

**39.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-N010-2010-0092EA

**CASEFILE/PROJECT NUMBER/LEASE NUMBER:** COC 74447

**PROJECT NAME:** Williams Fork Land Company Coal Exploration License

### **LEGAL DESCRIPTION:**

#### **Township 6 N, Range 89 W, 6<sup>th</sup> P.M.**

- Section 31: Lots 5 to 6, inclusive, and Lot 11, inclusive;
- Section 32: Lot 4, inclusive.

#### **Township 6 N, Range 90 W, 6<sup>th</sup> P.M.**

- Section 26: Lots 4 to 6, inclusive, and Lots 11 to 14, inclusive;
- Section 27: Lots 1 to 2, and 5 to 16, inclusive;
- Section 28: Lot 2, inclusive, Lots 7 to 11, inclusive, and Lots 14 to 16, inclusive;
- Section 33: Lots 1 to 8, inclusive;
- Section 34: Lots 1 to 16, inclusive;
- Section 35: Lots 1 to 16, inclusive.

#### **Township 5 N, Range 89 W, 6<sup>th</sup> P.M.**

- Section 5: Lots 5 to 19, inclusive, and Tr 43;
- Section 6: Lots 1, 2, 4, 6 to 7, inclusive, S/2NE/4, SE/4, and E/2SW/4;
- Section 7: Lots 1 to 3, inclusive, E/2NW/4, NE/4, N/2SE/4, and NE/4SW/4;
- Section 8: Lots 1 to 7, inclusive, Lots 10 to 13, inclusive, and E/2NE/4.

#### **Township 5 N, Range 90 W, 6<sup>th</sup> P.M.**

- Section 1; Lots 5 to 20, inclusive;
- Section 2: Lots 5 to 20, inclusive;
- Section 3: Lots 5 to 18, inclusive;
- Section 4: Lots 5 to 16, inclusive, and Lots 18 to 20, inclusive;

Section 10: Lot 4, inclusive;  
Section 11: Lots 1 to 8, inclusive;  
Section 12: Lots 1 to 12, inclusive.

These lands contain 8,690 acres, more or less.

**APPLICANT:** Williams Fork Land Company

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

Name of Plans: Little Snake Resource Management Plan and Record of Decision

Date(s) Approved: April 26, 1989

Results: The proposed action has been reviewed for conformance with this plan (43 CFR 1610.5, BLM 1617.3). The proposed action is in conformance with the objectives for Management Unit 1.

Remarks: The proposed Williams Fork Land Company Exploration License is located within Management Unit 1 (Little Snake Resource Management Plan). This unit is rated as possessing the highest favorability for the occurrence of coal, and oil and gas resources in the Little Snake Resource Area. The objectives of Management Unit 1 are to realize the potential for development of coal, oil, and gas resources.

**PURPOSE AND NEED FOR PROPOSED ACTION:** The purpose of the proposed action is to make federal coal available for exploration drilling. The need for the proposed action is established by BLM's responsibility, primarily under the Mineral Leasing Act (MLA) and the Federal Coal Leasing Amendments Act (FCLAA), to respond to a coal exploration license application submitted by Williams Fork Land Company. Williams Fork Land Co. needs geologic, coal quality, and technical information to delineate and assess the coal resources in an area of un-leased Federal coal.

**PUBLIC SCOPING PROCESS:** The action in this EA is included in the NEPA log posted on the LSFO web site: [http://www.blm.gov/co/st/en/BLM\\_Information/nepa/lsfo.html](http://www.blm.gov/co/st/en/BLM_Information/nepa/lsfo.html). A Notice of Availability to participate in the exploration license was published in the Federal Register and also in local newspapers. No comments were received.

**BACKGROUND:** Williams Fork Land Company wants to conduct exploration activities in 2011 through 2013 to obtain geologic and coal quality information needed to assess coal recovery potential and economic feasibility of coal resources. The exploration license area is approximately 8,690 acres of federal coal. The surface is privately owned by various entities. All drill holes will be plugged and all surface disturbances will be reclaimed; bonds will be in place before the exploration license is issued.

## **DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:**

**PROPOSED ACTION:** Williams Fork Land Company proposes to drill 39 coal exploration holes into federally controlled coal in an 8,690 acre area. The surface is comprised of 80.85 acres of BLM and 8,609.15 acres of private surface ownership. A coal exploration license is issued for two years.

Access to the site and to the drill pads would be by use of existing Routt County roads, unimproved ranch roads and jeep trails. Minor road maintenance to keep the roads passable by the equipment may be required during operations. There may be limited instances where direct access to the proposed drill-site is not possible using the existing road network. In these circumstances, drilling equipment would be moved overland the short distance between the existing roadway and proposed exploration drill pad without constructing a new road. Vehicular travel on other than established, graded and surfaced roads would be limited to that absolutely necessary to conduct the exploration activities. Travel would be confined to graded and surfaced roads during periods when excessive damage to vegetation or rutting of the land surface could result.

Drill sites would be located on gentle slopes or bench areas to minimize grading requirements. Maximum drill pad dimensions would be 100 X 100 feet. Prior to earth moving or excavations topsoil would be salvaged and stored in an area that would be undisturbed and not subject to excessive wind or water erosion. Shortly after cessation of operations at a given site, the area would be graded and topsoil replaced and the areas re-seeded with an appropriate seed mix. Excavation and re-grading would be expected to be accomplished using track dozing equipment and/or backhoes.

Shallow pits dug by a mobile backhoe would be used at the drill sites to collect the drill cuttings. Mud pits are not expected to be necessary; however, if they are required they would be excavated with a backhoe and filled and graded during the course of site rehabilitation. Any runoff and associated suspended sediment from the drill pad would be controlled and contained by a perimeter berm or silt fence on the down gradient side(s) of the drill pad. All surface disturbances and drill holes would be reclaimed to BLM standards.

The drill-rig would be a truck-mounted, rubber-tired unit, capable of operating in rough terrain. Support equipment for each drill-rig would include, but not be limited to, a water truck, pipe truck and/or pipe trailer, rig-up truck, air compressor, core trailer, and two or three 4 X 4 pickups for drill-crews and company representatives. Holes would be drilled to an average depth of 266 feet and drill hole depths would not exceed 550 feet.

**NO ACTION ALTERNATIVE:** This alternative would deny Williams Fork Land Company an exploration license and authorization to drill 39 exploration holes. No geologic and coal quality data about the resource would be obtained. No new surface or drill hole disturbance would occur.

**AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES**

For the following resources and issues, those brought forward for analysis will be addressed below.

<b>Resource/Issue</b>	<b>N/A or Not Present</b>	<b>Applicable or Present, No Impact</b>	<b>Applicable &amp; Present and Brought Forward for Analysis</b>
Air Quality			X
Areas of Critical Environmental Concern	X		
Environmental Justice/ Socio-Economics			X
Cultural Resources			X
Flood Plains	X		
Fluid Minerals		X	
Forest Management	X		
Hydrology/Ground			X
Hydrology/Surface			X
Invasive/Non-Native Species			X
Native American Religious Concerns			X
Migratory Birds			X
Paleontology			X
Prime and Unique Farmland	X		
Range Management		X	
Realty Authorizations	X		
Recreation/Transportation		X	
Soils	X		
Solid Minerals		X	
T&E and Sensitive Animals			X
T&E and Sensitive Plants	X		
Upland Vegetation		X	
Visual Resources		X	
Water Quality - Surface			X
Wetlands/Riparian Zones	X		
Wild and Scenic Rivers	X		
Wild Horse & Burro Mgmt	X		
Wilderness Characteristics/WSA's	X		
Wildlife - Aquatic	X		
Wildlife - Terrestrial			X

## AIR QUALITY

Affected Environment: There are five federal Class I areas within 100 kilometers of the Little Snake Resource Management Area boundary, all of which occur in Colorado. There are no federal Class I areas in Utah or Wyoming within 100 km of the LSFO boundary. There are no non-attainment areas nearby that would be affected by either alternative.

Environmental Consequences, Proposed Action: Activities associated with this type of mining exploration that may affect air quality, namely dust from excavation/drilling and exhaust emissions from heavy equipment, fall below regulated EPA emission standards for the six criteria pollutants of concern (sulfur dioxide, nitrogen oxide, ground-level ozone, carbon monoxide, particulate matter [both PM2.5 and PM10], and lead) and is not a significant source of these pollutant emissions that do occur in Moffat County. Impacts to air quality caused by the proposed action are considered minimal.

Environmental Consequences, No Action Alternative: None.

Mitigative Measures: None

## CULTURAL RESOURCES

Affected Environment: The issuance of an exploration license on split estate with federally managed coal minerals and private surface ownership is considered an undertaking under Section 106 of the National Historic Preservation Act.

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, Proposed Action: Portions of the proposed action have undergone a Class III cultural resource survey. Prior to approval of exploration plans for specific exploration holes a Class III cultural resource survey must be completed. If the exploration hole will require off road travel or improvement to existing roads then a Class III cultural resource survey must be completed on the proposed access. The following exploration holes and access routes (where appropriate) have undergone a Class III resource inventory.

O'Brien, Patrick

2011a *Class III Cultural Resource Inventory for Trapper Mining, Inc.'s Proposed Williams Fork Mountains Exploration Phase 1, Moffat County, Colorado*. BLM project #54.3.2011,

SHPO Project # MF.LM.R890. Metcalf Archaeological Consultants, Wheat Ridge, Colorado.

2011b *Class III Cultural Resource Inventory for Trapper Mining, Inc.'s Proposed Williams Fork Mountains Exploration Phase 1, Moffat County, Colorado*. BLM project #54.5.2011, SHPO Project # MF.LM.R898. Metcalf Archaeological Consultants, Wheat Ridge, Colorado.

These surveys identified no historic properties eligible for the National Register of Historic Places. Exploration plans for these specific exploration holes can be approved.

Environmental Consequences, No Action Alternative: The project would not go forward and cultural resources would not be affected.

Mitigative Measures: None

The following standard stipulations apply for this project:

1. Any cultural and/or paleontological (fossil) resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and the authorized officer will make any decision as to proper mitigation measures after consulting with the holder.
2. 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.

3. 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.

## **ENVIRONMENTAL JUSTICE/SOCIO-ECONOMICS**

Affected Environment: The proposed action is located in an area of isolated dwellings. Oil & Gas, mining, and ranching are the primary economic activities.

Environmental Consequences, Proposed Action: The project area is relatively isolated from population centers, so no populations would be affected by physical or socioeconomic impacts of either alternative. Neither alternative would directly affect the social, cultural or economic well-being and health of Native American, minority or low-income populations.

Environmental Consequences, No Action Alternative: None.

Mitigative Measures: None.

## **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. Hound's tongue, russian knapweed and hoary cress (whitetop) can also be found in the vicinity of the proposed project. Other species of noxious weeds could be introduced by vehicle traffic, livestock and wildlife. Additionally, the BLM coordinates with Moffat County's Cooperative Weed Management program and the Routt County Weed Department to control noxious weeds on public lands. Principals of Integrated Pest Management are employed to control noxious weeds on public lands in the Little Snake Field Office.

Environmental Consequences, Proposed Action: Surface disturbing activities such as the proposed action provide an opportunity for weed spread and establishment. The applicant would be responsible for controlling non-native weed species and restoring vegetation. The largest concern would be for biennial and perennial noxious weeds to establish and not be treated. Once an infestation is detected it could be controlled with various IWM techniques. Land practices and land uses by the applicant and their weed control efforts and awareness would largely determine the establishment and treatment of weed infestations.

Environmental Consequences, No Action Alternative: This alternative would have no effect on current weed infestations or spread.

Mitigative Measures: None

## **MIGRATORY BIRDS**

Affected Environment: BLM Instruction Memorandum No. 2008-050 provides guidance towards meeting BLM's responsibilities under the Migratory Bird Treaty Act (MBTA) and Executive Order (EO) 13186. The guidance emphasizes management of habitat for species of conservation concern by avoiding or minimizing negative impacts and restoring and enhancing habitat quality. The LSFO provides both foraging and nesting habitat for a variety of migratory bird species. Several species on the USFWS's Birds of Conservation Concern (BCC) List occupy these habitats within the LSFO.

Native plant communities in the general area are comprised of sagebrush-grass, Gambel oak, and mountain shrub plant communities, depending upon slope and aspect. A variety of migratory birds may utilize this vegetation community within the project area during the nesting period (May through July) or during spring and fall migrations. The project area contains potential nesting and/or foraging habitat for the following USFWS 2008 Birds of Conservation Concern: golden eagle, Brewer's sparrow, sage sparrow, sage thrasher and loggerhead shrike.

Environmental Consequences, Proposed Action: The Proposed Action would disturb a total of 9 acres of migratory bird habitat within the 8,690 acre license area. Although this disturbance would be minimal on a landscape level, it would decrease patch size and may degrade habitat on a small scale. Indirectly, habitat effectiveness adjacent to drill sites would be reduced as a result of noise and human activity during construction, drilling and completion activities. If drilling activities occur during the nesting season, there could be negative impacts to migratory bird species through nest destruction or increased stress leading to nest abandonment. However, since the proposed drill sites will eventually be reclaimed, these impacts would not be permanent. Overall, the Proposed Action is not expected to have a measurable influence on the abundance or distribution of migratory birds at a regional scale.

Environmental Consequences, No Action Alternative: None.

Mitigative Measures: In order to protect nesting migratory bird species, drilling activities must be avoided during May 15 – July 15.

## **NATIVE AMERICAN RELIGIOUS CONCERNS**

Letters were sent to the Uinta and Ouray Tribal Council, Southern Ute Tribal Council, Ute Mountain Utes Tribal Council, Shoshoni Tribal Historic Preservation Officer, and the Colorado Commission of Indian Affairs in the spring of 2011 discussing upcoming projects the BLM would be working on in FY10 and FY11. Letters were followed up with phone calls. No comments were received (Letters on file at the Little Snake Field Office, Craig, Colorado). If exploration drilling activities are later determined to impact Native American Religious sites then the drill site locations will be relocated.

## **PALEONTOLOGY**

Affected Environment: The geologic formation at the surface is the Cretaceous age Williams Fork Formation, a member of the Mesa Verde Group (Kw). Kw is a light-brown to white sandstone, gray shale, and contains major coal seams. Thickness is 1,100-2,000 ft. This has been classified a Class Ia formation for the potential for occurrence of scientifically significant fossils.

Environmental Consequences, Proposed Action: Scientifically significant fossils are found abundantly within this formation (Armstrong & Wolney, 1989). The potential for discovery of significant fossils on this location is considered to be high. If any such fossils are located here, construction activities could damage the fossils and the information that could have been gained from them would be lost. The significance of this impact would depend upon the significance of the fossil. The proposed action could also constitute a beneficial impact to paleontological resources by increasing the chances for discovery of scientifically significant fossils.

Environmental Consequences, No Action Alternative: None.

Mitigative Measures: Ceasing operations and notifying the Field Office Manager immediately upon discovery of a fossil during construction activities can effectively mitigate an impact. An assessment of the significance is made and a plan to retrieve the fossil or the information from the fossil is developed.

The majority of the terrain is covered with developed recent soils and vegetation.

Therefore, a surface survey for paleontological resources will not be required.

### **Standard Discovery Stipulation**

"If cultural or paleontological resources are discovered during exploration operations under this license, the licensee shall immediately notify the Field Office Manager and shall not disturb such discovered resources until the Field Office Manager issues specific instructions.

- a. Within 5 working days after notification, the Field Office Manager shall evaluate any cultural resources discovered and shall determine whether any action may be required to protect or to preserve such discoveries.

- b. The cost of data recovery for cultural resources discovered during exploration operations shall be borne by the licensee, if the licensee is ordered to take any protective measures. Ownership of cultural resources discovered shall be determined in accordance with applicable law."

#### References

Armstrong, Harley J. and Wolney, David G., 1989, Paleontological Resources of Northwest Colorado: A Regional Analysis, Museum of Western Colorado, Grand Junction, CO, prepared for Bur. Land Management, Vol. I of V.

## SOILS

Affected Environment: The proposed project occurs on over 10 soil types on private surface lands.

Environmental Consequences, Proposed Action: Exploration holes will be drilled to an average depth of 266 feet and depth will not exceed 550 feet and will involve the removal of all vegetation and topsoil on a total of approximately 9 acres of private surface over the 8,690 acre proposed project area. Because the proposed action occurs on private (surface) lands with federal minerals, this element is not brought forward for analysis.

Environmental Consequences, No Action Alternative: None.

Mitigative Measures: None

## T&E AND SENSITIVE ANIMALS

Affected Environment: There are no ESA listed or proposed species that inhabit or derive important benefit from the project area. The general area provides overall and winter habitat for Columbia sharp-tailed grouse, a BLM sensitive species. Critical habitat for the razorback sucker, Colorado pikeminnow, bonytail chub and humpback chub is located downstream of the project area.

Environmental Consequences, Proposed Action: Impacts to grouse species from drilling 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 weedy plants can also degrade habitat. Since the proposed drill sites are over two miles from the closest active lek, Columbia sharp-tailed grouse breeding and nesting activities would not be impacted. The Proposed Action occurs on 9 acres of the 8,690 acres (0.10%) of grouse habitat.

#### *Colorado River Fish*

Proposed exploration activities would not directly affect Colorado River endangered fish. Since no habitat for these fish occurs in the project area, direct impacts to water quality

such as erosion, sediment yield and potential spills are expected to be negligible. The U.S. Fish & Wildlife Service has determined that water drawn from any tributary to the Colorado River Basin is considered a depletion which may jeopardize the continued existence of four endangered fish species. The BLM considers water drawn from local groundwater wells or purchased from local municipal water supplies to be depletions. Water used during the exploration drilling would result in a minor water depletion.

In July 2008, BLM prepared a Programmatic Biological Assessment (PBA) that addresses water depleting activities in the Colorado River Basin. In response to BLM's PBA, the FWS issued a Programmatic Biological Opinion (PBO)(#ES/GJ-6-CO-08-F-0010) on February 25, 2009, which determined that water depletions from the Colorado River Basin resulting from BLM actions described in the PBO are not likely to jeopardize the continued existence of the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker or result in the destruction or adverse modification of their critical habitat.

The PBO addresses internal and external BLM projects including impoundments, diversions, water wells, pipelines and spring developments. The FWS determined that projects that fit under the umbrella of the PBA would avoid the likelihood of jeopardy and/or adverse modification of critical habitat for depletion impacts to the Upper Colorado River Basin if they deplete relatively small amounts of water (less than 100 AF) and BLM makes a one-time contribution to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) in the amount equal to the average annual acre-feet depleted by each project. This project is expected to deplete 39,000 gallons (.12 acre feet) from the Upper Colorado River Basin.

This project will be entered into the Little Snake Field Office's water depletion log which will be submitted to the Colorado State Office at the end of the Fiscal Year.

Environmental Consequences, No Action Alternative: None.

Mitigative Measures: None.

## **UPLAND VEGETATION**

Affected Environment: The proposed project area encompasses benches and foothills of the Williams Fork Mountains which are dominated by sagebrush-grass, Gambel oak, and mountain shrub plant communities, depending upon slope and aspect.

Environmental Consequences, Proposed Action: The availability of roads throughout the project area to access drilling sites greatly minimizes any potential direct disturbance to native plant communities. Even where new disturbance must occur, it would be small, highly localized, and insignificant within the larger plant communities. The greatest potential for residual impacts would be from spread of weeds such as cheatgrass, houndstongue, and whitetop.

Environmental Consequences, No Action Alternative: None.

Mitigative Measures: None

## **WASTES, HAZARDOUS OR SOLID**

Affected Environment: There are no known hazardous materials within the project area.

Environmental Consequences, Proposed Action: There is the potential that oil or coolants could be released from equipment, however the potential for this to occur is small. If a release does occur, the environment affected would be dependent on the nature and volume of 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. If there are no releases, there would be no environmental consequences.

Environmental Consequences, No Action Alternative: None.

Mitigative Measures: None.

## **WATER QUALITY – GROUND**

Affected Environment: Water will be utilized to drill the 39 Federal coal exploration holes. No contaminants will be introduced into the subsurface. All drill holes will be permanently filled with bentonite chips and sealed with cement. This proposed program will protect/isolate any groundwater aquifers.

Environmental Consequences, Proposed Action: There would be no impact to ground water.

Environmental Consequences, No Action Alternative: None.

Mitigative Measures: None

## **WATER QUALITY – SURFACE**

Affected Environment: The proposed project is located predominantly on private land at the top of (mostly) ephemeral drainages that drain to either the Yampa or Williams Fork Rivers. Water quality for the mainstem of the Williams Fork River (from the confluence of the East and South Forks to the Highway 13/317 bridge at Hamilton) must support Aquatic Life Cold 2, Recreation E, Water Supply, and Agricultural uses. There are no water quality impairments or suspected water quality issues for the Williams Fork River. The Yampa River (from Elkhead Creek to the Green River) is on this same list for high priority iron impairment and on the Monitoring and Evaluation List for a suspected water quality problem regarding sediment load (CDPHE 2010).

Environmental Consequences, Proposed Action: A total of approximately 9 acres of surface disturbance is expected to occur over the 8,690 acre (0.10 %) proposed project area as exploratory wells are drilled over a two year period. Topsoil/overburden will be salvaged and stored in an area that would be undisturbed and not subject to excessive wind or water erosion. Pad sites will be reclaimed using the stockpiled material following the close of operations at each site. Any runoff and associated suspended sediment from the drill pad would be controlled and contained by a perimeter berm or silt fence on the down gradient side(s) of the drill pad.

The exploration project as proposed is not expected to exacerbate existing iron water quality issues on the Yampa River, since the exploration process is unlikely to produce these elements. Precautions for erosion control have been identified to reduce or eliminate any sediment generation. Impacts to water quality caused by the proposed action are considered minimal.

Environmental Consequences, No Action Alternative: None.

Mitigative Measures: Retain as much vegetative cover as possible during the project and/or reclaiming and covering disturbed areas shortly following excavation. Topsoil stockpiles should also be protected from wind and water erosion with temporary seed cover if left in place for more than 180 days or one growing season. Follow dust and sediment abatement measures as outlined in the reclamation plan submitted to the State of Colorado Division of Reclamation, Mining, and Safety.

Reference: Colorado Department of Public Health and Environment Water Quality Control Commission. 2010. Regulations #33, 37, and 93. <http://www.cdphe.state.co.us/regulations/wqccregs/index.html>

Miller, A.E., 1977, Geology of Moffat County, Colorado, Colo. Geol. Surv. Map Series 3, 1:126,720.

## **WILDLIFE, TERRESTRIAL**

Affected Environment: Native plant communities in the general area are comprised of sagebrush-grass, Gambel oak, and mountain shrub plant communities, depending upon slope and aspect. These plant communities provide habitat for a variety of big game, small mammals, birds and reptiles. The proposed drill sites are located in elk winter habitat and mule deer overall habitat.

Environmental Consequences, Proposed Action: Impacts to wildlife species include, but are not limited to, displacement into less suitable habitat, increased stress and loss of habitat. These impacts are more significant during critical seasons, such as winter or reproduction. Big game species are often restricted to smaller areas during the winter months and may expend high amounts of energy to move through snow, locate food and

maintain body temperature. Disturbances during the winter can displace big game, depleting much needed energy reserves and may lead to decreased over winter survival.

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.

Environmental Consequences, No Action Alternative: None.

Mitigative Measures: None.

### **CUMULATIVE IMPACTS SUMMARY:**

Cumulative impacts may result from the exploration drilling in the coal exploration license boundary when added to non-project impacts that result from past, present, and reasonably foreseeable future actions. The 39 holes on Federal minerals will disturb 9 acres of the 8,690 acre exploration license area, or 0.10% of the exploration license area. The potential exists for future exploration drilling in the area. Other past or existing actions near the project area that have influence on the landscape are wildfire, recreation, hunting, grazing, and ranching activities.

Surface disturbance associated with the exploration drilling project may temporarily increase the potential for erosion and sedimentation until growth from re-seeding of the drill pads is established. Displacement of grazing animals during the short-term construction and drilling periods may occur. Contrasts in line, form, color, and texture from development would impact the visual qualities on the landscape.

Cumulative impacts to the plant communities within the license and adjacent area include an incremental reduction of continuity in the plant communities in terms of acreages that remain undisturbed. Loss of continuity results in smaller and smaller areas of undisturbed native vegetation and the potential for loss of integrity within the larger plant community. Fragmented plant communities can lose resilience to natural and man-made disturbance due to isolation of areas from seed sources necessary for proper age class distribution of plants, and subsequently, a greater opportunity for stressors such as drought to have a more severe impact on the plant community as a whole. The increased disturbance also makes native plant communities more susceptible to invasion by annual weeds as vectors for increasing weeds. Even with weed control measures applied, the potential for weeds to move further into undisturbed remnant areas increases as these remnants become smaller and more isolated from larger undisturbed areas.

Habitat fragmentation from drill pad construction and drilling operations likely decreases the nesting suitability for migratory birds. Consequences of drilling operations 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 weedy plants can also degrade habitat. Since the proposed drill sites will be reclaimed immediately, these consequences will not be permanent.

Although big game species are able to adapt to disturbances better than other wildlife, increased development would still have impacts. Impacts include, but are not limited to, displacement into less suitable habitat, increased stress and loss of habitat. These impacts are more significant during critical seasons, such as winter or reproduction. The private surface owners have stipulated timing restrictions; drilling must cease in August. This restriction will protect the critical winter and reproduction seasons. Timing stipulations adequately protect big game species during critical times of the year; however, continued exploration activities would lead to decreased use of the habitat due to increased human activity.

**STANDARDS FOR PUBLIC LAND HEALTH:**

In January 1997, Colorado BLM approved the Standards for Public Land Health. The five standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Environmental analyses of proposed projects on BLM land must address whether the Proposed Action or alternatives being analyzed would result in impacts that would maintain, improve, or deteriorate land health conditions identified in the applicable Land Health Assessment (LHA). However, because no component of the Proposed Action would involve BLM surface lands, and LHA does not apply, conformance with the land health standards is not evaluated in this EA.

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

**SIGNATURE OF PREPARER: /s/ Jennifer Maiolo**

**DATE SIGNED: 8/22/2011**

**SIGNATURE OF ENVIRONMENTAL REVIEWER: /s/ Barb Sterling**

**DATE SIGNED: 8/25/2011**

**Attachment A: Special Stipulations**

**Attachment B: Map**

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)**  
DOI-BLM-CO-N010-2010-0092 EA

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. Impacts that may be both beneficial and adverse:**

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. Degree of effect on public health and safety:**

Public health and safety would not be adversely impacted. There are no known or anticipated concerns with project waste or hazardous materials.

**3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas:**

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. Degree to which the possible effects on the quality of the human environment are likely to be highly controversial:**

There are no highly controversial effects on the environment.

**5. Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risk:**

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. Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration:**

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. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts:**

No cumulative impacts related to other actions that would have a significant adverse impact were identified or are anticipated.

**8. Degree to which the action may be adversely affect district, sites, highways, structures, or objects listed on the National Register of Historic Places or may cause loss or destruction scientific, cultural, or historic resources:**

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. Degree to which the action may be adversely affect an endangered or threatened species or its critical habitat:**

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. Whether the action threatens a violation of federal, state, or local environmental protection law:**

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

**SIGNATURE OF AUTHORIZED OFFICIAL:**           /s/ Tim J Wilson for            
Field Manager

**DATE SIGNED:** 08/25/11

**Decision Record**  
**DOI-BLM-CO-N010-2010-0092EA**

**DECISION AND RATIONALE:**

I have determined that approving this exploration license is in conformance with the approved land use plan. It is my decision to implement the project with the mitigation measures provided in Attachment A, Special Stipulations. The project will be monitored as stated in the Compliance Plan outlined below.

**MITIGATION MEASURES:** See Attachment A, Special Stipulations

**COMPLIANCE PLAN(S):**

**Compliance Schedule**

Compliance will be conducted during the drilling phase to insure that all terms and conditions specified in the license are followed. After reclamation of the drill pads, an inspection will be performed.

**Assignment of Responsibility**

Responsibility for implementation of the compliance schedule and monitoring plan will be assigned to the Solid Minerals staff in the Little Snake Field Office. The primary inspector will be the Mining Engineer, but the Natural Resource Specialist may also be involved.

**SIGNATURE OF FIELD MANAGER: Tim J Wilson for**

**DATE SIGNED: 08/25/11**

Attachment A  
Special Stipulations, Exploration License COC 74447

1. All exploration drill holes must be capped with at least five feet of cement and plugged with a permanent plugging material that is unaffected by water or hydrocarbon gases and will prevent the migration of gases and water in the drill hole under normal hole pressures. For exploration holes drilled deeper than stripping limits, the licensee, using cement or other suitable plugging material approved by the Little Snake Field Manager, shall plug the hole through the thickness of the coal bed(s) or mineral deposit(s) and through aquifers for a distance of at least 50 feet above and 50 feet below the coal bed(s) or mineral deposit(s) and aquifers or to the bottom of the drill hole. A lesser cap or plug may be approved by the Little Snake Field Manager. Item A illustrates the minimum requirements for plugging drill holes.
2. The requirements for submission of geologic and abandonment information provided in Item B (attached) shall be followed.
3. All lands not previously inventoried for cultural resources shall be inventoried prior to surface disturbing activities. Two copies of the report for this inventory will be prepared and forwarded to the Field Manager. Upon approval by the Field Manager, operations may proceed.

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.
4. If buried cultural or Paleontological resources are discovered during exploration operations under this license, the licensee shall immediately notify the Field Manager and shall not disturb such discovered resources until the Field Manager issues specific instructions.
  - a. Within 5 working days after notification, the Field Manager shall evaluate any cultural resources discovered and shall determine whether any action may be required to protect or to preserve such discoveries.
  - b. The cost of data recovery for cultural resources discovered during exploration operations shall be borne by the licensee, if the licensee is ordered to take any protective measures. Ownership of cultural resources discovered shall be determined in accordance with applicable law.
5. All waste material will be contained on site in a trash cage or other portable storage device and hauled to a county approved landfill. No hazardous materials / hazardous wastes or trash shall be disposed of on lands under this license. If a release does occur, it shall be reported to this office immediately.
6. All drill holes will be geophysically logged with natural gamma, density, resistivity, and caliper curves.
7. In order to avoid degradation of potential riparian conditions or water sources, no surface disturbance will be allowed within 200 feet of an active stream channel supporting riparian vegetation, springs, ponds, or reservoirs.
8. During periods of adverse conditions such as thawing, heavy rains, snow, or flooding, all activities off existing maintained roads that results in surface rutting in excess of 4 inches will be suspended. Restoration of excessive ruts that occur will be required.
9. No water shall be removed from BLM allotment reservoirs without approval of the Field Manager.

10. Control of noxious weeds will be required through successful vegetation establishment and/or herbicide application. If applications of herbicide are prescribed, however, it is the responsibility of the lease operator to insure compliance with all local, state and federal laws and regulations, as well as labeling directions specific to the use of any given herbicide.

A Pesticide Use Proposal (PUP) will be approved prior to application of herbicides and/or other pesticides on Federal surface; contact the Little Snake Resource Field office to obtain a PUP form to request this authorization. Submit the PUP 2 months in advance of planned application. In the event you elect to apply herbicide or other pesticide as described and authorized on the approved PUP, you must report this use within 24 hours on Bureau of Land Management form titled Pesticide Application Record.

11. Operations on sites on slopes greater than 35% will be conducted during periods of dry soil conditions and rehabilitated immediately upon completion.
12. Pursuant to 43 CFR 10.4(g) the operator must notify the authorized officer, by telephone, 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.
13. In order to protect nesting migratory bird species, drilling activities must be avoided during May 15 – July 15.

#### ITEM A

An abandonment report must be submitted after the drill holes have been properly conditioned for abandonment or converted to monitoring wells. The report should contain the following:

1. For abandoned holes, describe or illustrate the method by which each hole was plugged and conditioned for final abandonment.
2. For holes converted to monitoring wells, describe or illustrate the well completion method (cementing, casing set, perforation interval, etc.), what aquifer(s) is being monitored, duration and frequency of monitoring, and types of tests planned (pH, conductivity, pump, cation, etc.)
3. Status of reclamation of all disturbed areas.

Completion of additional drill holes as hydrologic monitoring wells is considered to be a modification to the exploration plan and must be approved in advance by the authorized officer.

#### ITEM B

To clarify 43 CFR 3485.1 (b), please submit one copy of the following within 30 days after each calendar year:

1. Lithologic and geophysical logs and any other required logs of strata penetrated and conditions encountered appropriately identified by hole number.
2. Analyses of coal and other pertinent tests appropriately identified by drill hole number. Identify types of tests that were run (proximate, ultimate, moisture-mineral-matter free basis, etc), and whether the reported results were analyzed or calculated as composite or incremental samples.
3. Drill hole location map showing lease or license boundary, coal crop lines, drill hole numbers, and township, range and section lines and numbers.
  - a) List of drill hole numbers and depths drilled.

