial thistles are known to occur in this area. Halogeton, Russian knapweed, leafy spurge, dalmation toadflax, perennial pepperweed (tall whitetop) and hoary cress (whitetop) are in the vicinity of the project and would be capable of establishing in disturbed areas, drainages or road ditches. Other species of noxious weeds are not known to be a problem in this area, but they can always be introduced by vehicle traffic, livestock and wildlife. The BLM, Moffat County, livestock operators, pipeline companies and oil and gas operators have formed the Northwest Colorado Weed Partnership to collaborate their efforts on controlling weeds and finding the best integrated approaches to achieve these results.

Environmental Consequences: The surface disturbing activities and associated traffic involved with drilling and operating these two wells would create an environment and provide a mode of transport for invasive species and other noxious weeds to become

established. Construction equipment and any other vehicles and equipment brought onto the site can introduce these weed species. Wind, water, hunting vehicles, livestock and wildlife would also assist with the distribution of weed seed into the newly disturbed areas. The annual invasive weed species (yellow alyssum, blue mustard and other annual weeds) occur on adjacent rangelands and would occupy the disturbed areas; the bare soils and the lack of competition from a perennial plant community would allow these weed species to grow unchecked and can affect the establishment of seeded plant species. Halogeton is a noxious annual weed that would also occupy the disturbed areas, but this weed species would likely require intensive control with herbicides to prevent it from moving into adjacent rangelands. Establishment of perennial grasses and other seeded plants is expected to provide the necessary control of invasive annual weeds within 2 or 3 years. Additional seeding treatments of the disturbed areas may be required in subsequent years if initial seeding efforts have failed.

The perennial and biennial noxious weeds in the area are less frequently established on the uplands but some potential exists for their establishment in draws and swales or areas along the road that would collect additional water. The largest concern in the project area would be for these species to become established and not be detected, providing seed which can be moved onto adjacent rangelands. The operator would be required to control any invasive and/or noxious weeds that become established within the disturbed areas involved with drilling and operating these wells.

Mitigation attached as Conditions of Approval to minimize disturbance and obtain successful reclamation of the disturbed areas, as well as weed control utilizing integrated practices, including herbicide applications would help to control the noxious weed species. All principles of Integrated Pest Management should be employed to control noxious and invasive weeds on public lands.

Mitigative Measures: None

Name of specialist and date: Ole Olsen 07/17/08

## **MIGRATORY BIRDS**

Affected Environment: Brewers sparrow and sage sparrow are likely to be present in the project area during late spring and early summer. Both of these species are listed on the USFWS 2002 Birds of Conservation Concern List. Nesting activities for both species are likely to be completed by the end of July.

Environmental Consequences: Surface disturbing activities are restricted during most of the nesting period for both species due to private landowner restrictions and timing restriction imposed by the BLM to protect greater sage grouse. Surface disturbing activities could occur during the month of July and it is possible that some nests could still be active or that young birds not capable of moving out of the way of construction equipment could still be present. There is a moderate potential for take of these two species of birds to occur.

Recent studies have indicated that birds have entered heater treater facilities through open vents. Birds have been entrapped and have died in these facilities as a result of gasses held in the facilities.

Mitigative Measures: All open vent stack equipment such as heater treaters, separators, dehydration units, and flare stacks shall be designed and constructed to prevent birds and bats from entering or nesting in or on such units, and to the extent practical, to discourage birds from perching on the stacks.

Name of specialist and date: Timothy Novotny 11/29/06

### **NATIVE AMERICAN RELIGIOUS CONCERNS**

A letter was sent to the Uinta and Ouray Tribal Council, Southern Ute Tribal Council, Ute Mountain Ute Tribal Council, and the Colorado Commission of Indian Affairs on January 21, 1999. The letter listed the projects that the BLM would notify them on and projects that would not require notification. No comments were received (Letter on file at the Little Snake Field Office). This project requires no additional notification.

Name of specialist and date: Robyn Watkins Morris 11/28/06

### **PRIME & UNIQUE FARMLANDS**

Affected Environment: Not Present

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Barb Blackstun 12/06/06

### **T&E SPECIES – ANIMALS**

Affected Environment: There are no threatened or endangered species or habitat for such species in or near the project area. The two Blue Gravel wells would be within greater sage-grouse nesting and brood rearing habitat. Greater sage-grouse are a BLM special status species. A historic greater sage-grouse lek would be located within four tenths of a mile from the Blue Gravel Well #8-25. This lek site has not been active for at least the last ten years.

Environmental Consequences: No threatened or endangered species or their habitat would be impacted by the development of these four wells.

The proposed well sites do provide quality nesting habitat for sage grouse. If drilling activities were to take place during the breeding or nesting season (March 1 to June 30), significant impacts to sage grouse using this habitat would be expected. Impacts to grouse species from oil and gas development are discussed in the Colorado Oil and Gas EIS (1991). Impacts include, but are not limited to, displacement into less suitable habitat, nest abandonment, destruction of nests and loss of habitat. Other impacts, such as habitat fragmentation and the spread of exotic plants can also degrade sage grouse habitat (Connelly et al. 2004). Noise and increased human activity related to drilling can disrupt breeding and nesting (Connelly et al. 2004). Holloran and Anderson (2004) found a higher annual decline in male lek attendance at leks within 3.2 km from drilling activity. To prevent significant impacts to sage grouse species, construction and drilling activities associated with the proposed access roads, pipelines and well pads should not be permitted from March 1 to June 30. This timing limitation would prevent accidental nest destruction, nest and lek abandonment and displacement into less suitable habitat. The development of two well pads would not have significant negative impacts on sage-grouse habitat by themselves however; existing oil and gas development in the surrounding area has been moderate. Cumulative impacts associate with this project as well as historic development is decreasing greater sage-grouses ability to use the project area for nesting and brood rearing activities. The private landowner will not allow development to occur during March and April effectively protecting greater sage-grouse breeding activities. The BLM should not permit these activities to occur at this site between May and June in order to protect the nesting birds.

Bureau of Land Management. 1991. Colorado Oil and Gas Leasing and Development. Final Environmental Impact Statement. U.S. Dept. of Interior.

Connelly, J.W., S.T. Knick, M.A. Schroeder and S.J. Stiver. 2004. Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats. Western Association of Fish and Wildlife Agencies. Unpublished Report. Cheyenne, Wyoming.

Holloran, M.J., and S.H. Anderson. 2004. Sage-grouse response to natural gas filed development in northwestern Wyoming. Page 16 in Proceedings of the 24th Meeting of the Western Agencies Sage and Columbian Sharp-tailed Grouse Technical Committee. Wenatchee, Washington (Abstract).

Mitigative Measures: No surface disturbing activities between May 1 and June 30 in order to protect nesting greater sage-grouse.

Name of specialist and date: Timothy Novotny 11/29/06

## **T&E SPECIES – PLANTS**

Affected Environment: There are no federally listed threatened or endangered plant species within or in the vicinity of the Proposed Action.

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Hunter Seim 09/26/06

### **T&E SPECIES - SENSITIVE PLANTS**

Affected Environment: There are no BLM sensitive plant species within or in the vicinity of the Proposed Action.

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Hunter Seim 09/26/06

### **WASTES, HAZARDOUS OR SOLID**

Affected Environment: If the release does occur, the environment affected would be dependent on the nature and volume of material released. If there are no releases, there would be no impact on the environment.

Environmental Consequences: Consequences would be dependent on the volume and nature of the material released. In most every situation involving hazardous materials, there are ways to remediate the area that has been contaminated. Short-term consequences would occur, but they can be remedied, and long-term impacts would be minimal.

Mitigative Measures: None

Name of specialist and date: Duane Johnson 09/26/06

### **WATER QUALITY/HYROLOGY – GROUND**

Affected Environment: The surface formation is the Wasatch Formation. This formation could hold fresh water in its minor sandstone horizons but potable water is unlikely. The surface casing and cementing program would protect the surface waters. Typically, the fresh water becomes less useable and less potable with increasing depth. The Almond Sandstone, which is at the TD of both wells, is at the top of the Williams Fork Formation. The sandstone beds in the Williams Fork Formation are reported to be excellent aquifers, though the probability of potableness is poor.

Environmental Consequences: With the use of proper construction practices, drilling practices, and with best management practices no significant adverse impact to groundwater aquifers and quality is anticipated to result from the proposed action. A geologic and

engineering review was performed on the 8-point drilling plans to ensure that the cementing and casing programs adequately protect the downhole resources.

Mitigative Measures: None

Name of specialist and date: Jennifer Maiolo 12/05/06

## **WATER QUALITY/HYDROLOGY – SURFACE**

Affected Environment: The project area would be located on rolling hills west of Fortification Creek. Runoff water affected by this project would flow into unnamed tributaries of Blue Gravel Creek, which is a tributary of Fortification Creek, which eventually flows into the Yampa River. All stream segments within the affected environment are presently supporting their classified uses.

Environmental Consequences: Access to the well locations from existing improved roads has been surveyed and designed appropriately to adequately handle the surface water drainage that would be intercepted and channeled down road ditches. The well locations would require construction of 3,335 feet of access road across private surface. Construction of the road, well pad, and installation of drainage features should follow the private landowner's specifications and the recommendations provided in the Surface Operating Standards for Oil and Gas Development, 4<sup>th</sup> Edition.

Increased sedimentation to the Blue Gravel Creek, Fortification Creek, and the Yampa River during spring runoff or from high intensity summer/fall rainstorms would be the greatest potential impact to water quality. Although some sediment may be transported off site and eventually reach perennial waters, the mitigation provided in the Surface Use Plan and the Conditions of Approval would reduce the potential impacts caused by surface runoff.

Mitigative Measures: None

Name of specialist and date: Barb Blackstun 12/06/06

## **WETLANDS/RIPARIAN ZONES**

Affected Environment: There are no wetlands or riparian zones that would be impacted as a result of the development of these wells.

Environmental Consequences: None

Mitigative Measures: None

Mitigative Measures: Timothy Novotny 11/29/06

## **WILD & SCENIC RIVERS**

Affected Environment: Not present

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Rob Schmitzer 10/02/06

## **WILDERNESS, WSAs**

Affected Environment: Not present

Environmental Consequences: None

Mitigative Measures: None

Name of specialist and date: Rob Schmitzer 10/02/06

## **NON-CRITICAL ELEMENTS**

### **FLUID MINERALS**

Affected Environment: The proposed action would be in favorability zone 4 (highest for oil and gas potential). These wells would penetrate the Fort Union, Lance, and Mesaverde Group Formations. In these wells, the Lewis and Almond are the primary targets, but information from the shallower coal beds in the Fort Union would also be evaluated. The casing and cementing programs are adequate to protect the coals of the Fort Union and other downhole resources.

Environmental Consequences: The proposed casing and cementing program appears to be adequate to protect and/or isolate all resources identified above. The entire hole would be cased with cement behind pipe.

Mitigative Measures: None

Name of specialist and date: Jennifer Maiolo 12/05/06

### **SOILS**

Affected Environment: The proposed well sites are found within the Styers-Pinelli-Taffom complex and Taffom sandy loam soil-mapping units. Slopes within these units average 3 to 25 percent. These soils are moderate to very deep and well drained. They are found on plateaus and hillslopes. Runoff is rated as medium to rapid and the hazard of water erosion

is moderate to high. The hazard of soil blowing is moderate. Some areas in these soil-mapping units are capable of producing about 20 bushels of winter wheat in a wheat-fallow rotation. Planting these soils to grass or other permanent cover minimizes erosion.

**Environmental Consequences:** The construction and operation of the two Blue Gravel wells would affect soils within and immediately adjacent to the proposed areas of disturbance. Road, pipeline, and well pad construction should follow the design standards and recommendations outlined in the Surface Operating Standards for Oil and Gas Development, 4th Edition.

Increased soil erosion from wind and water would occur during construction of the well pads, pipelines, and short access roads. Erosion would continue throughout the operational life of the well. Loss of topsoil, soil compaction, and possible increases in sediment loads to drainages are impacts most likely to occur. Vegetation and soil would be removed from approximately 8.8 acres of land. Soil productivity would decline due to reduced soil microbial activity, impaired water infiltration, mixing of soil horizons, top soil loss, and introduction of weeds.

Soil erosion would be reduced to an acceptable level with mitigation described in the Surface Use Plan and Conditions of Approval in the approved APD. Soil loss from construction would be greatest shortly after project start and would decrease in time as a result of stabilization through revegetation and reclamation of disturbed areas.

**Mitigative Measures:** Additional mitigative measures would be employed to prevent or reduce accelerated erosion if it begins to occur within or on constructed drainage and diversion ditches or surface drainages affected by the roads or well pads.

Name of specialist and date: Barb Blackstun 12/06/06

## **VEGETATION**

**Affected Environment:** The Proposed Action would be located within a sagebrush-grass plant community. Dominant plants include Wyoming big sagebrush (*Artemisia tridentata wyomingensis*), shadscale (*Atriplex confertifolia*), Nuttall's saltbush (*A. nuttallii*), greasewood (*Sarcobatus vermiculatus*), gray horsebrush (*Tetradymia canescens*), winterfat (*Ceratoides lanata*), prickly pear (*Opuntia* spp.), green rabbitbrush (*Chrysothamnus viscidiflorus*), Hood's plox (*Phlox hoodii*), Indian ricegrass (*Oryzopsis hymenoides*), needle-and-thread (*Stipa comata*), and Sandberg bluegrass (*Poa sandbergii*).

**Environmental Consequences:** The Proposed Action would completely remove approximately 8.8 acres of native vegetation. This removal would be insignificant in the larger landscape but would be in addition to approximately 25 acres, on average, of other gas production related disturbances (existing wells, access roads) within a one-mile radius of each proposed well. As long as reseeding and subsequent reestablishment of

recommended native plants occurs upon well completion, the Proposed Action would not adversely affect the surrounding plant community.

Mitigative Measures: None

Name of specialist and date: Hunter Seim 12/01/06

## **WILDLIFE, AQUATIC**

Affected Environment: There would be no habitat aquatic wildlife habitat present at the two well locations or along the proposed access roads.

Environmental Consequences: No aquatic wildlife habitat would be affected as a result of the development of the two wells or their access roads.

Mitigative Measures: None

Name of specialist and date: Timothy Novotny 11/29/06

## **WILDLIFE, TERRESTRIAL**

Affected Environment: The proposed project area provides productive year round habitat for pronghorn antelope, mule deer and elk including severe winter range for mule deer and elk. A variety of small mammals, songbirds and reptiles may also be found in the project area at various times of the year.

Environmental Consequences: Disturbances associated with construction of well pads and access roads for these two wells as well as activities associated with drilling of the wells has the potential to displace wildlife from the project area. Surrounding habitats are sufficient to support displaced wildlife from the project area. If construction or drilling activities were permitted during winter months (December 1 - April 30), they would likely result in increased stress on mule deer and elk and would likely have negative impacts on these individuals. Forcing these animals off of severe winter range could result in decreased fitness of these individuals and indirectly lead to increased mortality of wintering mule deer and elk.

Most small mammals, birds and reptiles using the project area would be capable of avoiding construction equipment and should not be directly harmed by these activities. Some burrowing animals may be killed by construction equipment. This should be considered a short-term negative impact that is not likely to harm populations of any species. Timing restrictions for greater sage-grouse along with private land owner restrictions would likely protect these animals during critical times of the year such as nesting periods for song birds.

Mitigative Measures: None

Name of specialist and date: Timothy Novotny 11/29/06

**OTHER NON-CRITICAL ELEMENTS:** For the following elements, those brought forward for analysis will be formatted as shown above.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Fluid Minerals			<b>See Fluid Minerals</b>
Forest Management	<b>JC 12/06/06</b>		
Hydrology/Ground		<b>JM 12/05/06</b>	
Hydrology/Surface		<b>BB 12/06/06</b>	
Paleontology		<b>JM 12/05/06</b>	
Range Management		<b>JHS 11/30/06</b>	
Realty Authorizations	<b>LM 10/11/06</b>		
Recreation/Transportation		<b>RS 10/02/06</b>	
Socio-Economics		<b>LM 10/11/06</b>	
Solid Minerals		<b>JM 12/05/06</b>	
Visual Resources		<b>RS 10/02/06</b>	
Wild Horse & Burro Mgmt	<b>BB 12/06/06</b>		

**CUMULATIVE IMPACTS SUMMARY:** Cumulative impacts may result from the development of the two Blue Gravel Wells when added to non-project impacts that result from past, present, and reasonably foreseeable future actions. The potential exists for future oil and gas development throughout the Blue Gravel Oil & Gas Field. Currently numerous producing wells exist within a one-mile radius of the proposed wells. Other past or existing actions near the project area that have influence on the landscape are wildfire, hunting, grazing, and ranching activities.

Surface disturbance associated with oil and gas activity would increase the potential for erosion and sedimentation. Only a small reduction in available forage would be anticipated. Some wildlife species may be temporarily displaced by construction at the well site, access road, and future pipeline routes, but should return once construction is completed. Contrasts in line, form, color, and texture from development would impact the visual qualities on the landscape.

The cumulative effects of projected oil and gas development are minimized through Best Management Practices identified in the Surface Use Plan of the APD and the BLM required mitigation in the Conditions of Approval for the APD. Proper construction and drilling practices must comply with federal and state environmental regulations. All oil and gas wells in the area would be completed in accordance with Onshore Order No. 2. Reasonably foreseeable mineral development would occur under the guidelines of the Little Snake Resource Management Plan and the Colorado Oil and Gas Leasing and Development EIS.

**STANDARDS:**

**PLANT AND ANIMAL COMMUNITY (animal) STANDARD:** The proposed project area provides quality habitat for a variety of big game, small mammals, song birds and reptilian wildlife. Mule deer and elk use the area for severe winter range. As mitigated, there should be no long-term negative impact to these animals. This standard is currently being met and would continue to be met in the future.

Name of specialist and date: Timothy Novotny 11/29/06

**SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (animal) STANDARD:** There are no threatened or endangered animals species or habitat for such species present in or near the project area. The two wells are within nesting and brood rearing habitat for greater sage grouse, a BLM special status species. As mitigated, direct impacts to nesting sage grouse would not be anticipated. The development of these wells along with cumulative impacts associated with existing gas wells in the project area would result in decreased habitat quality for nesting sage grouse. Future development in this area along with human activities associated with producing wells would likely make the area less suitable for sage grouse to nest in. This standard is currently being met but habitat quality is diminishing as development increases. It is possible that the project area would not be capable of meeting this standard in the future.

Name of specialist and date: Timothy Novotny 11/29/06

**PLANT AND ANIMAL COMMUNITY (plant) STANDARD:** The Proposed Action would completely remove native vegetation. As long as the COAs concerning revegetation and weed control are faithfully adhered to, the native plant community would eventually return and thus meet this standard. The No Action Alternative would meet this standard as no disturbance would occur.

Name of specialist and date: Hunter Seim 12/01/06

**SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (plant) STANDARD:** There are no federally listed threatened or endangered or BLM sensitive plant species within or in the vicinity of the Proposed Action. This standard does not apply.

Name of specialist and date: Hunter Seim 09/26/06

**RIPARIAN SYSTEMS STANDARD:** There are no wetlands or riparian zones that would be impacted as a result of the development of these four wells. This standard does not apply.

Name of specialist and date: Timothy Novotny 11/29/06

**WATER QUALITY STANDARD:** The proposed action would meet the public land health standard for water quality. Reclamation of the pipeline corridors would be completed immediately after installation to minimize sheet and rill erosion from the corridors. Interim

reclamation of the unused area on the well pads would be completed to minimize sheet and rill erosion from the well sites. When a well pad is no longer needed for production operations, the disturbed well pad would be reclaimed to approximate original contours, topsoil would be redistributed, and adapted plant species would be reseeded. These Best Management Practices will help to reduce accelerated erosion of the sites. No stream segments near this project are listed as impaired.

Name of specialist and date: Barb Blackstun 12/07/06

**UPLAND SOILS STANDARD:** The proposed action would not meet the upland soil standard for land health and it is not expected to while the well locations, pipelines, and access roads are used for operations. The well pad sites, pipeline corridors, and access roads will not exhibit the characteristics of a healthy soil. Several Best Management Practices have been designed into the project or are attached as mitigating measures that would reduce impacts to and conserve soil materials. Upland soil health would return to the well pad, pipeline corridor, and access road disturbances after reclamation practices and well abandonments have been successfully achieved.

Name of specialist and date: Barb Blackstun 12/07/06

**PERSONS/AGENCIES CONSULTED:** Uintah and Ouray Tribal Council, Colorado Native American Commission, Colorado State Historic Preservation Office.

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)**  
**EA CO-100-2008-083**

Based on the analysis of potential environmental impacts contained in the EA and all other available information, I have determined that the proposal and the alternatives analyzed do not constitute a major Federal action that would adversely impact the quality of the human environment. Therefore, an EIS is unnecessary and will not be prepared. This determination is based on the following factors:

1. Beneficial, adverse, direct, indirect, and cumulative environmental impacts have been disclosed in the EA. Analysis indicated no significant impacts on society as a whole, the affected region, the affected interests, or the locality. The physical and biological effects are limited to the Little Snake Resource Area and adjacent land.
2. Public health and safety would not be adversely impacted. There are no known or anticipated concerns with project waste or hazardous materials.
3. There would be no adverse impacts to regional or local air quality, prime or unique farmlands, known paleontological resources on public land within the area, wetlands, floodplain, areas with unique characteristics, ecologically critical areas, or designated Areas of Critical Environmental Concern.
4. There are no highly controversial effects on the environment.
5. There are no effects that are highly uncertain or involve unique or unknown risk. Sufficient information on risk is available based on information in the EA and other past actions of a similar nature.
6. This alternative does not set a precedent for other actions that may be implemented in the future to meet the goals and objectives of adopted Federal, State, or local natural resource related plans, policies, or programs.
7. No cumulative impacts related to other actions that would have a significant adverse impact were identified or are anticipated.
8. Based on previous and ongoing cultural surveys, and through mitigation by avoidance, no adverse impacts to cultural resources were identified or anticipated. There are no known American Indian religious concerns or persons or groups who might be disproportionately and adversely affected as anticipated by the Environmental Justice Policy.

9. No adverse impacts to any threatened or endangered species or their habitat that was determined to be critical under the Endangered Species Act were identified. If, at a future time, there could be the potential for adverse impacts, treatments would be modified or mitigated not to have an adverse effect or new analysis would be conducted.

10. This alternative is in compliance with relevant Federal, State, and local laws, regulations, and requirements for the protection of the environment.

**DECISION AND RATIONALE:** I have determined that approving the two Blue Gravel Well APDs is in conformance with the approved land use plan. It is my decision to implement the project with the mitigation measures provided in the Application for Permit to Drill and the Conditions of Approval. The project will be monitored as stated in the Compliance Plan outlined below.

**MITIGATION MEASURES:** The mitigation measures for this project are found in the file room of the Little Snake Field Office. The APD 13-point surface use plans, well location maps, and the Conditions of Approval are found in the well case files labeled COC1727, Well #7-24, and, COC1727, Well #8-25.

### **COMPLIANCE PLAN(S):**

#### **Compliance Schedule**

Compliance will be conducted during the construction phase and drilling phase to insure that all terms and conditions specified in the lease and the approved APD are followed. In the event a producing well is established, periodic inspections as identified through the Inspection and Enforcement Strategy and independent well observations will be conducted. File inspections will include a review of all required reports and the Monthly Report of Operations will be evaluated for accuracy.

#### **Monitoring Plan**

The well location and access road will be monitored during the term of the lease for compliance with pertinent Regulations, Onshore Orders, Notices to Lessees, or subsequent COAs until final abandonment is granted; monitoring will help determine the effectiveness of mitigation and document the need for additional mitigative measures.

#### **Assignment of Responsibility**

Responsibility for implementation of the compliance schedule and monitoring plan will be assigned to the Fluid Mineral staff in the Little Snake Field Office. The primary inspector will be the Petroleum Engineering Technician, but the Petroleum Engineer, Natural Resource Specialist, Realty Specialist, and Legal Instruments Examiner will also be involved.

**SIGNATURE OF PREPARER:**

**DATE SIGNED:**

**SIGNATURE OF ENVIRONMENTAL REVIEWER:**

**DATE SIGNED:**

**SIGNATURE OF AUTHORIZED OFFICIAL:**

**DATE SIGNED:**