

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-N010-2010-120-EA

CASEFILE/PROJECT NUMBER/LEASE NUMBER: COC69112

PROJECT NAME: SD Federal Well #24-9DL

LEGAL DESCRIPTION: 6th PM, T. 12 N., R. 89 W., sec. 24, NESE, Moffat County

APPLICANT: Entek GRB 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; and the Colorado Oil and Gas Leasing & Development Environmental Impact Statement (EIS) and the ROD signed on November 5, 1991.

Remarks: The proposed SD Federal Well #24-9DL would be located within Management Unit 1 (Little Snake Resource Management Plan). The objectives of Management Unit 1 are to realize the potential for development of coal, oil, and gas resources. Other resource uses/values within this unit are allowed consistent with coal, oil, and gas resource development objectives. Lands in Management Unit 1 are open to oil and gas leasing and development consistent with the management objectives for this unit.

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 this management unit.

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

PUBLIC SCOPING PROCESS: The Notice of Staking (NOS) has been posted in the public room of the Little Snake Field Office for a 30-day public review period beginning June 21, 2010 when the NOS was received, and may be viewed during regular business hours (7:45 a.m. to 4:30 p.m.), Monday through Friday, except holidays.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES: The proposed action would be to approve one Application for Permit to Drill (APD) submitted by Entek GRB LLC. The operator proposes to drill one gas well on BLM administered land over Federal minerals located in the NESE Sec. 24, T. 12 N., R. 89 W., 6th P.M. An APD has been filed with the LSFO for the SD Federal Well #24-9DL. The APD includes drilling and surface use plans that cover mitigation of impacts to vegetation, soil, surface water, and other resources. Mitigation not incorporated by Entek GRB LLC in the drilling and surface use plan would be attached by the BLM as Conditions of Approval to an approved APD.

The proposed well would be located approximately 3.4 miles southeast from the town of Slater, CO. Construction work would be planned to start during the summer of 2010 and the estimated duration of construction and drilling for the well would be 45 to 60 days. A short access road would be constructed for the well. New access road of 1,281 feet would be constructed resulting in new surface disturbance of 1.5 acres. All new road construction would be on lease.

The proposed well pad would be cleared of all vegetation and leveled for drilling. Topsoil and native vegetation would be stockpiled for use in reclamation. Approximately 3.2 acres would be disturbed for construction of the well pad. This would include the 250' by 250' well pad, the topsoil, and subsoil piles. A closed loop system would be utilized and no reserve pit would be authorized. A cuttings pit would be constructed on the well pad to hold drill mud and cuttings. Drill cuttings would be buried in the cuttings pit when dry. If the well is a producer, cut portions of the well site would be backfilled and unused portions of the well site would be stabilized and re-vegetated. If the gas well proves unproductive, it would be properly plugged and the entire well pad and access road would be reclaimed.

Entek GRB LLC did not include plans for a gas sales pipeline with the APD.

The total surface disturbance for the proposed action would be 4.7 acres.

NO ACTION ALTERNATIVE: The “no action” alternative is that the well would not be permitted and therefore the well would not be drilled. Entek GRB LLC holds a valid and current oil and gas lease for the area where the proposed SD Federal Well #24-9DL would be located. Under leasing contracts, the BLM has an obligation to allow mineral development if the environmental consequences are not irreversible or too severe. The APD process is designed to overcome the no action situation of not accepting the APD through the mitigation of predicted environmental consequences. Since the proposed action is consistent with the ROD and the Oil and Gas Leasing EIS the no action alternative will not be analyzed further in this EA.

AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES/MITIGATION MEASURES

CRITICAL RESOURCES

AIR QUALITY

Affected Environment: There are five federal Class I areas within 100 kilometers of the Little Snake Resource Management Area (LSRMA) boundary, all of which occur in Colorado. 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 the proposed action.

Environmental Consequences: Short term, local impacts to air quality from dust would result during and after well pad construction. Drilling operations produce air emissions such as exhaust from diesel engines that power drilling equipment. Air pollutants could include nitrogen oxides, particulates, ozone, volatile organic compounds, fugitive natural gas, and carbon monoxide. Gas flaring reduces the health and safety risks in the vicinity of the well by burning combustible and poisonous gases like methane and hydrogen sulfide.

At a regional scale, atmospheric dust, caused by destabilization of soil as a result of land use changes coupled with drought conditions, is receiving increased attention for its ability to alter alpine environments. Dust covered snow melts faster because it can absorb more solar energy, which affects snowpack conditions and can result in earlier and faster spring runoff events. The Colorado Plateau has been identified as a primary dust source for several recent alpine dust events on the Western Slope of Colorado. Areas of low annual precipitation, little to no vegetation cover, and an available supply of sediment are of primary concern for mitigation of expanding or new sources of dust.

Mitigation Measures: Retaining as much vegetative cover as possible during the project and/or reclaiming and covering disturbed areas shortly following excavation should help keep localized dust down during dry periods.

Name of specialist and date: Shawn Wiser 08/26/10

AREA OF CRITICAL ENVIRONMENTAL CONCERN

Affected Environment: Not applicable.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Shawn Wiser 08/26/10

CULTURAL RESOURCES

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

Environmental Consequences: The proposed project, SD Federal 24-9 Well Pad and Access Road, has undergone Class III cultural resource surveys:

Darlington, David

2010 Class III Cultural Resource Inventory for the Entek GRB, LLC SD Federal 24-9 Well Pad and Access Road, Moffat County, Colorado 10-WAS-211 (BLM 12.43.2010)

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

Mitigative Measures:

The following standard stipulations apply for this project:

1. The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) at (970) 826-5000. Within five working days, the AO will inform the operator as to:
 - Whether the materials appear eligible for the National Register of Historic Places;
 - The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again; and
 - Pursuant to 43 CFR 10.4(g) (Federal Register Notice, Monday, December 4, 1995, Vol. 60, No. 232) the holder of this authorization must notify the AO, by telephone at (970) 826-5000, and with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.
2. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility

for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

Name of specialist and date: Ethan Morton 08/31/10

ENVIRONMENTAL JUSTICE

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

Environmental Consequences: The Proposed Action would not be expected to create a disproportionately high and adverse human health impact or environmental effect on minority or low-income populations within the area.

Mitigative Measures: None.

Name of specialist and date: Barb Blackstun 09/01/10

FLOOD PLAINS

Affected Environment: There are no 100-year floodplains present on public lands within the proposed project area.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Emily Spencer 08/30/10

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

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. Hound's tongue, Canada thistle and several species of biennial thistles are known to occur in this area. Russian knapweed, Dalmatian toadflax and hoary cress (whiteweed) have been found in the vicinity of these projects. Other species of noxious weeds can be introduced by vehicle traffic, livestock and wildlife. The BLM, Moffat County, livestock operators, pipeline companies and oil and gas collaborate efforts to control weeds and find the best integrated approaches to achieve these results.

Environmental Consequences: The surface disturbing activities and associated traffic involved with drilling this well, constructing the access road and subsequent activities would create an environment and provide a mode of transport for invasive species and other noxious weeds to become established. Construction equipment and any other vehicles or equipment 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 rangelands and would occupy the disturbed areas; the bare soils and the lack of competition from a perennial plant community would allow these weed species to grow unchecked and can affect the establishment of seeded plant species. Halogeton is a noxious annual weed that could also occupy the disturbed areas. This weed species would likely require intensive control with herbicides to prevent it from moving into adjacent rangelands. Establishment of perennial grasses and other seeded plants is expected to provide the necessary control of invasive annual weeds within 2 or 3 years.

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

Mitigative Measures: 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.

Name of specialist and date: Christina Rhyne 09/08/10

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 Fly Creek area are comprised primarily of sagebrush stands and mixed mountain shrubs (serviceberry and snowberry). A variety of migratory

birds may utilize these vegetation communities 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: bald eagle, golden eagle, Brewer's sparrow, sage sparrow, sage thrasher and loggerhead shrike. The closest golden eagle nest and bald eagle nests are a few miles away from the proposed well site, but both species may hunt for prey in the general area.

Environmental Consequences: The Proposed Action would disturb 4.7 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 well pad 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. Timing limitations to protect greater sage-grouse and Columbian sharp-tailed grouse (see T&E Section) would cover most of the migratory bird nesting season, so the risk for these impacts would be low. Overall, the project is not expected to have a measurable influence on the abundance or distribution of migratory birds at a regional scale.

Mitigative Measures: None.

Name of specialist and date: Gail Martinez 09/08/10

NATIVE AMERICAN RELIGIOUS CONCERNS

A letter was sent to the Eastern Shoshone, Uinta and Ouray Tribal Council, Southern Ute Tribal Council, Ute Mountain Ute Tribal Council on May 26, 2009. The letter listed the FY2010 projects that the BLM would notify them on and projects that would not require notification. A follow-up phone call was performed on July 26, 2009. No comments were received (letter on file at the Little Snake Field Office). This project requires no additional notification.

Name of specialist and date: Ethan Morton 08/31/10

PRIME & UNIQUE FARMLANDS

Affected Environment: No federally designated Prime and/or Unique Farmlands are present on public lands within the proposed project area.

Environmental Consequences: None.

Mitigation Measures: None.

Name of specialist and date: Emily Spencer 08/30/10

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

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. Critical habitat for the razorback sucker, Colorado pikeminnow, bonytail chub and humpback chub is located downstream of the project area.

The general area provides habitat for greater sage-grouse, a BLM sensitive species and a candidate for ESA listing. Greater sage-grouse utilize sagebrush ecosystems in the Fly Creek area for breeding, nesting and brood-rearing. One active lek is located within 3/4 mile of the proposed well site.

Habitat for two additional BLM sensitive species, Columbian sharp-tailed grouse and Brewer's sparrow, occur in the project area. Sagebrush stands and mixed mountain shrublands provide habitat for Columbian sharp-tailed grouse. Much of the area is classified as nesting habitat and winter habitat by the CDOW. Two active leks are located within a 1 mile radius of the proposed well site.

Brewer's sparrows are a summer resident in Colorado and nest in sagebrush stands. Nests are constructed in sagebrush and other shrubs in denser patches of shrubs. This species would likely be nesting in the project area from mid-May through mid-July.

Environmental Consequences:

Colorado River Fish

In May 2008, BLM prepared a Programmatic Biological Assessment (PBA) that addresses water depleting activities associated with BLM's fluid minerals program in the Colorado River Basin in Colorado. In response to BLM's PBA, the FWS issued a Programmatic Biological Opinion (PBO) (ES/GJ-6-CO-08-F-0006) on December 19, 2008, which determined that BLM water depletions from the Colorado River Basin are not likely to jeopardize the continued existence of the Colorado pike minnow, humpback chub, bonytail, or razorback sucker, and that BLM water depletions are not likely to destroy or adversely modify designated critical habitat.

A Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin was initiated in January 1988. The Recovery Program serves as the reasonable and prudent alternative to avoid jeopardy and provide recovery to the endangered fishes by depletions from the Colorado River Basin. The PBO addresses water depletions associated with fluid minerals development on BLM lands, including water used for well drilling, hydrostatic testing of pipelines, and dust abatement on roads. The PBO includes reasonable and prudent alternatives developed by the FWS which allow BLM to authorize oil and gas wells that result in water depletion while avoiding the likelihood of jeopardy to

the endangered fishes and avoiding destruction or adverse modification of their critical habitat. As a reasonable and prudent alternative in the PBO, FWS authorized BLM to solicit 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 fluid minerals activities on BLM lands.

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

Greater Sage-grouse and Columbian Sharp-tailed Grouse

Impacts to grouse species from oil and gas development are discussed in the Colorado Oil and Gas EIS (1991). Impacts include, but are not limited to, displacement into less suitable habitat, nest abandonment, destruction of nests and loss of habitat. Other impacts, such as habitat fragmentation and the spread of weedy plants can also degrade habitat. The Proposed Action would alter 4.7 acres of grouse habitat. This disturbance would have minimal impacts to both sage-grouse and sharp-tailed grouse habitat. However, as development of the Fly Creek area continues, habitat patch size would be reduced, potentially impacting the quality of habitat in the area.

Noise and increased human activity related to drilling can disrupt breeding and nesting activities. To prevent significant impacts to greater sage-grouse and Columbian sharp-tailed grouse, construction and drilling activities associated with the proposed access road and well pad should not be permitted from March 1 to June 30. This timing limitation would prevent accidental nest destruction, nest and lek abandonment and displacement into less suitable habitat.

Brewer's Sparrow

Impacts to Brewer's sparrows are described in the Migratory Bird section of this EA.

Mitigative Measures: CO-30, grouse nesting habitat. Greater sage-grouse and Columbian sharp-tailed grouse leks will be avoided by 2 miles between March 1 and June 30 to protect nesting grouse.

Name of specialist and date: Gail Martinez 09/08/10

T&E AND SENSITIVE PLANTS

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

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Hunter Seim 09/07/10

WASTES, HAZARDOUS OR SOLID

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

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

Mitigative Measures: The proposed action would be regulated under the Resource Conservation and Recovery Act (RCRA) Subtitle C regulations, which are extremely stringent, as well as the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) that provide for the exclusion of petroleum, including crude oil or any fraction thereof from the definition of hazardous substance, pollutant, or contaminant. The mitigation would include the stringent regulation of waste containment within the project areas.

Name of specialist and date: Shawn Wiser 10/26/09

WATER QUALITY – GROUND

Affected Environment: Potable water is possible in this area. Water is produced from water wells (200 - 350' depth) in the area. According to the Colorado Decision Support Systems information, wells are currently active.

Environmental Consequences: With the use of proper construction practices, drilling practices, and best management practices, no significant adverse impact to groundwater aquifers and quality would be anticipated to result from the proposed action. A geologic and engineering review was performed on the 8-point drilling plans to ensure that the cementing and casing programs adequately protect the down-hole resources.

Mitigative Measures: Onshore Order No. 2 requires that the Operator isolate and protect all fresh- to- moderately saline water (TDS < 10,000 PPM) that would be encountered during drilling from communication and contamination with other fluids. The Operator would be required to submit a report showing the depth and analysis of all groundwater encountered during drilling.

Name of specialist and date: Marty O'Mara 09/07/10

WATER QUALITY – SURFACE

Affected Environment: Any surface runoff from the SD Federal Well #24-9L proposed well site or access road would drain into Fly Creek, a tributary of the Little Snake River. Water quality for all tributaries of the Little Snake River from its first crossing of the Colorado/Wyoming border to a point immediately below the confluence with Fourmile Creek must support Aquatic Life Cold 1, Recreation P, and Agricultural uses. There are no water quality impairments or suspected water quality issues for waters influenced by the project area considered in the proposed action.

Environmental Consequences: Surface waters adjacent to or influenced by the proposed project area are currently supporting classified uses. Increased sedimentation towards Fly Creek during spring runoff or from high intensity rainstorms is the most likely environmental consequence from the proposed action. Although some sediment may be transported off site and eventually reach perennial waters, the mitigation provided in the Surface Use Plan and the Conditions of Approval would reduce the potential impacts caused by surface runoff.

Mitigative Measures: None.

Name of specialist and date: Emily Spencer 08/30/10

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: Government Corral Creek Draw and Reach 2 of Government Corral Creek are approximately ½ mile from the proposed SD Federal Well #24-9L well site. The area was last assessed in 2000 and 2008 and found to be functioning at risk due to past livestock activities.

Environmental Consequences: Increased sedimentation towards Government Corral Creek and potentially to Fly Creek during spring runoff or from high intensity rainstorms is the most likely environmental consequence from the proposed action. Although some sediment may be transported off site, the mitigation provided for the well site and new road segment in the Surface Use Plan and the Conditions of Approval would reduce the potential impacts caused by surface runoff. In addition, native vegetation quality and quantity in the area surrounding the project area is sufficient to help slow or capture runoff and any associated sediment that could move offsite towards riparian areas. There would be no impacts to wetlands or riparian zones as a result of the proposed action.

Mitigative Measures: None.

Name of specialist and date: Emily Spencer 08/30/10

WILD & SCENIC RIVERS

Affected Environment: Not applicable.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Shawn Wisler 09/08/10

WSAs, WILDERNESS CHARACTERISTICS

Affected Environment: Not applicable.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Shawn Wisler 09/08/10

NON-CRITICAL ELEMENTS

FLUID MINERALS

Affected Environment: The proposed well would be in favorability zone 4 (highest for oil and gas potential). This well would penetrate the Williams Fork, Niobrara, and Frontier Formations.

Environmental Consequences: The casing and cementing program would be adequate to protect all of the resources identified above. All coal seams and fresh water zones would also be protected. The blow out preventer (BOP) system would be adequately sized. All of these zones would be cased off.

Mitigative Measures: None.

Name of specialist and date: Marty O'Mara 09/07/10

PALEONTOLOGY

Affected Environment: The geologic formation at the surface is the Cretaceous age Lewis Shale Formation (Kls). This formation is dark-gray homogenous marine shale. Thickness is estimated at 1,500-1,900 ft. This unit has been classified a Class II formation for the potential for occurrence of scientifically significant fossils. Scientifically significant fossils

are occasionally found within this formation (Armstrong & Wolney, 1989). The potential for discovery of significant fossils on this location is considered to be moderate.

Environmental Consequences: 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. This impact can be effectively mitigated by ceasing operations and notifying the Field Office Manager immediately upon discovery of a fossil during construction activities. An assessment of the significance is made and a plan to retrieve the fossil or the information from the fossil is developed.

The proposed action could also constitute a beneficial impact to paleontological resources by increasing the chances for discovery of scientifically significant fossils.

Mitigative Measures: "Standard Discovery Stip", i.e., "If fossils are discovered during construction or other operations, all activity in the area will cease and the Field Office Manager will be notified immediately. An assessment of significance will be made within an agreed timeframe. Operations will resume only upon written notification by the Authorized Officer."

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.

Name of specialist and date: Marty O'Mara 09/07/10

RANGE MANAGEMENT

Affected Environment: The SD Federal 24-9L site would be within the boundaries Coal Bank Draw Grazing Allotment, authorized for 10 cattle from 05/01 to 09/07.

Environmental Consequences: There would be no adverse impacts to range management with implementation of the proposed action at the SD Federal 24-9L site. The BLM requests that Entek coordinate with the current livestock permittee so that construction and operation of this site not interfere with their livestock operations. As long as this coordination is completed to the satisfaction of both parties there would be no adverse impacts.

Mitigative Measures: None.

Name of specialist and date: Mark Lowrey 09/03/10

REALTY AUTHORIZATIONS

Affected Environment: The proposed project area is a developed oil and gas field and contains numerous buried pipeline rights-of-way and other realty authorizations.

Environmental Consequences: Existing buried pipelines or other facilities could be accidentally damaged during project activities. Impacts would be temporary until any damage is repaired.

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.

Name of specialist and date: Barb Blackstun 09/01/10

SOILS

Affected Environment: The proposed well would be located within the Carbol-Irigul-Rock outcrop Soils Complex. These soils are well drained and found on plateaus. Slopes within this unit average 3 to 25 percent. These soils are residuum derived from sandstone. Runoff is rapid and the hazard of wind and water erosion is moderate to high.

Environmental Consequences: The construction and operation proposed action would affect soils within and immediately adjacent to the proposed area of disturbance. Increased soil erosion from wind and water would occur during construction of the well pad and access road. Erosion would continue throughout the operational life of the well. Loss of topsoil, soil compaction, and possible increases in sediment loads to drainages are impacts most likely to occur.

Vegetation and soil would be removed from approximately 4.7 acres of land. Soil productivity would decline due to reduced soil microbial activity, impaired water infiltration, mixing of soil horizons, top soil loss, and introduction of weeds. Soil loss from construction would be greatest shortly after project start and would decrease in time as a result of stabilization through revegetation and reclamation of disturbed areas. Soil erosion would be reduced to an acceptable level with the mitigation described in the Surface Use Plan and Conditions of Approval in the approved APD. This mitigation would reduce the potential to have excessive sediments and salts in runoff water from the well site.

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

Name of specialist and date: Shawn Wiser 08/26/10

UPLAND VEGETATION

Affected Environment: Native vegetation at this site includes Wyoming big sagebrush and Serviceberry as the primary woody component. Western wheatgrass, squirreltail, bluegrass, arrowleaf, and cushion phlox as the primary herbaceous species.

Environmental Consequences: There would be no adverse impacts to native vegetation as long as noxious weed mitigation, and vegetation mitigation is followed.

Mitigative Measures: Reclamation seed mixture is as follows: Western wheatgrass and squirreltail at a rate of 2 lbs/acre each. Arrowleaf and cushion phlox (or comparable species) at 1 lb/acre each.

Name of specialist and date: Mark Lowrey 09/03/10

WILDLIFE, AQUATIC

Affected Environment: No aquatic wildlife or habitat for aquatic wildlife exists within the Proposed Action area.

Environmental Consequences: None.

Mitigative Measures: None.

Name of Specialist and Date: Gail Martinez 09/08/10

WILDLIFE, TERRESTRIAL

Affected Environment: Native plant communities in the Fly Creek area are comprised primarily of sagebrush stands and mixed mountain shrubs (serviceberry and snowberry). These plant communities provide habitat for a variety of big game, small mammals, birds and reptiles. The proposed project area provides summer habitat for mule deer, elk and pronghorn antelope. The well site would be located in mule deer critical winter habitat and elk severe winter habitat.

Environmental Consequences: Impacts to wildlife species from oil and gas development are discussed in the Colorado Oil and Gas EIS (1991). Impacts include, but are not limited to, displacement into less suitable habitat, increased stress and loss of habitat. 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. Mule deer using severe winter range are likely to be disturbed by noise and human activity associated with well pad construction and drilling. These activities should not be permitted from December 1 to April 30 to prevent significant impacts to mule deer and elk.

Most small mammals, birds and reptiles using the project area would be capable of avoiding construction equipment and should not be directly harmed by these activities. Some burrowing animals may be killed by construction equipment. This should be considered a short-term negative impact that is not likely to harm populations of any species.

Mitigative Measures: CO-09, big game winter range. No surface disturbing activities between December 1 and April 30 in order to prevent disturbance of big game using critical winter range.

Name of specialist and date: Gail Martinez 09/08/10

OTHER NON-CRITICAL ELEMENTS:

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Forest Management	SW 08/26/10		
Hydrology/Ground			See Water Quality - Ground
Hydrology/Surface		ES 08/30/10	
Range Management			ML 09/03/10
Realty Authorizations			See Realty
Recreation/Transportation		GMR 09/09/10	
Socio-Economics		BSB 09/01/10	
Solid Minerals		JAM 08/31/10	
Visual Resources		SW 09/08/10	
Wild Horse & Burro Mgmt	SW 08/26/10		
Wildlife, Aquatic		GEM 09/08/10	

CUMULATIVE IMPACTS SUMMARY: Cumulative impacts may result from the development of the SD Federal Well #24-9DL when added to non-project impacts that result from past, present, and reasonably foreseeable future actions. The potential exists for future oil and gas development throughout the Slater Dome Field. 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 oil and gas activity would increase the potential for erosion and sedimentation. Displacement of hunters and recreationists during the short-term construction and drilling periods would occur. Contrasts in line, form, color, and texture from development would impact the visual qualities on the landscape.

Cumulative impacts to the plant communities within the gas lease 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.

Cumulative impacts to the livestock grazing operations in the area may be increased through the proposed action. The grazing allotment in which this well is proposed is a summer cattle

allotment. This area has not received the rapid rate of energy development compared to other areas of NW Colorado. The development that has occurred in this area has yet to negatively affect livestock production. If continued growth occurs, the growth in wells, roads, and human activity has the potential to reduce the availability of forage in this area far beyond direct impacts caused by construction. The potential impact to grazing activities permitted in the area is a loss of available Animal Unit Months (AUMs), i.e. a loss of the amount of livestock that the allotment can reasonably carry.

Habitat fragmentation from well pad construction and the associated roads have likely decreased the nesting suitability for migratory birds in the resource area. Ingelfinger (2001) found that roads associated with oil and gas development have a negative impact on passerines bird species. Bird densities were reduced within 100m of each road. Due to the amount of new road construction and an increase in traffic on these roads, passerine populations in the area are likely decreasing.

The cumulative impacts of additional wells and roads in the Focus Ranch Unit would continue to degrade habitat for the greater sage-grouse and Columbian sharp-tailed grouse. Fragmentation, mostly due to road construction, is an important factor contributing to a decrease in habitat quality. Disturbances such as higher traffic volume and other human activities also contribute to degradation of habitat quality. Continued oil and gas development would lead to decreased sage grouse use of the habitat.

Although big game species are able to adapt to disturbances better than other wildlife, increased development would still have impacts to mule deer, elk, and antelope. Timing stipulations adequately protect big game species during critical times of the year; however, continued oil and gas development would lead to decreased use of the habitat due to increased human activity. A significant amount of vehicle traffic occurs with oil and gas development. Impacts to big game may be vehicle-animal collisions, as these are a major cause of mortality for big game species.

References:

Ingelfinger, F. 2001. The Effects of Natural Gas Development on Sagebrush Steppe Passerines in Sublette County, Wyoming. University of Wyoming, Laramie, WY.

STANDARDS:

PLANT AND ANIMAL COMMUNITY (animal) STANDARD: The project area provides productive habitat for a variety of wildlife species. The project would not jeopardize the viability of any function, or have any discernible effect on animal abundance or distribution at any landscape scale. With implementation of mitigation measures and successful revegetation, the proposed well would not preclude this standard from being met.

Name of specialist and date: Gail Martinez 09/08/10

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (animal)

STANDARD: The Proposed Action would not jeopardize the viability of any special status animal population. With implementation of mitigation measures, the project would have minimal impacts to sensitive species or their habitats. The Proposed Action would not preclude this standard from being met.

Name of specialist and date: Gail Martinez 09/08/10

PLANT AND ANIMAL COMMUNITY (plant) STANDARD: In 2004 an allotment scale land health assessment was completed, with all standards being met. Based on the small area of disturbance the plant community standard would be met overall. As long as interim and reclamation mitigations measures for noxious weeds and vegetation are completed and successful this standard would continue to be met.

Name of specialist and date: Mark Lowrey 09/03/10

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (plant)

STANDARD: There are no federally listed threatened or endangered or BLM sensitive plant species present within or in the vicinity of the proposed well. This standard does not apply.

Name of specialist and date: Hunter Seim 09/07/10

RIPARIAN SYSTEMS STANDARD: The proposed action would meet the public land health standard for riparian systems. Interim reclamation of the unused area on the well pads would be completed to minimize sheet and rill erosion from the well site that might impact form and function of nearby riparian areas. When the well pad is no longer needed for production operations, the disturbed well pad and access roads would be reclaimed to approximate original contours, topsoil would be redistributed, and adapted plant species would be reseeded to reduce accelerated erosion of the impacted sites. Stream segments in the vicinity of the proposed project currently meet standards.

Name of specialist and date: Emily Spencer 08/30/10

WATER QUALITY STANDARD: The proposed action would meet the public land health standard for water quality. Interim reclamation of the unused area on the well pads would be completed to minimize sheet and rill erosion from the well site. When the well pad is no longer needed for production operations, the disturbed well pad and access roads would be reclaimed to approximate original contours, topsoil would be redistributed, and adapted plant species would be reseeded. These Best Management Practices would help to reduce accelerated erosion of the sites. There are no water quality impairments or suspected water quality issues for waters influenced by the project area.

Name of specialist and date: Emily Spencer 08/30/10

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

Name of specialist and date: Shawn Wisler 08/26/10

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

FINDING OF NO SIGNIFICANT IMPACT (FONSI)
DOI-BLM-CO-N010-2010-120-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. Beneficial, adverse, direct, indirect, and cumulative environmental impacts have been disclosed in the EA. Analysis indicated no significant impacts on society as a whole, the affected region, the affected interests, or the locality. The physical and biological effects are limited to the Little Snake Resource Area and adjacent land.
2. Public health and safety would not be adversely impacted. There are no known or anticipated concerns with project waste or hazardous materials.
3. There would be no adverse impacts to regional or local air quality, prime or unique farmlands, known paleontological resources on public land within the area, wetlands, floodplain, areas with unique characteristics, ecologically critical areas, or designated Areas of Critical Environmental Concern.
4. There are no highly controversial effects on the environment.
5. There are no effects that are highly uncertain or involve unique or unknown risk. Sufficient information on risk is available based on information in the EA and other past actions of a similar nature.
6. This alternative does not set a precedent for other actions that may be implemented in the future to meet the goals and objectives of adopted Federal, State, or local natural resource related plans, policies, or programs.
7. No cumulative impacts related to other actions that would have a significant adverse impact were identified or are anticipated.
8. Based on previous and ongoing cultural surveys, and through mitigation by avoidance, no adverse impacts to cultural resources were identified or anticipated. There are no known American Indian religious concerns or persons or groups who might be disproportionately and adversely affected as anticipated by the Environmental Justice Policy.

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

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

DECISION AND RATIONALE:

I have determined that approving this APD is in conformance with the approved land use plan. It is my decision to implement the project with the mitigation measures provided in the Application for Permit to Drill and the Conditions of Approval.

MITIGATION MEASURES: The mitigation measures for this project are found in the file room of the Little Snake Field Office. The APD 12-point surface use plan, well location maps, and the Conditions of Approval are found in the well case file labeled COC69112, SD Federal Well #24-9DL.

COMPLIANCE PLAN(S):

Compliance Schedule

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

Monitoring Plan

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

Assignment of Responsibility

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

SIGNATURE OF PREPARER:

DATE SIGNED:

SIGNATURE OF ENVIRONMENTAL REVIEWER:

DATE SIGNED:

SIGNATURE OF AUTHORIZED OFFICIAL:

DATE SIGNED: