

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-N010-2011-0092-EA

**CASEFILE/PROJECT NUMBER/LEASE NUMBER:** COC74961

**PROJECT NAME:** JUBILEE VENTURES EAGLE MINE

**LEGAL DESCRIPTION:** T10N, R92W; SENE sec. 2, 6<sup>TH</sup> P.M.

**APPLICANT:** JUBILEE VENTURES, LLC.

**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.

Remarks: The proposed placer mine would be located within Management Unit 2 (Little Snake Resource Management Plan). The objectives of Management Unit 2 are to provide for the development of the oil and gas resource. Public surface lands with commercially valuable stands of ponderosa or lodgepole sawtimber or poles are managed for those forest values. The development of other resource uses/values within this unit is allowed consistent with the management objectives for oil, gas and forest resources. Public lands are open to exploration and development of other leasable minerals and to location of mining claims.

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.

### **PURPOSE AND NEED FOR PROPOSED ACTION:**

The purpose of the proposed action is to approve a plan of operations to conduct placer mining submitted by Jubilee Ventures, LLC to the BLM Little Snake Field Office.

The need for the proposed action is to comply with the Mining and Minerals Policy that represents a commitment by the BLM to implement the policies of the mineral statutes in coordination with the BLM's other statutory obligations. The BLM actively encourages and

facilitates the development by private industry of public land mineral resources in a manner that satisfies national and local needs and provides for economically and environmentally sound exploration, extraction, and reclamation practices. The approved plan of operations would help to prevent undue and unnecessary degradation of the public lands.

**PUBLIC SCOPING PROCESS:**

This project is listed on the Little Snake Field Office’s NEPA log, posted on its web site. A legal advertisement was posted in the Craig Daily Press soliciting public comments for 30 days. A copy of the plan will be posted in the public room of the Little Snake Field Office for 30 days and be viewed during regular business hours (7:45 a.m. to 4:30 p.m.), Monday through Friday, except holidays. A copy of the plan is also available at the Moffat County Clerk and Recorder’s Office, 221 W. Victory Way, Suite 200, Craig, CO 81625 and also at Colorado Division of Reclamation, Mining, and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. No comments were received.

**BACKGROUND:**

Jubilee Ventures, LLC has submitted a plan of operations to the BLM Little Snake Field Office for a placer mine. The plan of operations is on 14 acres on lands that have been previously placer mined (1930’s) before the Federal Land Policy and Management Act (FLPMA) of 1976. The site was never reclaimed from the early placer mining operation and is hummocky and contains remnants of the old placer mining equipment. The surrounding area also has a history of pre-FLPMA placer mining.

The plan of operations proposes to mine by open cast stripping and stockpiling (windrowing) of the topsoil, overburden and interburden in parallel panels. Potential ore bearing gravels will be transported to a gravity separation plant. No hazardous materials are needed for the operation; water will be used to run the gravity separation plant. The area will be reclaimed to grazing and wildlife habitat.

Jubilee Ventures has an approved permit from the Colorado Division of Reclamation, Mining and Safety (CDRMS) in accordance with state and federal rules. Jubilee Ventures has posted a reclamation bond to ensure the site will be reclaimed to BLM and State specifications.

**DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:**

The Plan of Operations is on 14 acres on lands that have been previously placer mined (1930’s) before the Federal Land Policy and Management Act (FLPMA) of 1976. The site was never reclaimed from the early placer mining operation and is hummocky and contains remnants of the old placer mining equipment. The Plan of Operations proposes to mine by open cast stripping and stockpiling (windrowing) of the topsoil, overburden and interburden in parallel panels. Potential ore bearing gravels will be transported to a gravity separation plant. The area will be reclaimed to pre-mining land use. The surrounding area also has a history of placer mining. The current land use is grazing and wildlife habitat. Jubilee Ventures has an approved permit with the

Colorado Division of Reclamation, Mining, and Safety (CDRMS) in accordance with state and federal rules. A reclamation bond has paid to insure the affected lands will be reclaimed.

Access to the 14 acre site is on an existing two-track road off of Moffat County Road 102. Operations are planned to occur between May and October. Topsoil from the mining area will be stockpiled. Windrows or panels 750 ft. long by 80 ft. wide will be mined by opencast stripping and stockpiling in a southwest – northeast direction. The depth of mining will be approximately 10 ft. The mining will not intersect groundwater. A total of 11 panels are planned with mining of one panel per year. Overburden will be stockpiled for backfilling of the mined area. Ore-bearing sands and gravels will be excavated from the panel with a rubber tired loader. The loader will transport the material to a gravity separation processing plant. Water will be used to process the sands and gravels. A well will provide the water; a well permit has been obtained. Water pumped from the well will be stored in a plastic lined pond next to the gravity separation plant. The water will be used to separate the ore from the tailings. After running through the gravity separation plant, the water will flow into a bentonite lined pond. The particles in suspension will settle out (tailings) and the water will be pumped into the fresh water storage pond and re-used in the gravity separation plant. The gravity separation plant except for the shaker table will be on a flat bed trailer. The final separation process occurs on a shaker table that will be constructed on an 8 ft. by 14 ft. by 2 ft. thick concrete slab and enclosed in a structure. The operation will be idled during the winter months. All water will be drained through the clean water storage pond by pulling back the liner and allowing the water to seep back into the permeable sandy soil. The ponds and the processing plant will be fenced with 4” by 4” mesh fencing, 8 ft. high to keep animals out of the ponds during operations.

No water will be discharged, but Jubilee has an approved permit from the Colorado Department of Public Health and Environment (CDPHE) for a storm water discharge in accordance with CDRMS rules. The overburden and the tailings from the gravity separation plant will be returned to the excavated area to be used as backfill of the open cast mining area. Reclamation will occur concurrently with mining. As the panels are mined, tailings and washed sands and gravels from the gravity separation plant will be returned to backfill the excavated portion of the panel. Topsoil will be spread over the backfill. Seeding will occur in the fall. The area will be graded to match the surrounding topography. The total area disturbed at one time will be approximately five acres.

**NO ACTION ALTERNATIVE:** No new mining would occur; the site would remain in its current state. The previous placer operations would not be reclaimed. Gold, a mineral that satisfies national and local needs, would not be recovered.

AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES/MITIGATION MEASURES

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			X
Cultural Resources			X
Flood Plains			X
Fluid Minerals	X		
Forest Management	X		
Hydrology/Ground			See Water Quality - Ground
Hydrology/Surface			See Water Quality - Surface
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	
Socioeconomics			X
Soils			X
Solid Minerals		X	
T&E and Sensitive Animals			X
T&E and Sensitive Plants	X		
Upland Vegetation		X	
Visual Resources		X	
Wastes, Hazardous or Solid	X		
Water Quality - Ground			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 or adjacent to the Little Snake Resource Management Area (LSRMA) boundary, all of which occur in Colorado. The Class I areas are Rocky Mountain National Park and the Mount Zirkel, Flat Tops, Rawah, and Eagles Nest Wilderness areas. There are no federal Class I areas in Utah or Wyoming within 100 km of the LSRMA boundary. There are no non-attainment areas nearby that would be affected by either alternative.

Environmental Consequences, Proposed Action: Activities associated with the proposed method of mining that may affect air quality, namely dust created by the excavation process and exhaust from excavation equipment, fall below EPA emission standards for the six criteria pollutants of concern (sulfur dioxide, nitrogen oxide, ground-level ozone, carbon monoxide, particulate matter [both PM<sub>2.5</sub> and PM<sub>10</sub>], and lead). Furthermore, ranch operation and livestock activities are not a significant source of these pollutant emissions that do occur in Moffat County. Impacts to air quality caused by either alternative are therefore considered negligible.

Environmental Consequences, No Action Alternative: None

Mitigation Measures: None

## 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, Proposed Action: The approval of a plan of operations for the Jubilee Ventures Eagle Mine is considered an undertaking under Section 106 of the National Historic Preservation Act. The National Historic Preservation Act requires a cultural resources study. The proposed undertaking has undergone a Class III cultural resource study:

Conner, Carl E and Barbara Davenport

2011 *Class III Cultural Resource Inventory for the Proposed Eagle Mine Project in Moffat County, Colorado, for Jubilee Venture LLC*. GRI 2011-64. BLM-LSFO# 11.7.2011. Grand River Institute. Grand Junction, Colorado.

The study did not identify any historic properties eligible for the National Register of Historic Places. The proposed undertaking may proceed.

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**

Affected Environment: Executive Order 12898 (20) requires federal agencies to assess projects to ensure there is no disproportionately high or adverse environmental, health, or safety effects on minority and low-income populations. Minorities comprise a small proportion of the population residing inside the boundaries of the Little Snake Field Office.

Environmental Consequences, Proposed Action: No minority or low income populations would be directly affected in the vicinity of the proposed action.

Environmental Consequences, No Action: No minority or low income populations would be directly affected in the vicinity of the project area.

Mitigative Measures: None

## **FLOOD PLAINS**

Affected Environment: There are FEMA-identified 100-year floodplains present on public lands within the proposed project area along West Timberlake Creek, an ephemeral tributary to Timberlake Creek. Flooding is the temporary inundation of an area caused by overflowing streams or by runoff from adjacent slopes (water standing for short periods after rainfall or snowmelt is not considered flooding). Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. The floodplain along W. Timberlake Creek rarely floods, meaning that flooding is unlikely but possible (1 to 5% in any year) under unusual weather conditions.

Environmental Consequences, Proposed Action: Impacts to floodplains in the proposed project area could include vegetation compression and soil compaction, depending on moisture content of the soils. Prohibiting mining activities within the 100-year floodplain boundaries may eliminate a very small amount of area that is proposed for exploration but would also limit or prevent impacts to floodplain soils and vegetation.

Environmental Consequences, No Action Alternative: There would be no effect to flood plains

Mitigative Measures: No ground-disturbing activities will occur within the FEMA-identified 100-year floodplain.

Source: USDA-NRCS Soil Data Viewer version 5.2.0016: <http://soildataviewer.nrcs.usda.gov/>

## **INVASIVE/NON-NATIVE SPECIES**

Affected Environment: Invasive and noxious weeds are present in the area. Invasive annuals such as downy brome (cheatgrass), halogeton, blue mustard and yellow alyssum are common, occupying disturbed areas. Invasive annual weeds are typically established on disturbed and high traffic areas whereas biennial and perennial noxious weeds are less common in occurrence.

Colorado noxious weeds that are present within the surrounding areas include Russian knapweed, hoary cress (whitetop), Canada thistle, bull thistle, Scotch thistle and leafy spurge. The BLM cooperates with the Moffat County Cooperative Weed Management program to employ the principals of Integrated Pest Management to control noxious weeds on public lands within the area of this project.

Environmental Consequences, Proposed Action: The surface disturbing activities and associated traffic involved with the proposed action 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 brought onto the site can introduce 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 (downy brome, yellow alyssum, blue mustard and other annual weeds) occur on adjacent areas 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 could affect the establishment of seeded plant species in the future. Establishment of perennial grasses and other seeded plants following reclamation would be 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 are not successful.

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 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 the project.

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. Prior to application of herbicide on BLM land a Pesticide Use Proposal (PUP) must be obtained through the field office.

Environmental Consequences, No Action Alternative: There would be no effect to invasive /non-native species.

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 and bitterbrush with an understory of grasses and forbs. 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. The closest golden eagle nest is over a mile away from the well however, this species may hunt for prey in the general area.

Environmental Consequences, Proposed Action: The Proposed Action would disturb 14 acres of migratory bird habitat. 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 the mining site would be reduced as a result of noise and human activity. If ground disturbing 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 mine site will only disturb 14 acres, these impacts would be minimal. In addition, timing limitations designed to protect nesting greater sage-grouse would protect migratory birds during the majority of the nesting season. 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: There would be no effect to migratory birds.

Mitigative Measures: None

## **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 geocaching events and caches are later determined to impact Native American Religious sites then the cache locations will be relocated.

## **PALEONTOLOGY**

Affected Environment: The geologic formation at the surface is the Tertiary age Main Body of the Wasatch Formation (Tw). This formation has been classified as a Class Ia formation for the potential 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: There would be no effect to paleontology resources.

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

## 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.

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

## **RANGE MANAGEMENT**

Affected Environment: The proposed mine lies within the Middle Timberlake Grazing Allotment #04551, pasture #2. This pasture is authorized for livestock grazing between 05/01 and 11/30, livestock grazing may occur anytime within this season but livestock will not be in pasture 2 this entire season. Grazing and mining operations will occur simultaneously.

Environmental Consequences, Proposed Action: Mining operations will eliminate 14 acres of potential forage available for livestock, this impact would be negligible. However, noise and activity from mining operations have the potential to drive livestock away from foraging areas in close proximity to the mine, thus the potential for concentrated and disproportionate livestock utilization in pasture 2 would result. Mining operators must ensure that there are no hazards to livestock as a result of mining operations, i.e. pits, trenches, or other features and or equipment that could ensnare or trap livestock. Any fenced areas must have a gate accessible to the livestock operator that would allow egress if livestock get into fenced areas.

Environmental Consequences, No Action Alternative: There would be no effect to range management or livestock operations.

Mitigation Measures: None

## **REALTY AUTHORIZATIONS**

Affected Environment: Public land in the proposed project area is encumbered with an aerial power line right-of-way. The potential exists for undocumented buried service lines in the project area.

Environmental Consequences, Proposed Action: Mining activities in close proximity to power lines could result in service interruption. Existing buried facilities could be accidentally damaged during project activities. Impacts would be temporary until any damage is repaired. With implementation of the mitigative measures below, the project should result in no adverse impacts.

Environmental Consequences, No Action: There would be no effect to existing realty authorizations.

Mitigative Measures: Potential damage to existing rights-of-way would be minimized by the following actions:

- Avoid existing rights-of-way during the project.
- Utilize the “One Call” system to locate and stake the centerline and limits of all underground facilities in the area prior to project initiation.
- Provide 48-hour notice to the owner/operator of all facilities prior to performing any work near existing rights-of-way.
- Mining activities shall be offset away from powerlines, in accordance with safe operating distances.

## **SOCIOECONOMICS**

Affected Environment: Oil and gas exploration and production, as well as livestock operations and hunting are the main economic activities of the area.

Environmental Consequences, Proposed Action: The local economy may have some direct but minimal, short-term benefit from support services to the mining crew, but only a small number of people would be affected. Indirect benefits to the surrounding economy may occur if gold is recovered and leads to additional exploration in the project area. The indirect effects could include effects due to overall employment opportunities related to the gold mining service support industry in the region as well as the economic benefits to state and county governments. Generated revenue from gold mining, as the result of successful mining operations, would affect only a small number of people and not necessarily people from the socioeconomic area in the vicinity of the project.

It is not likely that the proposed project activities would generate high levels of concern, opposition, or dissatisfaction among local residents. A small, temporary increase in activity and

noise disturbance may occur in rural subdivisions and areas primarily used for grazing, farming or hunting.

Environmental Consequences, No Action: Unrealized revenue from gold mining activities not occurring, would affect only a small number of people and not necessarily people from the socioeconomic area in the vicinity of the project.

Mitigative Measures: None

## **SOILS**

Affected Environment: The proposed project location is within an area previously disturbed for a similar mining activity in the early to mid 1980s. Soils in this area are identified as “dumps, mine”, with little to no information. The area was not properly reclaimed or recontoured following the previous mining attempt and the windrows of mined soil still remain in place. A relatively healthy sagebrush and antelope bitterbrush shrub and perennial grass community has established in the area and soil erosion does not appear to be an issue. Native plant species currently growing at the site include needle and thread grass, western wheatgrass, snakeweed, scarlet globemallow, wild rose, yarrow, lupine, cactus, sagebrush, and antelope bitterbrush.

Environmental Consequences, Proposed Action: Approximately 1.4 acres (to a depth of 8 to 10 feet) would be disturbed at any one time. Most soil types when disturbed are prone to wind and water erosion unless close-growing plant cover is maintained. A reclamation seed mix that included species that already successfully occupy the site would likely do well over the long term if topsoil is stored, preserved, and replaced correctly. Depending on weather and timing of reclamation, intermediate stabilization, such as mulch and tackifier, may be required to improve seed germination.

Environmental Consequences, No Action Alternative: There would be no effect to soils.

Mitigation Measures: Retain as much vegetative cover as possible during the project and/or reclaiming and covering disturbed areas shortly following excavation. Stockpiles should be protected from wind and water erosion with temporary seed cover if left in place for more than 180 days or one growing season. Given the overall dry conditions of the area, during reclamation grading the soil surface should be prepared to hold moisture by creating a rough, uneven surface. A diverse seed mix is recommended to enhance long-term site diversity and stability. Native species suitable for the soils onsite include ones that are already growing there: needle and thread grass, western wheatgrass, snakeweed, scarlet globemallow, wild rose, yarrow, lupine, cactus, Wyoming big sagebrush, and antelope bitterbrush. Certified weed-free straw/mulch should be used for any stabilization techniques. When the mine is no longer operational, the disturbed area should be reclaimed to approximate original (pre-historic mining) contours.

Data taken from *Soil Survey of Moffat County Area, Colorado (2004)*.

## T&E ANIMAL SPECIES

Affected Environment: There are no ESA listed or proposed species that inhabit or derive important benefit from the project area. Critical habitat for the razorback sucker, Colorado pikeminnow, bonytail chub and humpback chub is located downstream of the proposed well site.

The general area provides habitat for greater sage-grouse, a BLM sensitive species and a candidate for ESA listing. Habitat in the vicinity of the proposed mine site is used primarily during the nesting season. There are six active leks, two inactive leks and one historic lek located within a four mile radius of the mine site. The closest active lek is just over one mile from the site. Approximately 3,500 acres of nesting habitat west/southwest of the site was burned in the Divide Fire in 2006.

Environmental Consequences, Proposed Action:

### *Colorado River Fish*

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. The PBO instructed BLM to make an annual payment to the National Fish and Wildlife Foundation (NFWF) to cover all BLM authorized actions that result in water depletions. This project has been entered into the LSFO Field Office water depletion log which will be submitted to the Colorado State Office at the end of the Fiscal Year.

### *Greater Sage-grouse*

The proposed mining operation would disturb approximately 14 acres of greater sage-grouse habitat. Although this area has been mined previously and was not reclaimed, native vegetation has regrown and is providing habitat for greater sage-grouse. The mining operation would remove 14 acres of habitat for a number of years, increasing habitat fragmentation and potentially degrading habitat by spreading weedy species. 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 the mine site would be reduced as a result of noise

and human activity during mining activities. Noise may impact lek attendance and disturb nesting birds, therefore, no activities would be allowed from March 1 to June 30 each year. The above mitigation should help reduce impacts to greater sage-grouse from the mine operation.

Environmental Consequences, No Action: T&E animal species will not be affected.

Mitigative Measures: Mining operations would not be allowed from March 1 to June 30 to prevent disturbances to greater sage-grouse leks and nesting birds.

To prevent long term impacts associated with noise, sound producing equipment (such as compressors or generators) must be equipped with a hospital grade muffler or similar device which limits sound emissions to 49 decibels or less measured 30 feet from the source.

## **WATER QUALITY – GROUND**

Affected Environment: There is an industrial - use water well located approximately 0.25 miles to the south of the proposed site. Water was reached at a depth of 175 feet.

Environmental Consequences, Proposed Action: The depth of the proposed project will be 10 feet. The mining operation will not intersect the groundwater.

Environmental Consequences, No Action: Groundwater will not be affected.

Mitigation Measures: None

## **WATER QUALITY – SURFACE**

Affected Environment: Surface runoff from the proposed mine would drain into West Timberlake Creek, part of an ephemeral system of drainages to Fourmile Creek, which is a perennial tributary to the Little Snake River. Water quality for Fourmile Creek is use protected and must support Aquatic Life Warm 2, Recreation N, and Agricultural uses. There are no water quality impairments or suspected water quality issues for waters influenced by the project area. There will be no chemical treatment of water or soil onsite, however the operator does have plans to develop groundwater via a well to wash sands and gravels as part of the mining process. Water used during this mining process will be recycled and stored in lined ponds. There are no plans for discharge of this water, however plans call for the ponds to be drained in the fall by pulling back the pit lining so that any surface water will seep back into the ground, thereby recharging the aquifer from which the water was originally drawn.

Environmental Consequences, Proposed Action: Groundwater withdrawal via the well for mine operations will occur during the growing season and, depending on the withdrawal rate and amount, may seasonally impact the water table by redirecting subsurface water and recharge. The project as planned is temporary and so groundwater withdrawal would be limited to a few (or less) growing seasons. Additionally, the water withdrawn from the well would not be continuous since most of it would be recycled. At the end of seasonal mine operations, the same water

would be allowed to percolate back into the soil profile so that little to no net loss of groundwater would occur.

Environmental Consequences, No Action Alternative: There would be no effect to surface water.

Mitigation Measures: None

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>

## **WETLANDS/RIPARIAN ZONES**

Affected Environment: West Timberlake Creek (reach 1), part of an ephemeral system of tributaries to Timberlake Creek, is immediately adjacent to the proposed mine site. Surveyed in July 2011, this reach of West Timberlake Creek was found to support little to no riparian vegetation along the channel itself, however a 0.5 acre wetland at the bottom of the reach (adjacent to the private/public boundary) was identified. This wetland area supports willows, rushes, horsetail, and silver buffaloberry (all riparian plant species) and is considered to be in proper functioning condition. The area has a history of placer mining for gold dating back to the early 20<sup>th</sup> century and, most recently, in the early 1980s. Evidence of this mining exists today in the form of highly modified topography, including berms built right in the West Timberlake Creek channel to redirect flow. It is suspected that these modifications are responsible for the creation and/or maintenance of this wetland that begins at the bottom of the creek and continues onto private property further downstream.

No springs are known to be present in the immediate project area. The operator does have plans to develop groundwater via a State of Colorado permitted well to use in the mining process. Although an industrial water well ¼ mile to the south of the proposed site was found to hit water at a depth of 175 feet, the wetland adjacent to the project area indicates the presence of a shallow source of water. The water pumped from the well will not be discharged to the surface, but rather allowed to percolate back into the soil each fall before the mine is closed for the winter.

Environmental Consequences, Proposed Action: Increased sedimentation towards West Timberlake Creek during spring runoff or from high intensity rainstorms until final reclamation is completed is the most likely environmental consequence from the proposed action. Interim reclamation of mined panels as planned should help mitigate surface runoff towards the riparian areas. Also, development of mining panels in close proximity to the wetland is likely to cause physical damage to wetland vegetation and/or impact surface and subsurface flows that have created and/or maintain the feature. Maintaining a buffer of 325 horizontal feet from the obvious riparian vegetation would mitigate direct impacts to vegetation and minimize disturbance to surface topography. Groundwater withdrawal via the well for mine operations will occur during the growing season and, depending on the withdrawal rate and amount, may seasonally impact the water table by redirecting subsurface water and recharge that may otherwise be available for plant use, particularly for deeper rooted perennial shrubs such as the willows and silver buffaloberry that occur in the wetland area. The project as planned is temporary and so

groundwater withdrawal that may affect riparian vegetative growth would be limited to a few growing seasons. Additionally, the water withdrawn would not be continuous since most of it would be recycled. At the end of seasonal mine operations the same water would be allowed to percolate back into the soil profile so that little to no net loss of groundwater would occur.

Environmental Consequences, No Action Alternative: There would be no effect to wetlands or riparian zones.

Mitigation Measures: No ground disturbance/surface occupancy will occur within 325 feet from the edge of the closest willows.

## **WILDLIFE, TERRESTRIAL**

Affected Environment: Native plant communities in the general area are comprised of sagebrush and bitterbrush with an understory of grasses and forbs. These plant communities provide habitat for a variety of big game, small mammals, birds and reptiles. The proposed mine site is located in elk, mule deer and pronghorn winter habitat.

Environmental Consequences, Proposed Action: All wildlife species using the area are likely to be displaced during mining activities. The surrounding habitat should be sufficient to support mule deer, pronghorn and other terrestrial wildlife that are displaced during mining operations. Most animals would return to undisturbed areas after mining has ceased and human activity has decreased. The project would disturb 14 acres of wildlife habitat. This disturbance would be minimal on a landscape level, but would fragment habitat on a small scale.

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: There would be no effect to terrestrial wildlife.

Mitigative Measures: None

## **WILDLIFE/AQUATIC**

Affected Environment: A small wetland located at the bottom of West Timberlake Creek provides habitat for aquatic wildlife. This wetland area supports willows, rushes, horsetail, and silver buffaloberry (all riparian plant species) and is considered to be in proper functioning condition. The wetland provides habitat for aquatic insects and potentially amphibians.

Environmental Consequences, Proposed Action: The mine would have minimal impacts to aquatic wildlife. Mitigation designed to protect riparian areas (no ground disturbance/surface

within 325 feet) would also protect aquatic wildlife. No habitat degradation is expected from the Proposed Action.

Environmental Consequences, No Action Alternative: There would be no effect to aquatic wildlife.

Mitigative Measures: None

**CUMULATIVE IMPACTS SUMMARY:** The past actions on this landscape are placer mining, grazing, wildlife habitat and farming. Currently the land is used by grazing cows and wildlife and there are adjacent hay fields, and small (less than 5 acres) mining operations. The area is sparsely populated; the closest dwelling is approximately one mile away. Reasonably foreseeable development would be continuing the present grazing and agricultural operations and continued use by wildlife. Placer mining may also continue.

Cumulative impacts to the plant communities within the mining operation and adjacent areas 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 the mining operation may decrease the nesting suitability for migratory birds in the resource area. The mining operation would remove 14 acres of habitat for a number of years, increasing habitat fragmentation and potentially degrading habitat by spreading weedy species. 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 the mine site would be reduced as a result of noise and human activity during mining activities. Noise may impact lek attendance and disturb nesting birds. Timing limitations would protect migratory birds during the majority of the nesting season.

Groundwater withdrawal via the well for mine operations will occur during the growing season and, depending on the withdrawal rate and amount, may seasonally impact the water table by redirecting subsurface water and recharge that may otherwise be available for plant use, particularly for deeper rooted perennial shrubs such as the willows and silver buffaloberry that occur in the wetland area. The project as planned is temporary and so groundwater withdrawal that may affect riparian vegetative growth would be limited to a few growing seasons.

**STANDARDS:**

**SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (animal)**

**STANDARD:** The Proposed Action area provides habitat for greater sage-grouse, a BLM sensitive species and a candidate for ESA listing. During the life of the mine, the immediate area would not meet this standard. After mining operations cease and the area is reclaimed, there would be potential to meet this standard. The mine would not preclude this standard from being met on a landscape level.

**PLANT AND ANIMAL COMMUNITY (animal) STANDARD:** The Proposed Action area provides habitat for a variety of wildlife species. During the life of the mine, the immediate area would not meet this standard. After mining operations cease and the area is reclaimed, there would be potential to meet this standard. The mine would not preclude this standard from being met on a landscape level.

**PLANT AND ANIMAL COMMUNITY (plant) STANDARD:** This standard is not applicable within the area of Proposed Action due to historic and continued disturbance from placer mining. This standard is met for the Middle Timberlake Allotment #04551 and would continue to be met with implementation of the proposed action.

**RIPARIAN SYSTEMS STANDARD:** There is a 0.5 acre wetland and an ephemeral reach of West Timberlake Creek within the proposed project area. Maintaining a 325 horizontal foot buffer of no surface disturbance between the edge of wetland vegetation and the project site is expected to maintain riparian form and function of these areas and this standard would continue to be met.

**WATER QUALITY STANDARD:** The project as proposed would not impact surface or subsurface water quality or quantity. This standard would continue to be met.

**UPLAND SOILS STANDARD:** The proposed action would not meet the public land health standard for upland soils during the operational life of the proposed mining operation. However, when the pit is no longer operational, the disturbed area would be reclaimed to approximate original contours, topsoil would be redistributed, and adapted plant species would be reseeded. Implementation of the submitted mining and reclamation plans as well as mitigation measures would return create the opportunity for soil and plant communities to return to a functioning level in the long-term.

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

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

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

**DATE SIGNED:** 08/31/11

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)**  
DOI-BLM-CO-N010-2011-0092 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:** 08/31/11

**Decision Record**  
DOI-BLM-CO-N010- 2011-0092-EA

**DECISION AND RATIONALE:**

I have determined that approving this plan of operations is in conformance with the approved land use plan. It is my decision to implement the project with the Mitigation Measures provided in the in Attachment A of this Environmental Analysis.

**MITIGATION MEASURES:** The mitigation measures for this project are attached below.

**COMPLIANCE PLAN(S):**

**Compliance Schedule**

Compliance will be conducted during the construction phase and operating phase to insure that all terms and conditions specified in the plan of operations are followed. File inspections will include a review of all required reports.

**Monitoring Plan**

The placer mining operation will be monitored for compliance with pertinent Regulations and Special Stipulations until final reclamation. The Colorado Division of Reclamation, Mining, and Safety and the BLM will concur on final reclamation and bond release.

**Assignment of Responsibility**

Responsibility for implementation of the will be assigned to the Solid Mineral staff in the Little Snake Field Office. The primary inspector will be the Mining Engineer, but Natural Resource Specialist, and Land Law Examiner may also be involved.

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

**DATE SIGNED:** 08/31/11

Attachment

Attachment A: Mitigation Measures

## **Attachment A Mitigation Measures**

1. Maintain a horizontal buffer of 325 ft. from the closest willows in West Timberlake Creek.
2. Fence and gate the freshwater pond and the tailings pond with 8 ft. high fencing and 4" by 4" mesh to keep animals out of the ponds.
3. No operations are allowed from March 1 – June 30 to protect nesting migratory birds.
4. If equipment produces 49 decibels or more 30 ft. from its source, it must be muffled.
5. The annual volume (in gallons) of water used from the well must be submitted to the Little Snake Field Office mining engineer.
6. To avoid damaging existing Rights of Way:
  - a) Avoid existing rights-of-way during the project.
  - b) Utilize the "One Call" system to locate and stake the centerline and limits of all underground facilities in the area prior to project initiation.
  - c) Provide 48-hour notice to the owner/operator of all facilities prior to performing any work near existing rights-of-way.
  - d) Mining activities shall be offset away from powerlines, in accordance with safe operating distances.
7. Retain as much vegetative cover as possible during the project and/or reclaiming and covering disturbed areas shortly following excavation. Stockpiles should be protected from wind and water erosion with temporary seed cover if left in place for more than 180 days or one growing season. Given the overall dry conditions of the area, during reclamation grading the soil surface should be prepared to hold moisture by creating a rough, uneven surface. A diverse seed mix is recommended to enhance long-term site diversity and stability. Native species suitable for the soils onsite include ones that are already growing there: needle and thread grass, western wheatgrass, snakeweed, scarlet globemallow, wild rose, yarrow, lupine, cactus, Wyoming big sagebrush, and antelope bitterbrush. Certified weed-free straw/mulch should be used for any stabilization techniques. When the mine is no longer operational, the disturbed area should be reclaimed to approximate original (pre-historic mining) contours.