

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:** DOI-BLM-CO-N101-2009-0074EA

**CASEFILE/PROJECT NUMBER/LEASE NUMBER:** COC61491

**PROJECT NAME:** Big Hole Gulch Unit Well #2 & Big Hole Gulch Unit Well #3

**LEGAL DESCRIPTION:**

Big Hole Gulch Unit Well #2, SESE Sec. 8, T11N, R94W, 6<sup>th</sup> P.M.  
Big Hole Gulch Unit Well #3, NWSE Sec. 8, T11N, R94W, 6<sup>th</sup> P.M.

**APPLICANT:** Yates Petroleum 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 Big Hole Gulch Unit Well #2 and #3 would be located within Management Unit 6 (Little Snake Resource Management Plan). One of the objectives of Management Unit 6 is to provide for the development of the oil and gas resource. The development of other resource uses/values within this unit is allowed consistent with the management objectives for oil, gas, and forest resources.

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 June

11, 2009 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 Yates Petroleum Corporation. This oil and gas lease operator proposes to drill two natural gas wells on BLM administered land located in Section 8, T11N, R94W. APDs have been filed for the Big Hole Gulch Unit Well #2 in the SESE Section 8, T11N, R94W and the Big Hole Gulch Unit Well #3 in the NWSE Sec. 8, T11N, R94W with the LSFO that includes drilling and surface use plans. The APDs covers mitigation of impacts to vegetation, soil, surface water, and other resources. Mitigation not incorporated by Yates Petroleum Corporation in the drilling and surface use plans would be attached by the BLM as Conditions of Approval (COA) to an approved APD.

The proposed wells would be located approximately 43.3 miles southwest of Baggs, Wyoming. The approximate date work would start is summer of 2010 and the estimated duration of construction and drilling of the well would be 90 days. Moffat County Roads 4, 7, and 92 would be used to access the well site. Yates Petroleum Corporation proposes to construct 0.4 miles, or 1.2 acres, of new access road on lease. Road construction would conform to BLM specifications for a “resource road,” with a 14-foot wide running surface. All new road construction and upgrading would occur on federally administered 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 7.2 acres would be disturbed for both well pads during construction. This disturbance includes the 375’ by 302’ well pad, the topsoil pile, and subsoil piles to be constructed at each well site. Reserve pits would be constructed on 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 would 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 access road would be reclaimed. Total surface disturbance for the proposed action would be 8.4 acres.

Yates Petroleum Corporation did not include plans for gas sales pipelines with the APD. 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 a gas sales pipeline.

**NO ACTION ALTERNATIVE:** The “no action” alternative is that the wells would not be permitted and therefore no wells would be drilled. Yates Petroleum Corporation holds a valid and current oil and gas lease for the area where the proposed Big Hole Gulch Unit Well #2 & #3 would be located. Under leasing contracts, the BLM has an obligation to allow mineral development if the environmental consequences are not irreversible or too severe. The APD process is designed to overcome the no action situation of not accepting the APD through the mitigation of predicted environmental consequences. The proposed action is consistent with the

ROD and the Oil and Gas Leasing EIS, therefore the no action alternative will not be analyzed further in this EA.

## **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: Shawn Wiser 08/26/09

#### **AREA OF CRITICAL ENVIRONMENTAL CONCERN**

Affected Environment: Not Present.

Environmental Consequences: Not Applicable.

Mitigative Measures: Not Applicable.

Name of specialist and date: Gina Robison 09/01/09

#### **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, *An Isolated Empire, A History of Northwestern Colorado*, Bureau of Land Management Colorado, Cultural Resource Series, Number 2 and *Colorado Prehistory: A Context for the Northern Colorado River Basin*, Colorado Council of Professional Archaeologists.

Environmental Consequences: The proposed project, Big Hole #2 and #3, has undergone a Class III cultural resource survey:

Darlington, David

2009 Class III Cultural Resources Inventory for the Yates Petroleum Corporation Big Hole Gulch Unit #2 Well Pad and Access Road, Moffat County, Colorado (12.41.09)

Johnson, David

2009 Yates Petroleum LLC Big Hole Gulch Unit No. 3 Well Pad and Access Road (12.43.09)

The survey identified no eligible to the National Register of Historic Places cultural resources. The proposed project may proceed as described with the following mitigative measures in place.

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 10/05/09

## **ENVIRONMENTAL JUSTICE**

Affected Environment: The proposed action would be located in an area of isolated dwellings. Oil and gas development and ranching are the primary economic activities.

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

Mitigative Measures: None.

Name of specialist and date: Louise McMinn 09/03/09

## **FLOOD PLAINS**

Affected Environment: Active floodplains and flood prone zones are 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: Shawn Wisner 08/26/09

## **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. Canada thistle and several species of biennial thistles are known to occur in this area. Halogeton, Russian knapweed, dalmation toadflax and hoary cress (whitetop) are present in the vicinity of this project. 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 the wells, constructing the access roads, and other subsequent activities 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, recreation 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. 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 the 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: Shawn Wiser 08/26/09

## **MIGRATORY BIRDS**

Affected Environment: The proposed project area contained productive habitat for Brewer's sparrow and sage sparrow. Both species are listed on the USFWS 2002 Birds of Conservation Concern List. A large wildland fire burned through the project area during the summer of 2008. This removed all potential nesting habitat for both species.

Environmental Consequences: Potential nesting habitat for Brewer's sparrow and sage-sparrow was lost to the wildland fire in 2008. It is not likely that either species would use the project area for many years. The Proposed Action would not impact either species. There is no chance for take to occur.

Mitigative Measures: None.

Name of specialist and date: Timothy Novotny 09/10/09

## **NATIVE AMERICAN RELIGIOUS CONCERNS**

A letter was sent to the Eastern Shoshone, Uinta and Ouray Tribal Council, Southern Ute Tribal Council, Ute Mountain Ute Tribal Council on May 26, 2009. The letter listed the FY2010 projects that the BLM would notify them on and projects that would not require notification. A follow-up phone call was performed on July 26, 2009. 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 10/05/09

## **PRIME & UNIQUE FARMLANDS**

Affected Environment: Not Present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Shawn Wiser 08/26/09

## **T&E AND SENSITIVE ANIMALS**

Affected Environment: There are no threatened or endangered species or habitats for such species within the proposed project area. The proposed well locations for the Big Hole #2 and #3 wells would be within greater sage-grouse breeding and nesting habitat. Greater sage-grouse are a BLM special status species. There are several sage-grouse leks located within two miles of the proposed well sites. One of the lek sites is considered a historic lek site, meaning that it has not been used by greater sage-grouse within the last five years. The remaining two lek sites are active and have had birds using the site in recent years. One of these active leks is located just over ¼ mile from the well pad the other lek site is located approximately 2 miles from the well pad.

Environmental Consequences: The Proposed Action would not have any impact on threatened and endangered species or their habitats. This project may have an impact on greater 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 3.2km 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. Well pads and access road construction would result in a loss of approximately 8.4 acres of lost nesting habitat.

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: CO-30 Sage grouse nesting habitat. Sage grouse leks will be avoided by 2 miles between March 1 and June 30 to protect nesting sage grouse.

Name of specialist and date: Timothy Novotny 09/10/09

## **T&E AND SENSITIVE PLANTS**

Affected Environment: There are no federally listed threatened or endangered or BLM sensitive plant species within or in the vicinity of the proposed wells.

Environmental Consequences: None.

Mitigative Measures: None.

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

## **WASTES, HAZARDOUS OR SOLID**

Affected Environment: The operator has indicated in the APDs for the wells that some hazardous materials would be used during drilling, completion, and production of the proposed wells. The term hazardous materials as used here means: 1) any substance, pollutant, or contaminant (regardless of quantity) listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA, 2)

any hazardous waste as defined in the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, and 3) any nuclear or nuclear byproduct as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq.

The operator or any contracted company working for the operator would have Material Data Safety Sheets available for all chemicals, compounds, or substances which are used during the course of construction, drilling, completion, and production operations for this project. Additionally, all chemicals would be handled in an appropriate manner to minimize the potential for leaks or spills to the environment.

Environmental Consequences: Impacts to soils, surface and groundwater resources, wildlife, vegetation, and human health, could result from the accidental exposure of hazardous materials. Project operations should comply with all applicable federal and state laws concerning hazardous materials, the Hazardous Materials Management Summary for this project, and the operator's Spill Prevention Control and Countermeasure Plan.

Mitigative Measures: None.

Name of specialist and date: Shawn Wiser 08/26/09

## **WATER QUALITY – GROUND**

Affected Environment: The Fort Union aquifer would be penetrated by this well. It is unlikely that potable water would be encountered.

Environmental Consequences: Cementing of the casing would prevent migration of the water.

Mitigative Measures: None.

Name of specialist and date: Jennifer Maiolo 09/09/09

## **WATER QUALITY – SURFACE**

Affected Environment: The project area would be located on rolling hills north of Great Divide, CO. Runoff water from the affected area would drain towards an unnamed, intermittent tributary of the Little Snake River. This segment of the Little Snake River must have water quality sufficient to support Aquatic Life Cold 1, Recreation 1a, Water Supply and Agriculture. All stream segments within the affected environment are presently supporting their classified uses.

Environmental Consequences: Existing improved roads have been surveyed and designed appropriately to adequately handle the surface water drainage that would be intercepted and channeled down road ditches. The well pad locations would require construction of short access road of about 1.1 miles total. Construction of the roads, well pads and installation of

the specific drainage features would follow the recommendations provided in the Surface Operating Standards for Oil and Gas Development, 4<sup>th</sup> Edition. Increased sedimentation to the Little Snake 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, mitigation provided in the Surface Use Plan for the proposed action, as well as the surface mitigation contained in the Conditions of Approval, would reduce the potential to have excessive sediments and salts in runoff water from the site.

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, surface drainages affected by the roads, well pads, or well pad embankments.

Name of specialist and date: Shawn Wiser 08/26/09

#### **WETLANDS/RIPARIAN ZONES**

Affected Environment: There are no wetlands or riparian zones present within the proposed project area.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Timothy Novotny 09/10/09

#### **WILD & SCENIC RIVERS**

Affected Environment: Not Present.

Environmental Consequences: Not Applicable.

Mitigative Measures: Not Applicable.

Name of specialist and date: Gina Robison 09/01/09

#### **WSAs, WILDERNESS CHARACTERISTICS**

Affected Environment: Not Present.

Environmental Consequences: Not Applicable.

Mitigative Measures: Not Applicable.

Name of specialist and date: Gina Robison 09/01/09

## **NON-CRITICAL ELEMENTS**

### **FLUID MINERALS**

Affected Environment: Hydrocarbon zones would be penetrated by the well.

Environmental Consequences: The cementing of the hydrocarbon zones would isolate and protect the fluid minerals.

Mitigative Measures: None.

Name of specialist and date: Jennifer Maiolo 09/09/09

### **RANGE MANAGEMENT**

Affected Environment: The proposed wells would be located within the Piskwik grazing allotment. This allotment is permitted for cattle grazing from May through December. There is a water well and associated pipeline approximately two miles to the south west of the proposed gas well (BLM range improvement project #001241). The water well and pipeline were developed to deliver water for livestock grazing throughout the allotment and also to the neighboring allotment to the west.

Environmental Consequences: The proposed gas wells and associated road construction would remove 8.4 acres of native vegetation. This loss of vegetation and associated disturbance from vehicle traffic, noise and human presence may cause the cattle to alter their distribution pattern. This may result in over utilization of the vegetative resources in other parts of the grazing allotment. Gates leading into the allotment could be left open by the drilling crew and other personnel, which could lead to possible livestock trespass situations. The presence of livestock may hinder reclamation efforts.

There is a possibility that the drilling of the gas wells may contaminate the water.

Mitigative Measures: Installation of a cattle guard at gate locations would prevent livestock from leaving the allotment through an open gate. Fencing of the well pads during reclamation efforts may help the establishment of native vegetation. Water testing would be conducted prior to the drilling of the gas wells and again after drilling is complete to ensure water quality is not compromised.

Name of specialist and date: Kathy McKinstry 09/08/09

### **SOILS**

Affected Environment: The proposed Big Hole Gulch Unit Well #2 would be found within the Fonce sandy loam complex soil-mapping unit. Slopes within this unit average 1 to 8 percent. These soils are derived from Eolian deposits and are well drained. Runoff is medium, the hazard of water erosion is moderate, and the hazard of soil blowing is moderate. These Class 6c soils have limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, or wildlife habitat. The soils in this class are subject to little or no erosion.

The proposed Big Hole Gulch Unit Well #3 would be found within the Ryark-Maybell complex soil-mapping unit. Slopes within this unit average 1 to 12 percent. These soils are Eolian deposits derived from sandstone and are somewhat excessively drained. Runoff is low to very low. These Class 4e soils have limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, or wildlife habitat. The main hazard is the risk of erosion unless close-growing plant cover is maintained.

Environmental Consequences: Increased soil erosion from wind and water would occur during construction of the well pad, pipelines, and access road. Erosion would continue throughout the operational life of the wells. Loss of topsoil, soil compaction, and possible increases in sediment loads to drainages are impacts most likely to occur. Soil erosion would be reduced by mitigation described in the Surface Use Plan and Conditions of Approval in the approved APD.

Mitigative Measures: None.

Name of specialist and date: Shawn Wiser 08/26/09

## **UPLAND VEGETATION**

Affected Environment: The Big Hole Gulch Unit Well #2 and #3 would be located in a loamy 7-10" range site. This range site typically supports a vegetation community made up of Wyoming big sagebrush, Indian ricegrass, needleandthread grass, streambank wheatgrass, Sandberg's bluegrass, western wheatgrass and prairie junegrass. Species present on site included Wyoming big sagebrush, prickly pear cactus, long-leafed phlox, buckwheat, prickly phlox, aster, globemallow, Sandberg's bluegrass, Indian ricegrass, needleandthread, bluebunch wheatgrass, western wheatgrass and prairie junegrass. The vegetation exhibited good density, diversity and vigor.

Environmental Consequences: The proposed wells would completely remove the vegetation from 7.2 acres on Federal surface and the access road would remove an additional 1.2 acres. While this removal would be relatively minor in the larger landscape, it would be in addition to numerous other plant community intrusions such as several two-track roads, other gas wells, fences, water wells and pipelines. All or part of the area disturbed could be reclaimed in the short term if the wells fail to produce, but if the wells produce, a portion of the total disturbance would be reclaimed as the drilling pads would be

shrunk down after well completion. The developed access roads would remain if the wells are producing wells. In the long term, after the life of the producing wells has ended, all disturbances would be reseeded to native vegetation per the drilling and surface use plans. It would be imperative that all COAs regarding weed control and revegetation are followed to avoid increasing cheatgrass (*Bromus tectorum*) presence on and in areas surrounding the proposed action. As long as weeds are controlled and all disturbed areas are reseeded to prescribed mixes of native plant species and establishment is ensured as required, the negative impacts to the native plant communities would be effectively mitigated.

Mitigative Measures: None.

Name of specialist and date: Kathy McKinstry 09/08/09

**WILDLIFE, TERRESTRIAL**

Affected Environment: The proposed well pads and access roads would be within year round habitat for mule deer, elk and pronghorn antelope. A variety of small mammals, song birds and reptiles may also be found within the project area.

Environmental Consequences: Approximately 8.4 acres of wildlife habitat would be destroyed as a result of construction and drilling of these two wells. This includes disturbances for access roads. Impacts to wildlife 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, increased stress and loss of habitat. Surrounding habitat in undisturbed areas should be capable of supporting any displaced wildlife. Once construction and drilling have been completed, most wildlife would be able to reoccupy areas surrounding well sites. If these wells produce, some wildlife may choose to avoid the well locations due to human activity.

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.

Mitigative Measures: CO-09 No surface disturbing activities between Dec 1 and April 30 in order to protect wintering big game animals.

Name of specialist and date: Timothy Novotny 09/10/09

**OTHER NON-CRITICAL ELEMENTS:**

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Forest Management	SW		

	08/26/09		
Hydrology/Ground			See Water Quality-Ground
Hydrology/Surface		SW 08/26/09	
Paleontology		JAM 09/09/09	
Range Management			See Range Management
Realty Authorizations	LM 09/03/09		
Recreation/Transportation		GMR 09/01/09	
Socio-Economics		LM 09/03/09	
Solid Minerals		JAM 09/09/09	
Visual Resources		GMR 09/01/09	
Wild Horse & Burro Mgmt	SW 08/26/09		
Wildlife, Aquatic	TN 09/10/09		

**CUMULATIVE IMPACTS SUMMARY:** Cumulative impacts may result from the development of the Big Hole Gulch Unit Well #2 and #3 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 area. Past or existing actions near the project area would influence the landscape include wildfire, recreation, hunting, grazing, and ranching activities. Cumulative impacts to the livestock grazing operations in the area are also increased through the Proposed Action. The grazing allotment in which the well is proposed is a winter cattle allotment. The growth in wells, roads, and human activity may reduce the availability of forage in this area far beyond direct impacts caused by construction Halogeton which has increased among the new roads and well pads is toxic to livestock. The resulting impact to grazing activities permitted in the area could be a loss of available Animal Unit Months (AUMs), i.e. a loss of the amount of livestock that the allotment can reasonably carry.

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. Displacement of hunters and recreationists during the short-term construction and drilling periods would occur. 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 project area provides healthy productive wildlife habitat for a variety of species including big game, small mammals, song birds and reptiles. The development of the proposed wells would result in a loss of approximately 8.4 acres of habitat as a result of this project. If the wells produce, a larger area surrounding the well pads would likely be avoided by some wildlife. Surrounding habitat is sufficient to ensure that populations are not negatively impacted by this project. This standard is currently being met and would continue to be met in the future.

Name of specialist and date: Timothy Novotny 09/10/09

**SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (animal) STANDARD:** There are no threatened or endangered animals species or habitat for such species in or near the project area. The proposed well sites are within greater sage-grouse breeding and nesting habitat. If construction or drilling activities were conducted during the nesting season, it is likely that greater sage-grouse nesting success would decrease in the project area. Timing restrictions would ensure that nesting sage-grouse are protected from disturbances. The loss of 8.4 acres of nesting habitat is not likely to affect sage-grouse. This standard is currently being met and would continue to be met in the future.

Name of specialist and date: Timothy Novotny 09/10/09

**PLANT AND ANIMAL COMMUNITY (plant) STANDARD:** The Proposed Action would completely remove 8.4 acres of native vegetation. As long as the COAs concerning revegetation and weed control are faithfully adhered to, the native plant community would eventually return and weeds such as halogeton and cheatgrass would be kept under control, and thus meet this standard.

Name of specialist and date: Shawn Wiser 10/20/09

**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 wells. This standard does not apply.

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

**RIPARIAN SYSTEMS STANDARD:** There are no wetlands or riparian systems within the proposed project boundary. This standard does not apply.

Name of specialist and date: Timothy Novotny 09/10/09

**WATER QUALITY STANDARD:** The proposed action would meet the public land health standard for water quality. Interim reclamation of the unused area on the well pads would be completed to minimize sheet and rill erosion from the well sites. When the well pads and access roads are no longer needed for production operations, the disturbed area would be reclaimed. No stream segments near this project are listed as impaired.

Name of specialist and date: Shawn Wiser 08/26/09

**UPLAND SOILS STANDARD:** The proposed action would not meet the upland soil standard for public land health, and it is not expected to while the well pads and access roads are used for drilling and production operations. The disturbed area would not exhibit characteristics of a healthy soil. Mitigation detailed in the APD and standards from the “Gold Book” would help to reduce erosion. Upland soil health would return to the well pads and access roads after the project areas have been successfully reclaimed.

Name of specialist and date: Shawn Wiser 08/26/09

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

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)**  
**DOI-BLM-CO-N101-2009-0074EA**

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 this APD 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 12-point surface use plan, well location maps, and the Conditions of Approval are found in the well case file labeled COC61491 Big Hole Gulch Unit Well #2 and COC61491 Big Hole Gulch Unit Well #3 .

**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 Land Law Examiner will also be involved.

**SIGNATURE OF PREPARER:**

**DATE SIGNED:**

**SIGNATURE OF ENVIRONMENTAL REVIEWER:**

**DATE SIGNED:**

**SIGNATURE OF AUTHORIZED OFFICIAL:**

**DATE SIGNED:**