

U.S. Department of the Interior
Bureau of Land Management
Little Snake Field Office
455 Emerson Street
Craig, CO 81625-1129

ENVIRONMENTAL ASSESSMENT

EA-NUMBER: CO-100-2007-048 EA

CASEFILE/PROJECT NUMBER/LEASE NUMBER:

COD033152A: Wheeler Well #6, #7, #8, #9
COC71151: Pipeline Right-of-Way

PROJECT NAME: Wheeler Well #6, #7, #8, #9

LEGAL DESCRIPTION: SWNE Sec. 30, T12N, R100W, 6th PM, Moffat County, Colorado

APPLICANT: Wexpro Company, Questar Gas Management

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 Wheeler Well #6, #7, #8, #9 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.

The proposed action was reviewed for conformance with this plan (43 CFR 1610.5, BLM 1617.3). The proposed action is in conformance with the objectives for this management unit.

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

PUBLIC SCOPING PROCESS: The Notice of Staking (NOS) has been posted in the public room of the Little Snake Field Office for a 30-day public review period beginning February 13, 2007 when the NOS was received, and may be viewed during regular business hours (7:45 a.m. to 4:30 p.m.), Monday through Friday, except holidays.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES: The proposed action is to approve four Applications for Permit to Drill (APD) submitted by Wexpro Company and one pipeline right-of-way application submitted by Questar Gas Management. Wexpro proposes to drill four natural gas wells from one well pad on federal land located in Section 30, T12N, R100W. Four APDs have been filed with the LSFO for Wheeler Wells #6, #7, #8, and #9. The APDs include drilling, road construction, and surface use plans that cover mitigation of impacts to vegetation, soil, surface water, and other resources. Questar Gas Management proposes to build a pipeline to service these wells if they were to be producers. The pipeline would be constructed within the road right-of-way. Mitigation not incorporated by Wexpro in the drilling and surface use plans would be attached by the BLM as Conditions of Approval to the approved APD. Mitigation not incorporated by Questar Gas Management for construction of the pipeline would be attached by the BLM as Conditions of Approval to the approved pipeline right-of-way application.

The proposed wells are located approximately 70 miles southwest of Baggs, Wyoming. Construction work is planned to start in the summer of 2007 and the estimated duration of construction and drilling is 20 days for each well. Access to the wells is off Moffat County road 63G. An existing two-track road of approximately 1440' in length would be upgraded and used to access the well pad. An associated pipeline would parallel the proposed access road. Total surface disturbance for new road construction and the pipeline would be approximately one acre.

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 4.1 acres would be disturbed for construction of the well pad. This would include the 345' by 400' well pad, the topsoil, and subsoil piles. A reserve pit would be constructed on the well pad to hold drill mud and cuttings. If the gas wells are producers, 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 wells prove unproductive, they would be properly plugged and the entire well pad and access road would be reclaimed.

All construction of the well pad, road, and pipeline would be on federal surface.

NO ACTION ALTERNATIVE: The no action alternative is that the wells would not be permitted and therefore the wells and associated pipeline would not be drilled or constructed. Wexpro Company is the holder of a valid and current oil and gas lease for the area where the proposed wells are located. Once an oil and gas lease is issued, the lessee/operator has already been given the right to drill on that oil and gas lease, subject to the conditions of the lease. Since the proposed action is consistent with the ROD and the Oil and Gas Leasing EIS, rejecting the APDs for these wells is not a reasonable alternative and will not be carried through the analysis.

AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES/MITIGATION MEASURES

CRITICAL RESOURCES

AIR QUALITY

Affected Environment: There are no special designation air sheds or non-attainment areas nearby that would be affected by the proposed action.

Environmental Consequences: Short term, local impacts to air quality from dust would result during and after well pad construction. Drilling operations produce air emissions such as exhaust from diesel engines that power drilling equipment. Air pollutants could include nitrogen oxides, particulates, ozone, volatile organic compounds, fugitive natural gas, and carbon monoxide. Gas flaring reduces the health and safety risks in the vicinity of the well by burning combustible and poisonous gases like methane and hydrogen sulfide. The proposed action would not adversely affect the regional air quality.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 04/30/07

AREA OF CRITICAL ENVIRONMENTAL CONCERN

Affected Environment: Not present.

Environmental Consequences: Not applicable.

Mitigative Measures: Not applicable.

Name of specialist and date: Rob Schmitzer 05/07/07

CULTURAL RESOURCES

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

Environmental Consequences: The proposed project, Wexpro Wheeler Wells No. 6,7,8, and 9 Well Pad, Access Road, and Pipeline, has undergone a Class III cultural resource survey:

Darlington, David 2007 Class III Cultural Resource Inventory for the Wexpro Company Wheeler Wells #6, #7, #8, and #9 Directional Drill Well Pad, Access Road, and Pipeline (BLM #12.18.07).

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

Mitigative Measures:

The following standard stipulations apply for this project:

1. The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) at (970) 826-5000. Within five working days, the AO will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again; and
- Pursuant to 43 CFR 10.4(g) (Federal Register Notice, Monday, December 4, 1995, Vol. 60, No. 232) the holder of this authorization must notify the AO, by telephone at (970) 826-5000, and with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

2. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

Name of specialist and date: Robyn Watkins Morris 05/07/07

ENVIRONMENTAL JUSTICE

Affected Environment: The proposed action is located in an area devoid of year-round populations.

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

Mitigative Measures: None.

Name of specialist and date: Louise McMinn 05/01/07

FLOOD PLAINS

Affected Environment: Active floodplains and flood prone zones are avoided.

Environmental Consequences: No threat to human safety, life, welfare, or property will result from the proposed action.

Mitigative Measures: None.

Name of specialist and date: Barb Blackstun 05/02/07

INVASIVE, NONNATIVE SPECIES

Affected Environment: Invasive species and noxious weeds occur within the affected area. Halogeton, downy brome (cheatgrass) and other annual weeds are common along roadsides, on well pads and on other disturbed areas. Canada thistle and several species of biennial thistles are known to occur in this area. Russian knapweed and hoary cress exist in the vicinity of this proposed well pad. Other species of noxious weeds are not known to be a problem in this area, but could be introduced from other areas. The BLM, Moffat County, livestock operators, pipeline companies, and oil and gas operators have formed the Northwest Colorado Weed Partnership to collaborate their efforts on controlling weeds and finding the best integrated approaches to achieve these results.

Environmental Consequences: Four wells would be drilled on one well pad, utilizing one access road and pipeline. The surface disturbing activities and associated traffic involved with drilling these four wells, constructing the access road, and constructing the pipeline would create a favorable environment and provide a mode of transport for invasive species and noxious weeds to become established. If weeds are not effectively controlled on the areas disturbed resulting from this project there is a good potential for them to move onto adjacent rangelands in this environment.

By collocating these four wells on one well pad, less surface disturbance would occur than drilling each well on a separate pad. Invasive species can be introduced and spread through a variety of means including by vehicular travel, gravel applications on roads, wind, water, wildlife and livestock movement. Additional mitigation would be attached as Conditions of Approval to minimize disturbance from these projects and obtain successful interim reclamation of the unused areas of the well pad and the access road. Weed control on the disturbed areas created utilizing integrated practices, including herbicide applications would help to control these invasive species. All principles of Integrated Pest Management should be employed to control noxious weeds on public lands.

Mitigative Measures: None.

Name of specialist and date: Ole Olsen 05/03/07

MIGRATORY BIRDS

Affected Environment: The proposed well site is within 1 mile of two active ferruginous hawk nest sites. Three golden eagle nest sites are within ½ mile of the proposed well locations. Significant topographic barriers exist between the golden eagles nest locations and the well pad.

Environmental Consequences: Construction activities associated with the access road and well pad as well as drilling of the wells could be disruptive to nesting ferruginous hawks if conducted during the nesting season (February 1 – August 15). If conducted outside of the nesting season, these wells are not likely to impact ferruginous hawks. Golden eagle nest locations have significant topographical barriers and distance between them and the well locations. There should be no impact to nesting golden eagles as a result of the development of these wells. Drilling multiple wells from a single well pad is less disruptive to nesting ferruginous hawks and golden eagles than having wells on individual well pads. There is little chance of take to occur as a result of this project if conducted outside of the nesting season.

Mitigative Measures: No surface disturbing activities would be allowed between February 1 and August 15 in order to protect nesting ferruginous hawks.

Name of specialist and date: Timothy Novotny 05/07/07

NATIVE AMERICAN RELIGIOUS CONCERNS

A letter was sent to the Uinta and Ouray Tribal Council, Southern Ute Tribal Council, Ute Mountain Ute Tribal Council, and the Colorado Commission of Indian Affairs on January 21, 1999. The letter listed the projects that the BLM would notify them on and projects that would not require notification. No comments were received (Letter on file at the Little Snake Field Office). This project requires no additional notification.

Name of specialist and date: Robyn Watkins Morris 05/07/07

PRIME & UNIQUE FARMLANDS

Affected Environment: Not Present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 04/30/07

T&E SPECIES – ANIMALS

Affected Environment: There are no threatened or endangered species present in or near the project area.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Timothy Novotny 05/07/07

T&E SPECIES – PLANTS

Affected Environment: There are no federally listed threatened or endangered plant species within or in the vicinity of the Proposed Action.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Hunter Seim 05/02/07

T&E SPECIES - SENSITIVE PLANTS

Affected Environment: There are no BLM sensitive plant species within or in the vicinity of the Proposed Action.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Hunter Seim 05/02/07

WASTES, HAZARDOUS OR SOLID

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

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

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 04/30/07

WATER QUALITY/HYDROLOGY – GROUND

Affected Environment: The formations at the surface of this project are the Tertiary age main body of the Wasatch Formation. The Wasatch-Fort Union Aquifer would be penetrated by this well. The cementing of the surface and production casing would protect the waters of this aquifer. The Mesa Verde aquifer would also be penetrated by these wells at a depth of approximately 5,155 feet below the surface. The quality of the water at this depth would be poor; the production casing and cementing program should isolate these waters.

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

Mitigative Measures: None.

Name of specialist and date: Jennifer Maiolo 05/03/07

WATER QUALITY/HYDROLOGY – SURFACE

Affected Environment: No springs would be affected by the well project. Runoff water from the well location would ultimately reach Vermillion Creek. The multiple well pad would be located on a plateau and runoff water would flow through ephemeral drainages towards Vermillion Creek. Vermillion Creek within the affected environment must have water quality sufficient to support Aquatic Life Warm 2, Recreation 1b (June 1 through August 31), Recreation 2 (September 1 through May 31) and Agriculture.

Environmental Consequences: The well location would require the construction of one short access road and pipeline. The proponent has incorporated water turnout ditches on the crowned and ditched access road to manage runoff water and to reduce water erosion. Construction of the road, well pad, pipeline, and installation of the specific drainage features should follow the recommendations provided in the Surface Operating Standards for Oil and Gas Development, 4th Edition.

Increased sedimentation to Vermillion Creek during spring runoff or from high intensity summer/fall rainstorms would be the greatest potential impact to water quality. Although some sediment may be transported off site and eventually reach perennial waters, the mitigation provided in the Surface Use Plan and the Conditions of Approval would reduce the potential impacts caused by surface runoff.

Mitigative Measures: None.

Name of specialist and date: Barb Blackstun 05/02/07

WETLANDS/RIPARIAN ZONES

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

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Timothy Novotny 05/07/07

WILD & SCENIC RIVERS

Affected Environment: Not present.

Environmental Consequences: Not applicable.

Mitigative Measures: Not applicable.

Name of specialist and date: Jim McBrayer 04/07/07

WILDERNESS, WSAs

Affected Environment: Not present.

Environmental Consequences: Not applicable.

Mitigative Measures: Not applicable.

Name of specialist and date: Jim McBrayer 04/07/07

NON-CRITICAL ELEMENTS

FLUID MINERALS

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

Environmental Consequences: The cementing and casing program would be adequate to protect all identified resources.

Mitigative Measures: None.

Name of specialist and date: Jennifer Maiolo 05/03/07

PALEONTOLOGY

Affected Environment: The geologic formation at the surface is the Tertiary age main body of the Wasatch Formation (T_{wm}). This has been classified as a Class Ia formation for the potential for occurrence of scientifically significant fossils.

Environmental Consequences: 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.

The terrain is such that outcrops are exposed (e.g. Badlands), therefore, a surface survey for paleontological resources will be required prior to surface disturbance.

The majority of the terrain is covered with developed soils and vegetation. Therefore, a surface survey for paleontological resources will not be required.

The proposed action constitutes limited surface disturbance so as to make discovery of fossils by surface survey unlikely.

Mitigative Measures: Ceasing operations and notifying 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.

The majority of the terrain is covered with developed recent soils and vegetation. Therefore, a surface survey for paleontological resources will not be required.

Discovery Stipulation, Realty:

Any cultural and/or paleontological 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 any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

Standard Discovery Stipulation:

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

- a. Within 5 working days after notification, the Field Office Manager shall evaluate any cultural resources discovered and shall determine whether any action may be required to protect or to preserve such discoveries.
- b. The cost of data recovery for cultural resources discovered during exploration operations shall be borne by the licensee, if the licensee is ordered to take any protective measures. Ownership of cultural resources discovered shall be determined in accordance with applicable law."

References:

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

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

Name of specialist and date: Jennifer Maiolo 05/03/07

REALTY AUTHORIZATIONS

Affected Environment: The project route crosses or is adjacent to existing realty authorizations COC44230, COC66640 (pipelines), and COC66641 (access road).

Environmental Consequences: Existing pipelines could be accidentally damaged during construction activities. Impacts would be temporary until the damage is repaired.

Mitigative Measures: Potential damage to existing pipelines would be minimized by:

- Utilizing the “One Call” system to locate and stake the centerline and limits of all underground facilities in the area of proposed excavations.
- Providing 48 hour notification to the owner/operator of facilities prior to performing any work within 10 feet of buried or above ground pipelines.

Name of Specialist and Date: Louise McMinn 05/01/07

SOILS

Affected Environment: The proposed wells would be located within the Torriorthents, Boltus-Beamton complex, and Diaflats-Fondillas complex soil-mapping units. Slopes within these units average 2 to 25 percent. The soils are derived from sandstone, shale, and siltstone. Generally, these soils are very shallow and well drained. Runoff class ranges from medium to high. The well pad would be located on the edge of a fragile soil area.

Environmental Consequences: Increased soil erosion from wind and water would occur during construction of the well pads, pipelines, and access roads. Erosion would continue throughout the operational life of the well. Loss of topsoil, soil compaction, and possible increases in sediment loads to drainages are impacts most likely to occur.

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

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

Name of specialist and date: Roy McKinstry 04/30/07

SOLID MINERALS

Affected Environment: Coal seams encountered within the Mesa Verde Formation would be at a depth of approximately 5,155' to 5,455' below the surface. At this depth, the Mesa Verde coals would be too deep to be economically mined.

Environmental Consequences: The cementing and casing program would be adequate to protect any of the anticipated coals.

Mitigative Measures: None.

Name of specialist and date: Jennifer Maiolo 05/03/07

VEGETATION

Affected Environment: The Proposed Action lies within a saltbush plant community. The soils are alkaline and relatively shallow. Dominant plants present include Nuttall's saltbush (*Atriplex nutallii*), shadscale (*A. confertifolia*), spiny hopsage (*Grayia spinosa*), greasewood (*Sarcobatus vermiculatus*), green rabbitbrush (*Chrysothamnus viscidiflorus*), Wyoming big sagebrush (*Artemisia tridentata wyomingensis*), Indian ricegrass (*Oryzopsis hymenoides*), and bottlebrush squirreltail (*Sitanion hystrix*). The site exhibits very low grass cover with large areas dominated by Nuttall's saltbush alone. The site appears to be susceptible to invasion by mustards, especially *Descurania pinnata*.

Environmental Consequences: The Proposed Action would completely remove approximately 5.1 acres of native vegetation. This removal would be relatively small within the larger plant community. The primary direct impact to the plant community would be the creation of conditions for and introduction of weeds immediately adjacent to direct disturbances. The required mitigation of weed control by spraying disturbed areas would decrease the incidence of weeds, but increases in cheatgrass, mustards, and halogeton would occur. Seeding of native species once the wells are completed and the pads are shrunk would aid plant communities in resisting further weed invasion.

Mitigative Measures: None.

Name of specialist and date: Hunter Seim 04/02/07

VISUAL RESOURCES

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

Environmental Consequences: The proposed action would impact existing VRM resources.

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

Name of specialist and date: Jim McBrayer 04/07/07

WILDLIFE, TERRESTRIAL

Affected Environment: The proposed project area provides marginal habitat for mule deer. Signs of bobcats were noted during onsite visits conducted during the winter of 2007. A variety of reptiles, song birds and small mammals may also use the project area.

Environmental Consequences: Activities associated with construction of the access road, well pad, and pipeline as well as drilling of the wells is likely to displace mule deer from the project area. Surrounding habitats should be capable of supporting any displaced mule deer.

Small mammals, reptiles and songbirds are likely to be displaced once construction begins. Surrounding habitats should be sufficient to support displaced individuals. Once construction is complete, displaced animals could return to the project area but it is likely that the well sites would be avoided.

Drilling multiple wells from a single well pad is much less disruptive than drilling each well from separate well pads. This would greatly reduce impacts to wildlife within the project area.

Mitigative Measures: None.

Name of specialist and date: Timothy Novotny 05/07/07

OTHER NON-CRITICAL ELEMENTS: For the following elements, those brought forward for analysis will be formatted as shown above.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Forest Management	RM 04/30/07		
Hydrology/Ground			JM 05/03/07
Hydrology/Surface			JM 05/03/07
Paleontology			JM 05/03/07
Range Management		HS 05/02/07	
Realty Authorizations		LM 05/01/07	
Recreation/Transportation		RS 05/07/07	

Socio-Economics		LM 05/01/07	
Solid Minerals			JM 05/03/07
Visual Resources			JM 04/07/07
Wild Horse & Burro Mgmt	RM 04/30/07		
Wildlife, Aquatic	TN 05/07/07		

CUMULATIVE IMPACTS SUMMARY: Cumulative impacts may result from the development of the wells 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 Hiawatha West Field. Currently numerous producing wells exist within a one-mile radius of the proposed wells. 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. Only a small reduction in available forage would be anticipated. Some wildlife species may be temporarily displaced by construction at the well site, access road, and future pipeline route, but should return once construction is completed. Displacement of hunters and recreationists during the short-term construction and drilling periods could occur. Contrasts in line, form, color, and texture from development would impact the visual qualities on the landscape.

Over the last 20 years there has been a slow but steady increase in oil and gas production facilities within and adjacent to Vermillion Creek. Cultural resource surveys in the area have identified several prehistoric cultural resources. These resources were at one time further away from the industry activity. Now they are in close proximity to these facilities. As the Hiawatha West Field is in-filled with more pipeline, compressors, access roads, and pads being constructed, a real potential for impacts to known and yet to be recorded cultural resources is present.

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 weeds increase. 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 are also increased through the Proposed Action. The grazing allotment in which the well is proposed is primarily a winter sheep allotment. The growth in wells, roads, and human activity has reduced the availability of forage in this area far beyond direct impacts caused by construction. Halogeton which has increased among the new roads and well pads is toxic to sheep. The resulting 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. Due to recent years of drought, the livestock operator has only lightly used this allotment, so direct impacts to grazing activities have not been fully felt. However, as precipitation patterns improve, there will be a likely significant decrease in the amount of livestock that can be permitted on the allotment. Utilization and production monitoring of unaffected areas remaining in the allotment would be necessary to determine a proper stocking rate after accounting for the loss of available forage from gas development (both direct and indirect) if improving precipitation patterns result in better forage conditions throughout the allotment.

The cumulative impacts of four wells on an additional well pad, the associated road and the amount of gas development already existing in the area, will continue to degrade habitat for the greater sage grouse. Although there are no leks located near the well, the area does provide nesting and brood rearing habitat for sage grouse. Fragmentation, mostly due to road construction, is an important factor contributing to a decrease in habitat quality. Oil and gas development combined with sagebrush die-offs may 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 may still have some impacts to mule deer, antelope, and elk. Timing stipulations adequately protect big game species during critical times of the year. An increase in vehicle traffic will occur as the Hiawatha West Field is developed. A significant impact to big game may be vehicle-animal collisions, as these are a major cause of mortality for big game species.

The cumulative effects of projected oil and gas development are minimized through Best Management Practices identified in the Surface Use Plan of the APDs and the BLM required mitigation in the Conditions of Approval for the APDs. Proper construction and drilling practices must comply with federal and state environmental regulations. All oil and gas wells in the area would be completed in accordance with Onshore Order No. 2. Reasonably foreseeable mineral development would occur under the guidelines of the Little Snake Resource Management Plan and the Colorado Oil and Gas Leasing and Development EIS.

STANDARDS:

PLANT AND ANIMAL COMMUNITY (animal) STANDARD: The proposed project area contains suitable habitat for mule deer, and a variety of reptiles, small mammals and song birds. Drilling four wells from a single well pad will have less impact to wildlife populations than drilling each well from individual well pads. The reduced impact will allow for more undisturbed habitat within the project area. Undisturbed areas should be sufficient to support

wildlife populations. This standard is currently being met and will continue to be met in the future.

Name of specialist and date: Timothy Novotny 05/07/07

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (animal)

STANDARD: There are no special status species, threatened or endangered species or habitat for such species present in the project area. This standard does not apply.

Name of specialist and date: Timothy Novotny 05/07/07

PLANT AND ANIMAL COMMUNITY (plant) STANDARD:

Affected Environment: The Proposed Action lies within a saltbush plant community. The soils are alkaline and relatively shallow. Dominant plants present include Nuttall's saltbush (*Atriplex nutallii*), shadscale (*A. confertifolia*), spiny hopsage (*Grayia spinosa*), greasewood (*Sarcobatus vermiculatus*), greenrabbitbrush (*Chrysothamnus viscidiflorus*), Wyoming big sagebrush (*Artemisia tridentata wyomingensis*), Indian ricegrass (*Oryzopsis hymenoides*), and bottlebrush squirreltail (*Sitanionhystrix*). The site exhibits very low grass cover with large areas dominated by Nuttall's saltbush alone. The site appears to be susceptible to invasion by mustards, especially *Descuraniapinnata*.

Environmental Consequences: The Proposed Action would completely remove approximately 5.1 acres of native vegetation. This removal would be relatively small within the larger plant community. The primary direct impact to the plant community would be the creation of conditions for and introduction of weeds immediately adjacent to direct disturbances. The required mitigation of weed control by spraying disturbed areas would decrease the incidence of weeds, but increases in cheatgrass, mustards, and halogeton would occur. Seeding of native species once the wells are completed and the pads are shrunk would aid plant communities in resisting further weed invasion.

Name of specialist and date: Hunter Seim 05/02/07

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (plant)

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

Name of specialist and date: Hunter Seim 05/02/07

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

Name of specialist and date: Timothy Novotny 05/7/07

WATER QUALITY STANDARD: The proposed action will meet the public land health standard for water quality. In the event a producing well is established, interim reclamation of the unused area on the well pad and improving the access road to insure stability and provide drainage will be completed to help reduce sheet and rill erosion from the site. When the well pad is no longer needed for production operations, the disturbed areas would be reclaimed to approximate original contours, topsoil would be redistributed, and adapted plant species would be seeded. These Best Management Practices will help to reduce accelerated erosion of the site and when full reclamation, including revegetation is achieved normal soil infiltration and runoff could be reestablished. No stream segments near this project are listed as impaired.

Name of specialist and date: Barb Blackstun 05/02/07

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

Name of specialist and date: Roy McKinstry 04/30/07

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

FINDING OF NO SIGNIFICANT IMPACT (FONSI)
EA CO-100-2007-048

Based on the analysis of potential environmental impacts contained in the EA and all other available information, I have determined that the proposal and the alternatives analyzed do not constitute a major Federal action that would adversely impact the quality of the human environment. Therefore, an EIS is unnecessary and will not be prepared. This determination is based on the following factors:

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

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

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

DECISION AND RATIONALE:

I have determined that approving the Wheeler Well #6, #7, #8, and #9 APDs and the pipeline right-of-way is in conformance with the approved land use plan. It is my decision to implement the project with the mitigation measures provided in the Applications for Permit to Drill and the pipeline right-of-way and the Conditions of Approval. The project will be monitored as stated in the Compliance Plan outlined below.

MITIGATION MEASURES: The mitigation measures for this project are found in the file room of the Little Snake Field Office. The APD 13-point surface use plan, well location maps, and the Conditions of Approval are found in the well case file labeled COD033152A, Wheeler Well #6, #7, #8, and #9.

COMPLIANCE PLAN(S):

Compliance Schedule

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

Monitoring Plan

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

Assignment of Responsibility

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

SIGNATURE OF PREPARER:

DATE SIGNED:

SIGNATURE OF ENVIRONMENTAL REVIEWER:

DATE SIGNED:

SIGNATURE OF AUTHORIZED OFFICIAL:

DATE SIGNED:

pit, and the access road will be in place prior to construction. Staking shall include the well location, two 200-foot directional reference stakes, the exterior dimensions of the drill pad, reserve pit and other areas of surface disturbance, cuts and fills, and centerline flagging of new roads with road flagging being visible from one to the next.

7. Construction activities will not be allowed to commence if the topsoil cannot be separated from the subsoil during adverse environmental conditions (i.e. when soils are frozen or muddy). During periods of adverse conditions such as thawing, heavy rains, snow, or flooding, all construction activities off existing maintained roads that create excessive surface rutting will be suspended.
8. Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.
9. Drainage for runoff water will be provided to divert runoff water away from the reserve pit, cut portions of the well location and the topsoil stockpile. Runoff water that concentrates and forms channels on the well location will be diverted and/or dispersed to prevent erosion of the fill slopes. Any ditches designed to provide runoff drainage will be constructed on a minimal grade and will release water onto undisturbed ground without causing accelerated erosion. The operator will take additional measures if erosion is occurring within the runoff water drainage system.
10. 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.
11. STANDARD STIPULATION: If cultural or paleontological resources are discovered during exploration operations under this license, the licensee shall immediately notify the Field Officer Manager and shall not disturb such discovered resources until the Field Officer Manager issues specific instructions.
 - a. Within 5 working days after notification, the Field Office Manager shall evaluate any cultural resources discovered and shall determine whether any action may be required to protect or to preserve such discoveries.
 - b. The cost of data recovery for cultural resources discovered during exploration operations shall be borne by the licensee, if the licensee is ordered to take any protective measures. Ownership of cultural resources discovered shall be determined in accordance with applicable law.
 - c. 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 (970) 826-5087. Within five working days the Authorized Officer will inform the operator as to:
 1. Whether the materials appear eligible for the National Register of Historic Places;
 2. The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again and,
 - d. 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 Authorized Officer 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 Authorized Officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the Authorized Officer that the required mitigation has been completed, the operator will then be allowed to resume construction.

- e. 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 Authorized Officer, by telephone (970) 826- 5087, 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.
12. The reserve pit will be designed to exclude runoff water and maintain a 2-foot freeboard between the maximum fluid level and the lowest point of containment. The reserve pit will not be used for disposal of any materials or fluids, except for materials or fluids specifically addressed in the drilling program or having a subsurface origin. If oil or oily substance is in the reserve pit, it must be removed within 30 days after the drilling rig is removed. Netting will be installed if oily substance is present in the reserve pit.
 13. The perimeter of the reserve pit and production pits, if any, will be fenced with woven wire with 2 strands of barbed wire, properly spaced, on the top and all held in place by side posts and corner H-braces to inhibit entry by livestock and wildlife. The fence will be maintained until backfilling or removal of facilities occurs.
 14. In the event downhole operations threaten to exceed the required 2-foot freeboard, regarding reserve pit fluids, immediate notification will be provided to the Authorized Officer with concurrent steps taken to minimize the introduction of additional fluids, until alternative containment methods can be approved.
 15. Reserve pit fluids will be allowed to evaporate through one entire summer season (June-August) after drilling is completed, unless an alternative method of disposal is approved. After the fluids disappear, the reserve pit mud will be allowed to dry sufficiently to allow backfilling. The backfilling of the reserve pit will be completed within 30 days after dry conditions exist and will meet the following minimum requirements:
 - a. Backfilling will be done in such a manner that the mud and associated solids will be confined to the pit and not squeezed out and incorporated in the surface materials.
 - b. There will be a minimum of 5 feet of cover (overburden) on the pit.
 - c. When the work is completed, the pit areas will support the weight of heavy equipment without sinking and over time shall not subside over 6-inch depth.
 16. If installed, production facilities will be located on cut portions of the existing drill pad.
 17. In the event production is established, all land surfaces that are to remain free of vegetation (roads and well location) will be monitored for and protected from wind erosion; dry powdery soil will be treated to minimize wind erosion. The unused disturbed areas surrounding the well location will be re-contoured to appropriate confirmation as soon as possible. Some or all of the stockpiled topsoil will be evenly distributed over these re-contoured areas. Brush cleared prior to construction of the well site shall be scattered back over the re-contoured area.
 18. Prior approval is required to remove reserve pit fluids from the reserve pit; a request of this type will need to include the destination of the fluids and if the destination is not a State approved facility, the request will include State approval of the destination.
 19. All pits, cellars, rat holes and other bore holes unnecessary for further lease operations, excluding the reserve pit, will be backfilled immediately after the drilling rig is released. Pits, cellars and/or bore holes that remain on location must be fenced as specified for the reserve pit in the applicant's Surface Use Plan.
 20. In the event a producing well is established, all new production equipment which has open-vent exhaust systems, such as heater treaters, separators, dehydration units, and flare stacks, shall be designed and constructed to prevent birds and bats from entering or nesting in or on such units, and to the extent practical, to discourage birds from perching on the exhaust stacks.

21. All permanent structures (on-site for six months or longer) constructed or installed (including oil well pumpjacks) will be painted a flat, non-reflective, earthtone color to match the standard environmental colors, as determined by the Rocky Mountain Five-State Interagency Committee. All facilities will be painted within six months of installation. Facilities required to comply with OSHA (Occupational Safety and Health Act) will be excluded.
22. Surface facilities should appear to blend in to the existing landscape to the greatest possible extent. Facilities should not be located on ridgelines or extend above them. Facilities should be minimal in size (or located underground) and colored and texture to blend in with the surroundings.
23. A containment berm must be installed around all storage tanks, including temporary tanks. Compaction and construction of the berm surrounding the tank or tank battery will be designed to prevent lateral movement of fluids through the utilized materials, prior to storage of fluids. The berm must be constructed to contain at minimum 110 percent of the storage capacity of the largest tank within the berm. All loading lines will be placed inside the berm.
24. Control of noxious weeds will be required through successful vegetation establishment and/or herbicide application. It is the responsibility of the lease operator to insure compliance with all local, state, and federal laws and regulations, as well as labeling directions specific to the use of any given herbicide.
25. All production facilities installed on location that have the potential to leak or spill oil, glycol, produced water, or other fluid, which may constitute a hazard to public health or safety, shall be placed within an appropriate secondary containment or diversionary structure. The structure shall hold 110% of the capacity the largest single tank in use and be impervious to any oil, glycol, produced water, or other toxic fluid for 72 hours. It shall be installed so that any spill or leakage would not drain, infiltrate, or otherwise escape to ground water, surface water, or navigable waters before cleanup is completed.
26. Reclamation Performance Standard

The lessee is required to use the reclamation practices necessary to reclaim all disturbed areas. Reclamation will ensure surface and subsurface stability, growth of a self-regenerating permanent vegetative cover and compatibility with post land use. The vegetation will be diverse and of the same seasonal growth as adjoining vegetation. Post land use will be determined by the Authorized Officer but normally will be the same as adjoining uses.

Reclamation practices which must be applied or accomplished are: re-grading to the approximate original contour, effectively controlling noxious weeds, separating, storing and protecting topsoil for redistribution during final abandonment, seeding and controlling erosion. If topsoil is not present, or quantities are insufficient to achieve reclamation goals, a suitable plant growth media will be separated, stored and protected for later use. Reclamation will begin with the salvaging of topsoil and continue until the required standards are met. If use of the disturbed area is for a short time (less than one year), practices, which ensure stability, will be used as necessary during the project, and practices needed to achieve final abandonment will commence immediately upon completion of the approved activity use and be completed, with the exception of vegetative establishment, within one year.

If use of the area is for longer periods of time (greater than one year), interim reclamation is required on the unused areas. Interim reclamation of the unused areas will begin immediately upon completion of the permanent facility(s) and be completed, with exception of vegetative establishment, within one year. For both short and long term projects vegetative establishment will be monitored annually. If the desired vegetation is not established by the end of the second growing season, cultural practices necessary for establishment will be implemented prior to the beginning of the next growing season. Interim reclamation, unless otherwise approved, will require meeting the same standards as final abandonment with the exception of original contour, which may be only partially achievable.

Annual reports consisting of reclamation practices completed and the effectiveness of the reclamation will be provided to the Little Snake Field Office. The first report will be due in January following initiation of reclamation practices and annually thereafter until final abandonment is approved.

There are numerous reclamation practices and techniques that increase the success rate of reclamation and stabilization. With the exception of those stated above, it is the lessee's prerogative to use those (s)he chooses to accomplish the objective. However, it is recommended that state-of-the-art reclamation, stabilization, and management practices be used to achieve the desired objective in a timely and cost-effective manner.

The following definitions and measurements will be used to accomplish and determine if reclamation has been achieved:

Permanent vegetative cover will be accomplished if the basal cover of perennial species, adapted to the area, is at least ninety (90) percent of the basal cover of the undisturbed vegetation of adjoining land or the potential basal cover as defined in the Soil Conservation Service Range Site(s) for the area.

Diverse will be accomplished if at least two (2) perennial genera and three (3) perennial species, adapted to the area, make up the basal cover of the reclaimed area in precipitation zones thirteen (13) inches or less and three (3) perennial genera and four (4) perennial species in precipitation zones greater than thirteen (13) inches. One species will not make up more than fifty (50) percent of the perennial vegetation by basal cover.

Self-regenerating and adapted to the area will be evident if the plant community is in good vigor, there is evidence of successful reproduction, and the species are those commonly used and accepted in the area.

Surface stability will be accomplished if soil movement, as measured by deposits around obstacles, depths of truncated areas, and height of pedestalling, is not greater than three tenths (0.3) of an inch and if erosion channels (rills, gullies, etc.) are less than one (1) inch in depth and at intervals greater than ten (10) feet.

If this standard is not met by the end of the second growing season, two alternatives exist depending on the severity of the erosion:

If erosion were greater than two (2) times the allowable amount, corrective action would have to be taken by the responsible company at that time.

If erosion is less than or equal to two (2) times the allowable amount, and it is determined the erosion occurred during vegetative establishment and the site may become stable, no corrective action would be required at that time. Another check (and measurement) would be performed a year later to determine if stability standards had been met. If the original measurements have not increased by more than the allowed standard, the standard would be considered met. However, if the increase were greater than the allowed standard, corrective action would be required.

Subsurface stability (mass wasting event) is of concern if disturbance has included excavation over four (4) feet in depth and greater than 10,000 square feet in area on slopes thirty five (35) percent and greater, or on any erosion-prone slope (Danforth Hills, Vermillion Bluffs, and badland areas). When these conditions occur, length of liability for reclamation and final abandonment will continue for ten (10) years following re-contouring to original contour or for such time that climatic patterns provide two (2) consecutive years in which measurable precipitation totals at least 120 percent of average from October 1 through September 30, as measured by data averaged from nearby regional weather stations.

The Authorized Officer may waive this stipulation, or portions of it. Such waiver will be documented and justified when not applicable, or when objectives are accomplished through another method.

SITE SPECIFIC CONDITIONS

27. No surface disturbing activities between February 1st and August 15th in order to protect nesting ferruginous hawks.
28. Construction or other surface-disturbing activities will not be allowed when the soils are saturated to a depth of more than 3 inches.
29. The access road constructed will be crowned, ditched, and maintained to provide a 14 to 16 foot travel way. Total width of authorized disturbance is 30 feet. Water turnouts needed to provide additional drainage from the road ditch will be constructed not to exceed 2 percent slope to minimize soil erosion.
30. Vehicular travel is limited to the approved location and approved access route. The water haul route will coincide with the proposed access road. Any changes in the water source or haul route must have written approval before the changes take place.
31. Culverts will be installed keeping the inlet and the outlet on original grade and sized to adequately drain the surface runoff (18" minimum).
32. In the event that topsoil cannot be properly distributed during reclamation, additional precautions will be taken to minimize erosion of subsoil. Periodic monitoring to assess site specific environmental conditions, timing of operations, and use of mulches and/or barriers may be required to ensure that erosion is not significant within the entire well pad location disturbance and access road easement.
33. Before the reserve pit, production pit or emergency pit can be reclaimed all residue will be removed and trucked off site to an approved disposal site. This may be to another reserve pit off lease. This must be approved by the Authorizing Officer.
34. Well pad will be reclaimed as closely as possible to pre disturbance conditions to re establish pre existing drainage.
35. Additional mitigative measures will 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, well pad, well pad embankments, or pipeline corridor.
36. Utilize the "One Call" system to locate and stake the centerline and limits of all underground facilities in the area of proposed excavations.
37. Provide 48-hour notification to the owner/operator of facilities prior to performing any work within 10 feet of buried or aboveground pipelines.
38. All pipelines shall be buried and trenches shall be compacted during back-filling. Pipeline trenches will be maintained in order to correct settlement and prevent erosion.
39. All pipeline construction and maintenance activities will be contained within the 25-foot pipeline easement. Exception provided only for waterbars and erosion control. Vehicular access for reclamation, maintenance, and emergencies is authorized, but pipeline routes will not be utilized as access routes.
40. Surface soil material will be stockpiled to the side of the pipeline routes during pipeline construction. Surface soil material will be segregated and will not be mixed or covered with subsurface material. Surface disturbance will be minimized to the maximum extent possible.
41. In the event that topsoil cannot be properly distributed during reclamation, additional precautions will be taken to minimize erosion of subsoil. Periodic monitoring to assess site specific environmental conditions, timing of

operations, and use of mulches and/or barriers may be required to ensure that erosion is not significant within the entire well pad location disturbance, road easement, and pipeline easement.

42. Pipeline routes will be graded to conform to the adjacent terrain, waterbarred, and seeded.
43. Install pipeline warning signs indicating location of buried pipeline, company name, and telephone number.
44. The mud used for drilling the well will utilize *fresh water* as defined in 43 CFR 3160.0-5.

REGULATORY REMINDERS

- A. This permit is valid for a period of one year from the date of approval. Any requests for extensions must be submitted prior to the end of the one-year period. If the permit terminates, any surface disturbance created under the permit must be rehabilitated in accordance with the approved plan within 90 days of termination, unless otherwise approved by the Authorized Officer. An expired permit may be reinstated at the Authorized Officer's discretion, however, future operations may require a new application be filed for approval.
- B. All drilling operations, unless otherwise specifically approved in the APD, must be conducted in accordance with Onshore Oil and Gas Order No. 2; Drilling Operations.
- C. All 7-Day Requirement responses are made part of this APD.
- D. There shall be no deviation from the proposed drilling and/or workover program as approved, without prior approval from the Little Snake Field Office. Safe drilling and operating practices must be observed.
- E. Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease, which would entitle the applicant to conduct operations thereon.
- F. No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the Little Snake Field Office. If operations are to be suspended for more than 30 days, prior approval for certain well operations must be obtained and notification given before resumption of operations in accordance with 43 CFR 3162.3-2 and 3162.3-4.
- G. In the case of newly drilled dry holes or failures, and in emergency situations, oral approval for subsurface abandonment operations may be granted by the Little Snake Field Office. Oral approvals must be confirmed in writing (Notice of Intention to Abandon (Form 3160-5)) within 15 days. Unless the plugging is to take place immediately upon receipt of oral approval, the appropriate resource area must be notified at least 48 hours in advance of the plugging of the well, in order to provide a representative the opportunity to witness plugging operations.
- H. Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) must be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with Onshore Oil and Gas Order No. 1. Daily drilling reports, a copy of all logs, core descriptions, core analyses, well-test data, geologic summaries, sample descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations (with Form 3160-4) will be filed and sent to the Little Snake Field Office, 455 Emerson Street, Craig, Colorado 81625. Samples (cuttings, fluid, and/or gas) will be submitted only when requested by the Authorized Officer.
- I. Section 102 (b) (3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1 (c), requires that "not later than the fifth business day after any well begins production on which royalty is due anywhere on a least site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or sundry notice, Form 3160-5, or orally to be followed

by a letter or sundry notice, or the date on which such production has begun or resumed.”

The date on which a well commences production, or resumes production after having been off production for more than 90 days is to be construed as follows:

1. For an oil well, the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank or the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever occurs first;
2. For a gas well, that date on which gas is first measured through sales metering facilities or the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, whichever occurs first. For purposes of this provision, a gas well shall not be considered to have been off production unless it is incapable of production.

If you fail to comply with this requirement in the manner and time allowed, you shall be liable for a civil penalty of up to \$10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109(c) (3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3163.2(e) (2).

- J. This APD is approved subject to the requirement that, should the well be successful (completed for production or recompleted for production in a new interval), the Little Snake Field Office must be notified when it is placed in a producing status. Such notification may be provided orally if confirmed in writing, and must be received in the Little Snake Field Office by not later than the 5th business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following information items:
 1. Operator name
 2. Well name, number, and location
 3. Date well was placed on production
 4. The lease, or communitized tract, or unit participating area to which the well's production is attributable.
- K. A separate Monthly Report of Operations, Form 3160-6, shall be submitted for each lease, unit participating area, or communitization agreement, beginning with the month in which drilling operation commence, in accordance with 43 CFR 3162.4-3. This report shall be sent to Minerals Management Service, Production Accounting Division, P.O. Box 17110, Denver, Colorado 80217.
- L. If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (due to contraction in the unit or other lease or unit boundary change) the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental, or other financial obligation determined by the Authorized Officer.
- M. All produced liquids must be contained, including the dehydrator vent/condensate line effluent. All production pits must be bermed and fenced.
- N. Gas produced from this well may not be vented or flared beyond an initial, authorized test period of 30 days or 50 MMCF following completion, whichever comes first, without the prior written approval of the authorized officer. Should gas be vented or flared without approval beyond the authorized test period, you may be directed to shut the well in until the gas can be captured or approval to continue venting or flaring is granted and you may be required to compensated the lessor for that portion of the gas that was vented or flared without approval which is determined to have been avoidably lost.
- O. Produced water from newly completed wells may be temporarily disposed of into the reserve pit for a period of up to 90 days. During the 90-day periods, an application for approval of a permanent disposal method and location will be submitted according to Onshore Order No. 7 for approval.
- P. A schematic facilities diagram as required by CFR 43, Part 3162.7-5, shall be submitted to the Little Snake Field

Office within 60 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with 3162.7-5(b).

- Q. The permit holder is required to use certified weed free hay, straw and mulch on BLM lands in Colorado should the use or storage of hay, straw or mulch be necessary. Any person who knowingly and willfully violates this regulation may be subject to a fine of not more than \$1,000 or imprisonment of not more than 12 months, or both as defined in 43 USC 1733 (a).