

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-100-2007-079EA

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

COC63509: Culverwell 13-3H

**PROJECT NAME:** Culverwell 13-3H

**LEGAL DESCRIPTION:** NENW Sec. 3, T7N, R93W, 6<sup>th</sup> PM, Moffat County, Colorado

**APPLICANT:** Pioneer Natural Resources USA, Inc.

**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 Culverwell 13-3H would be located within Management Unit 1 (Little Snake Resource Management Plan). The objectives of Management Unit 1 are to provide for the development of coal, oil, and gas 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 Notice of Staking (NOS) has been posted in the public room of the Little Snake Field Office for a 30-day public review period beginning October 15, 2006 when the NOS was 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 one Application for Permit to Drill (APD) submitted by Pioneer Natural Resources USA, Inc. Pioneer Natural Resources proposes to drill one coal bed methane well on private land located in Section 3, T7N, R93W. An APD has been filed with the LSFO for the well, the Culverwell 13-3H. The APD includes drilling and surface use plans that cover mitigation of impacts to vegetation, soil, surface water, and other resources. Mitigation not incorporated by Pioneer Natural Resources in the drilling and surface use plans would be attached by the BLM as Conditions of Approval to the approved APD.

The proposed well is located approximately 20 miles northwest of Craig, Colorado. Construction work is planned to start in the summer of 2007 and the estimated duration of construction and drilling is 20 days. Access to the well is off Moffat County road 15. 4,300' of newly constructed road would be used to access the well. The road would be constructed on private surface. Total surface disturbance for new road construction would be approximately 4 acres.

The proposed well pad would be cleared of all vegetation and leveled for drilling. Topsoil and native vegetation would be stockpiled for use in reclamation. Approximately 1.5 acres would be disturbed for construction of the well pad. This would include the 200' by 300' well pad, the topsoil, and subsoil piles. A reserve pit would be constructed on the well pad to hold drill mud and cuttings. If the well is a producer, cut portions of the well site would be backfilled and unused portions of the well site would be stabilized and re-vegetated. If the well proves unproductive, it would be properly plugged and the entire well pad and access road would be reclaimed.

All construction of the well pad and road would be on private surface. Total surface disturbance for the proposed action would be 5.5 acres.

**NO ACTION ALTERNATIVE:** The no action alternative is that the well would not be permitted and therefore the well would not be drilled. Pioneer Natural Resources USA, Inc. is the holder of a valid and current oil and gas lease for the area where the proposed well is 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 conditions of the lease. Since the proposed action is consistent with the ROD and the Oil and Gas Leasing EIS, rejecting the APD for the well is not a reasonable alternative and 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: Roy McKinstry 05/21/07

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

Affected Environment: Not present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 06/06/07

### **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, Culverwell 13-3H, has undergone a Class III cultural resource survey:

Piontkowski, Michael

2007. Report of the Class III Inventory for the Pioneer Natural Resources Culverwell 13-3 HZ and Princeton 12-3 wells and access road, Moffat County, Colorado (BLM#145.7.07)

The survey identified no sites that would be eligible for the National Register of Historic Places cultural resources. The proposed project may proceed as described in this EA 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 06/04/07

## **ENVIRONMENTAL JUSTICE**

**Affected Environment:** The proposed action is located in an area of isolated dwellings. Ranching, farming and oil and gas development 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 action. The proposed action 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: Mike Andrews 05/24/07

## **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: Roy Mc Kinstry 05/21/07

## **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, on well pads and on other disturbed areas. Canada thistle and several species of biennial thistles are known to occur in this area. Russian knapweed, dalmation toadflax and hoary cress (whiteweed) exist in the vicinity of these proposed well pads. Other species of noxious weeds are not known to be a problem in this area, but could be introduced from other areas. 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 well, constructing the access road and other subsequent activities would create a favorable environment and provide a mode of transport for noxious weeds to become established. These weeds can be spread through a variety of means including by vehicular travel, construction equipment, gravel applications on roads, wind, water, wildlife and livestock movement. 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. 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.

Mitigation attached as Conditions of Approval to minimize disturbance and obtain successful interim reclamation of the unused areas of the well pad and the access road, 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 05/29/07

## **MIGRATORY BIRDS**

Affected Environment: There are four historic ferruginous hawk nests within one mile of the proposed well location. These records date back to 1982. A survey conducted within the project area during the summer of 2006 did not locate these nests. Habitat for Brewer's sparrows and sage sparrows is present with the project area as well. All three of these species are listed on the U.S. Fish and Wildlife Service's 2002 Birds of Conservation Concern list.

Environmental Consequences: There should be no impact to ferruginous hawks. Construction and drilling activities that are conducted outside of the nesting season would not impact Brewer's sparrow or sage sparrow. If conducted during the nesting season (May – August) there is a chance a nest could be present and impacted by these activities. Chance of take is during the nesting season is moderate.

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 06/01/07

## **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 06/04/07

## **PRIME & UNIQUE FARMLANDS**

Affected Environment: Not present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 05/21/07

### **T&E SPECIES – ANIMALS**

Affected Environment: There are no threatened or endangered wildlife species or habitat for such species present within the project area. An active greater sage-grouse lek is known to occur near the project area. The lek is located a little over a half mile from the proposed well location.

Environmental Consequences: The sage grouse lek site should not be impacted by construction or drilling activities. Breeding grouse could be impacted if these activities occur during the breeding season March 1 through May 15. Nesting grouse could be impacted by these activities if they occur between March 1 and June 30. If conducted outside of these time periods, it is not likely to have a negative impact to individual sage grouse. Approximately 5.5 acres of habitat would be lost as a result of the proposed action. This should not have an impact to sage grouse's ability to find suitable nest sites.

Mitigative Measures: C0-30, No surface disturbing activities between March 1 and June 30 in order to protect breeding and nesting sage grouse.

Name of specialist and date: Timothy Novotny 06/01/07

### **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 05/30/07

### **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 5/30/07

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

Affected Environment: If a release does occur, the environment affected would be dependent on the nature and volume of material released. If there are no releases, there will 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: Roy McKinstry 05/21/07

### **WATER QUALITY/HYDROLOGY – GROUND**

Affected Environment: The surface formation is the Cathedral Bluffs Tongue of the Wasatch Formation covered by Quaternary alluvium. This formation could hold fresh water in its minor sandstone horizons but potable water is unlikely.

Environmental Consequences: Proper construction practices and drilling practices coupled with best management practices should result in no impact to groundwater aquifers. No impact to water quality is anticipated to result from the proposed action. A geologic and engineering review was performed on the 8-point drilling plan to ensure that the cementing and casing programs adequately protect the down-hole resources. The entire hole is cased with cement behind pipe.

Mitigative Measures: None.

Name of specialist and date: Marilyn D. Wegweiser 05/21/07

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

Affected Environment: The project area is located on hillslopes north of Big Gulch, a tributary of Lay Creek. Runoff water from the project area would flow in a southerly direction through several unnamed drainages and Big Gulch, tributaries of Lay Creek, which drains into the Yampa River. All stream segments within the affected environment are presently supporting their classified uses.

Environmental Consequences: Impacts 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. Increased sedimentation to 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 to an acceptable level.

Pipelines would transport produced water from the proposed well location to the state permitted Walker water disposal and treatment facility and holding ponds located on private land in the center NE Sec. 12, T7N, R93W.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 06/04/07

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

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

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Timothy Novotny 06/01/07

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

Affected Environment: Not present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 06/07/07

#### **WILDERNESS, WSAs**

Affected Environment: Not present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 06/07/07

## **NON-CRITICAL ELEMENTS**

### **FLUID MINERALS**

**Affected Environment:** The proposed action is in favorability zone 4 (highest for oil and gas potential). This well would penetrate the Wasatch, Fort Union, Lance, Lewis Shale, and Mesaverde Formations.

**Environmental Consequences:** None.

**Mitigative Measures:** The Drilling Plan follows Onshore Order #2. Operator committed measures in the Eight Point Drilling Plan will bring cement back to surface and cementing the production casing should prevent communication and commingling.

Name of specialist and date: Marilyn D. Wegweiser 05/24/07

### **PALEONTOLOGY**

**Affected Environment:** Paleontological resources in Sec. 3, T7N, R93W are comprised of rocks of the Cathedral Bluffs Tongue of the Wasatch Formation, overlain by Quaternary alluvium. It is about 1,200 ft thick in vicinity of Lookout Mountain, CO. The Cathedral Bluffs Tongue overlies and intertongues with Tipton Tongue sediments of the Green River formation (formerly the Tipton shale member of the Green River). It underlies the Laney Shale member of Green River formation and is considered to be of Eocene age. Vertebrate fossils found in the Cathedral Bluffs Tongue include *Notharctus* and *Hyracotherium*; both fossils are early Eocene perissodactyls. The upper contact of Cathedral Bluffs Tongue of the Wasatch Formation has been revised in Moffat Co, CO and adjoining WY on the east side of the Washakie basin of the Greater Green River basin. The Cathedral Bluffs Tongue underlies a 200-324 ft thick gray and green mudstone that is interbedded with brown oil-shale, gray-brown silty kerogenaceous shale, gray or tan sandstone and siltstone and gray shale named Godiva Rim Member of Green River Formation.

**Environmental Consequences:** *PYFC: Class 3b* – Unknown Potential. Units exhibit geologic features and preservational conditions that suggest significant fossils could be present, but little information about the paleontological resources of the unit or the area is known. This may indicate the unit or area is poorly studied, and field surveys may uncover significant finds. It is the intent that the units in this Class will eventually be placed in another Class when sufficient survey and research is performed. The unknown potential of the units in this Class should be carefully considered when developing any mitigation or management approaches.

(1) Management concern for paleontological resources is moderate; or cannot be determined from existing data.

(2) Surface-disturbing activities may require field assessment to determine appropriate course of action.

**Mitigative Measures:** Unusual occurrences of plant and invertebrate fossils should be recorded, and representative examples may be collected if appropriate. Concentrations of common plant or invertebrate fossils that may be suitable for public hobby collection areas should also be noted and reported to the Field Office paleontology program coordinator or paleontology program lead. Additional mitigation measures may be appropriate in some cases for these types of localities.

If vertebrate fossil material is discovered during construction activities, surface disturbing actions shall halt until an assessment of the find is completed and appropriate protection measures taken. The Authorized Officer should be notified as soon as possible of the discovery and any mitigation efforts that were undertaken. If the find cannot be mitigated within a reasonable time, the concurrence of the Authorized Officer or official representative for a longer work stoppage must be obtained. Work may not resume until approval is granted from both the PI or Field Agent and the Authorized Officer.

From a paleontology program perspective, it is clear that paleontological resources would be protected by operator committed measures and that paleontological resources will not immediately be impacted by the proposed action.

**Additionally:**

*Paleontology:* During operations, if any vertebrate paleontological resources are discovered, in accordance with Section 6 of Form 3100-11 and 43 CFR 3162.1, all operations affecting such sites shall be immediately suspended, and all discoveries shall be left intact until authorized to proceed by the Authorized Officer. The appropriate Authorized Officer of the Little Snake BLM office shall be notified within 48 hrs of the discovery, and a decision as to the preferred alternative/course of action will be rendered.

Name of specialist and date: Marilyn D. Wegweiser 05/24/07

*References:*

Sears, J.D., and Bradley, W.H., 1924, Relations of the Wasatch and Green River formations in northwestern Colorado and southern Wyoming, with notes on oil shales in the Green River formation, IN Shorter contributions to general geology, 1923-24: U.S. Geological Survey Professional Paper, 132-F, p. F93-F107.

Roehler, H.W., 1991, Revised stratigraphic nomenclature for the Wasatch and Green River Formations, IN Geology of the Eocene Wasatch, Green River, and Bridger

(Washakie) Formations, greater Green River basin, Wyoming, Utah, and Colorado: U.S. Geological Survey Professional Paper, 1506-B, p. B1-B38.

## **SOILS**

**Affected Environment:** The proposed well site is found within the Rock River sandy loam soil-mapping unit. Slopes within this unit average 3 to 12 percent. These soils are very deep, well drained, and formed in eolian deposits and residuum derived from sandstone. They are found on alluvial fans, benches, and hillslopes. Runoff is rated as medium and the hazard of water erosion is moderate. The hazard of soil blowing is moderate

**Environmental Consequences:** Increased soil erosion from wind and water would occur during construction of the well pad, pipeline, and access road. 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.

Erosion control measures would be utilized along the well pad embankments near the ephemeral drainages adjacent to the well pad. Soil erosion would be reduced by mitigation described in the Surface Use Plan and Conditions of Approval in the approved APD.

**Mitigative Measures:** Construction or other surface-disturbing activities would not be allowed when the soils are saturated to a depth of more than 3 inches. Vehicle use will be limited to existing roads. Before reserve pits, production pits, or emergency pits can be reclaimed all residue will be removed and trucked off site to an approved disposal site.

Name of specialist and date: Roy McKinstry 05/21/07

## **SOLID MINERALS**

**Affected Environment:** Coal bed within the Wasatch, Fort Union, Lewis Shale and Mesaverde would be penetrated by this well. Cementing and casing of the drill hole should protect the solid minerals encountered.

**Environmental Consequences:** None.

**Mitigative Measures:** Casing and cementing of the entire drill hole.

Name of specialist and date: Jennifer Maiolo 06/01/07

## **VEGETATION**

**Affected Environment:** The proposed action is located within a sagebrush-grass plant community. Dominant plants present include basin big sagebrush (*Artemisia tridentata*)

*tridentata*), prickly pear (*Opuntia* spp.), western wheatgrass (*Agropyron smithii*), and Indian ricegrass (*Oryzopsis hymenoides*). The site also has a high abundance of non-native cheatgrass (*Bromus tectorum*). At the time of the on-site in November, 2006, the site exhibited heavy to severe utilization on nearly all plants. Little grass was present within the interspaces between shrubs and cactus. The only grasses that had gone to seed were located within the prickly pear plants. Some sagebrush plants exhibited severe browsing and some prickly pear plants had signs of use.

**Environmental Consequences:** The proposed action would completely remove approximately 5.5 acres of native vegetation. This removal would be minimal within the larger plant community and would be reduced upon interim reclamation if the well is a producer or completely if the well does not produce. Given the high levels of grazing use occurring on the site and the susceptibility of this community to cheatgrass invasion, reclamation would likely be unsuccessful unless reseeded areas are fenced until seeded species are established.

**Mitigative Measures:** After areas are reseeded as a part of either interim or final reclamation, all reseeded areas would be fenced with three-strand barbed wire fencing. The fencing may be removed after seeded species have established to the level required to release the bond.

Name of specialist and date: Hunter Seim 05/30/07

## **VISUAL RESOURCES**

**Affected Environment:** Visual Resource Management (VRM) classifications for the proposed project area include: Class II (low levels of landscape change are allowed which should not attract the attention of casual observers. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant features of the landscape).

**Environmental Consequences:** The proposed action will impact existing VRM classifications.

**Mitigative Measures:** In addition to standard stipulations, low profile tanks to reduce the visual profile would provide sufficient mitigation.

Name of specialist and date: Roy McKinstry 06/07/07

## **WILDLIFE, TERRESTRIAL**

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

Environmental Consequences: Construction of the well pad and access road would displace big game species. Activities occurring during the winter months (December - April) may cause increased stress to wintering elk. During severe winters this could impact elk. If these activities force elk to move out of the area into lesser quality habitat, individuals may have difficulty surviving hard winters. If these activities occur outside of the winter months, big game animals would still be displaced however, surrounding undisturbed habitat should be sufficient to support displaced animals.

Small mammals such as rabbits do not appear to have been impacted by the development which has occurred in the project area. Construction activities associated with access road and well pad development could result in the entrapment and death of burrowing mammals and reptiles. If conducted during the nesting period (February – August) these activities could result in nest abandonment or destruction. This would not result in any impacts to any species populations.

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

Name of specialist and date: Timothy Novotny 06/01/07

**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			JAM 06/01/07
Forest Management	RM 05/21/07		
Hydrology/Ground			MW 05/21/07
Hydrology/Surface			RM 06/04/07
Paleontology			MW 05/24/07
Range Management		HS 05/30/07	
Realty Authorizations	MAA 05/24/07		
Recreation/Transportation		RS 05/22/07	
Socio-Economics		MAA 05/24/07	
Solid Minerals			JAM 06/01/07
Visual Resources			RM 06/07/07
Wild Horse & Burro Mgmt	RM 05/21/07		
Wildlife, Aquatic	TN 06/01/07		

**CUMULATIVE IMPACTS SUMMARY:** Cumulative impacts may result from the development of the well 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 Lay, CO area. Currently numerous producing wells exist within a one-mile radius of the proposed well. 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. 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 proposed project area provides productive habitat for a variety of wildlife species. As mitigated, this project would not negatively impact any species populations. This standard is currently being met and would continue to be met in the future.

Name of specialist and date: Timothy Novotny 06/01/07

**SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (animal) STANDARD:** There are no threatened, endangered species or habitat for such species present within the project area. The project does contain breeding and nesting habitat for greater sage-grouse, a BLM special status species. If construction and drilling activities occur outside of the breeding and nesting season, greater sage-grouse should not be negatively impacted by this project. This standard would continue to be met in the future.

Name of specialist and date: Timothy Novotny 06/01/07

**PLANT AND ANIMAL COMMUNITY (plant) STANDARD:** The area that would be affected by the proposed action is not currently meeting this standard. While the plant community is exhibiting signs of repeated heavy to severe use by grazing animals and it is highly

susceptible to invasion by cheatgrass under any level of disturbance. Successful reclamation and restoration of this site, including effective weed control, would depend on protecting reseeded areas from such heavy use. If fencing is implemented along with required weed control and seeding of the well pad, the proposed action would meet this standard.

Name of specialist and date: Hunter Seim 05/30/07

**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 05/30/07

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

Name of specialist and date: Timothy Novotny 06/01/07

**WATER QUALITY STANDARD:** The proposed action would meet the public land health standard for water quality. Reclamation of the utility trenches would occur shortly after utility line installation to minimize sheet and rill erosion from the corridors. Interim reclamation of the unused area on the well pad would be completed shortly after drilling to minimize sheet and rill erosion from the well site. When the well pad is no longer needed for production operations, the disturbed areas would be reclaimed to approximate original contours, topsoil would be redistributed, and adapted plant species would be reseeded. These Best Management Practices would help to reduce accelerated erosion of the site. No stream segments near this project are listed as impaired.

Name of specialist and date: Roy McKinstry 6/04/07

**UPLAND SOILS STANDARD:** The proposed action would not meet the upland soil standard for land health, and it is not expected to while this well location and access road are used for operations. The drilling and production site, pipeline, and access road will not exhibit the characteristics of a healthy soil. Several Best Management Practices have been designed into the project or would be attached as mitigating measures that would reduce impacts to and conserve soil materials. The pipeline corridor would exhibit unhealthy upland soil characteristics initially, but within one to two years following reclamation the soil health will be moving toward the upland soil standard. Upland soil health would return to the well pad and access road disturbances after well abandonment and reclamation practices have been successfully achieved.

Name of specialist and date: Roy McKinstry 05/21/07

**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-100-2007-079**

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 Culverwell 13-3H Well 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 13-point surface use plan, well location map, and the Conditions of Approval are found in the well case file labeled COC63509, Culverwell 13-3H Well.

**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:**