

**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-100-2007-006EA

CASEFILE/PROJECT NUMBER/LEASE NUMBER:

COC63306: Allegheny Federal Well # 24-6, Athens Federal Well #13-6, Auburn Federal Well #11-7, Ball Bluff Federal Well #22-7, Baxter Springs Federal Well #24-7.

COC63308: Lexington Federal Well #13-2, Charleston Federal Well #11-11, Aldie Federal Well #24-1, Appomattox Federal Well #13-12.

COC63309: Serapis Federal Well #42-10, Vincennes Federal Well # 31-10.

COC63509: Princeton Federal Well #12-3.

COC63942: Philadelphia Federal Well #24-3.

PROJECT NAME: Patriot POD

LEGAL DESCRIPTION: All wells in Moffat County, Colorado

Allegheny Federal Well #24-6: Sec. 6, T7N, R92W, 6th PM
Athens Federal Well #13-6: Lot 13 Sec. 6, T7N, R92W, 6th PM
Auburn Federal Well #11-7: Lot 5 Sec. 7, T7N, R92W, 6th PM
Balls Bluff Federal Well #22-7: SENW Sec. 7, T7N, R92W, 6th PM
Baxter Springs Federal Well #24-7, SESW Sec. 7, T7N, R92W, 6th PM
Aldie Federal Well #24-1: SESW Sec. 1, T7N, R93W, 6th PM
Appomattox Federal Well #13-12: NWSW Sec. 12, T7N, R93W, 6th PM
Charleston Federal Well #11-11: NWNW Sec. 11, T7N, R93W, 6th PM
Lexington Federal Well #13-2: NWSW Sec. 2, T7N, R93W, 6th PM
Philadelphia Federal Well #24-3: SESW Sec. 3, T7N, R93W, 6th PM
Princeton Federal Well #12-3: SWNW Sec. 3, T7N, R93W, 6th PM
Serapis Federal Well #42-10: SENE Sec. 10, T7N, R93W, 6th PM
Vincennes Federal Well # 31-10: NWNE Sec. 10, T7N, R93W, 6th PM

APPLICANT: Pioneer Natural Resources USA, Inc.

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

Name of Plans: Little Snake Resource Management Plan and Record of Decision (ROD) approved on April 26, 1989; and the Colorado Oil and Gas Leasing & Development Environmental Impact Statement (EIS) and the ROD signed on November 5, 1991.

Remarks: The proposed wells would be located within Management Unit 1 (Little Snake Resource Management Plan). The objectives of Management Unit 1 are to provide for the development of coal, oil, and gas resources.

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

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

PUBLIC SCOPING PROCESS: The Notices of Staking (NOSs) have been posted in the public room of the Little Snake Field Office for a 30-day public review period beginning October 15, 2006 when the NOSs were 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 thirteen Applications for Permit to Drill (APDs) submitted by Pioneer Natural Resources USA, Inc. Pioneer Natural Resources proposes to drill thirteen coal bed methane wells on private and federal land located in Section 6 and 7, T7N, R92W and Sections 1, 2, 3, 10, 11, and 12, T7N, R93W. APDs have been filed with the LSFO for the wells. The APDs include drilling and surface use plans that cover mitigation of impacts to vegetation, soil, surface water, and other resources. Mitigation not incorporated by Pioneer Natural Resources in the drilling and surface use plans would be attached by the BLM as Conditions of Approval to the approved APDs.

The proposed wells are located approximately 20 miles northwest of Craig, Colorado. Construction work is planned to start in the fall 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 15. 21,800 feet of newly constructed road would be used to access the wells. The roads would be constructed on both private and federal surface. Total surface disturbance for new road construction would be approximately 20 acres.

33,064 feet of new pipeline would also be constructed. The new pipelines would parallel new and existing roads and would be constructed within the road rights-of-way.

24,200 feet of overland powerline would be constructed. The proposed powerlines would run along the roads and would also cross country in sections to reach each individual well.

The proposed well pads would be cleared of all vegetation and leveled for drilling. Topsoil and native vegetation would be stockpiled for use in reclamation. Approximately 16 acres would be disturbed for construction of the well pads. This would include the 200' by 250' well pads, the topsoil, and subsoil piles. A reserve pit would be constructed on the well pads to hold drill mud and cuttings. If the well is a producer, cut portions of the well site would be backfilled and unused portions of the well site would be stabilized and re-vegetated. If the well proves unproductive, it would be properly plugged and the entire well pad and access road would be reclaimed.

All construction of the well pads, roads and powerlines would be on private and federal surface. Total surface disturbance for the proposed action would be 36 acres.

NO ACTION ALTERNATIVE: The no action alternative is that the wells would not be permitted and therefore the wells would not be drilled. Pioneer Natural Resources USA, Inc. is the holder of a valid and current oil and gas leases 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 APD for the wells is not a reasonable alternative and will not be analyzed further in this EA.

AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES/MITIGATION MEASURES

CRITICAL RESOURCES

AIR QUALITY

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

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

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 06/28/07

AREA OF CRITICAL ENVIRONMENTAL CONCERN

Affected Environment: Not present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 06/28/07

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 *Regional Class I Overview of Cultural Resources for the BLM Little Snake RMP*, and *Colorado Prehistory: A Context for the Northern Colorado River Basin*, Colorado Council of Colorado Archaeologists. Also see *An Overview of Prehistoric Cultural Resources, Little Snake Resource Area, Northwestern Colorado*, Bureau of Land Management Colorado, Cultural Resources Series, Number 20, and *An Isolated Empire, A History of Northwestern Colorado*, Bureau of Land Management Colorado, Cultural Resource Series, Number 2.

Environmental Consequences: The proposed project, Pioneer Plan of Development, has undergone Class III cultural resource surveys:

Piontkowski, Michael

2006 Class III Cultural Resources Inventory of Four Wells (Appomattox 13-12, Charleston 11-11, Serapis 42-10, Vincennes 31-10) for Pioneer Natural Resources, Moffat County, Colorado. (145.1.07)

2006 Class III cultural resources inventory of seven wells (Allegheny Federal 24-6, Auburn Federal 11-7, Balls Bluff Federal 22-7, Baxter Springs Federal 24-7, Philadelphia 24-3, Aldie Federal 24-1, Athens 13-6) for Pioneer Natural Resources, Moffat County, Colorado. (145.5.06)

2007 Class III Cultural Resources Inventory of the Alternate Location for the Pioneer Natural Resources Athens 13-6 Well, Moffat County, Colorado (BLM #145.3.07).

2007 Class III Cultural Resources Inventory of the Alternate Location for the Pioneer Natural Resources Serapis Federal 42-10 well, Moffat County, Colorado. (BLM #145.4.07)

2007 Report of the Class III Inventory for the Pioneer Natural Resources Lexington 13-2 well and access road, Moffat County, Colorado (BLM #145.8.07)

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

The survey identified no sites eligible to the National Register of Historic Places. 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 07/19/07

ENVIRONMENTAL JUSTICE

Affected Environment: The proposed action is located in an area of isolated dwellings. Ranching, farming and oil and gas development are the primary economic activities.

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

Mitigative Measures: None.

Name of Specialist and Date: Mike Andrews 07/16/07

FLOOD PLAINS

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

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

Mitigative Measures: None.

Name of specialist and date: Roy Mc Kinstry 06/28/07

INVASIVE, NONNATIVE SPECIES

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

Environmental Consequences: The surface disturbing activities and associated traffic involved with the proposed development of these leases by drilling wells, constructing access roads, installing pipelines and powerlines and other subsequent activities would create a favorable environment and provide a mode of transport for noxious weeds to

become established. These weeds can be spread through a variety of means including by vehicular travel, construction equipment, gravel applications on roads, wind, water, wildlife and livestock movement. The annual invasive weed species (yellow alyssum, blue mustard and other annual weeds) occur on adjacent rangelands and would occupy the disturbed areas; the bare soils and the lack of competition from a perennial plant community would allow these weed species to grow unchecked and can affect the establishment of seeded plant species. Establishment of perennial grasses and other seeded plants is expected to provide the necessary control of invasive annual broadleaf weeds within 2 or 3 years. Additional seeding treatments of the disturbed areas may be required in subsequent years if initial seeding efforts have failed.

The detrimental effect to the establishment of seeded plant materials is especially true for downy brome which can take advantage of the late winter and early spring soil moisture that is typically available each year. The capability of downy brome to respond quickly to this available moisture and produce plant biomass would cause early depletion of soil moisture and reduce nutrient levels that otherwise would be available to native perennial grasses and forbs. On private lands that are disturbed and on small research areas on public lands there are herbicides that have been effective at reducing the germination of downy brome and increasing the successful establishment of the seed mixture used. However, these herbicides have not been approved for widespread use on public lands.

Mitigation attached as Conditions of Approval to minimize disturbance and obtain successful interim reclamation of the unused areas of the well pad and the access road, as well as weed control utilizing integrated practices, including herbicide applications would help to control the noxious weed species. All principles of Integrated Pest Management should be employed to control noxious and invasive weeds on public lands.

Mitigative Measures: Integrated pest management practices will be employed to control downy brome on all areas disturbed; control measures will not allow downy brome plants to complete their life cycle and set viable seed. On private land areas that will be revegetated an herbicide that will selectively control downy brome with pre-emergence treatments and that is compatible with the proposed seed mixture will be used to reduce the competition of downy brome. Subsequently, when the Record of Decision for the Final Programmatic Environmental Report, *Vegetation Treatments on Bureau of Land Management Lands in 17 Western States* is signed the pre-emergent herbicide treatments will be expanded to include BLM lands.

Name of specialist and date: Ole Olsen 7/20/07

MIGRATORY BIRDS

Affected Environment: The proposed action would include the construction of 24,200 feet of new above ground powerlines with associated power poles. These power poles could be used as nesting sites. Brewers sparrow and sage sparrow are likely to be present

in the project area during late spring and early summer. Golden eagles and ferruginous hawks are also capable of nesting within the project area. There are no known active golden eagles nests at this time. A large stick-built nest was found near the proposed Athens Federal well #13-6 well. At the time the nest was not active. It is possible that a ferruginous hawk could use this nest site. All of these species are listed on the USFWS 2002 Birds of Conservation Concern List.

Environmental Consequences: Surface disturbing activities are restricted during most of the nesting period for Brewers sparrows and sage sparrows due to timing restrictions imposed by the BLM to protect greater sage-grouse. Surface disturbing activities could occur during the month of July and it is possible that some nests could still be active or that young birds not capable of moving out of the way of construction equipment could still be present. There is a moderate potential for take of these two species of birds to occur.

Recent studies have indicated that birds have entered heater treater facilities through open vents. Birds have been entrapped and have died in these facilities as a result of gasses held in the facilities.

Surface disturbing activities and drilling activities associated with the Athens Federal #13-6 well should not be conducted between February 1 and August 15th if the raptor nest site is active.

Mitigative Measures: No surface disturbing activities associated with the Athens Federal #13-6 well should occur between February 1 and August 15th if the associated raptor nest is active. The proposed action powerlines and power poles have been designed with raptor mitigation measures that will not allow raptors to build nests or perch on top of the proposed power poles.

All open vent stack equipment such as heater treaters, separators, dehydration units, and flare stacks shall be designed and constructed to prevent birds and bats from entering or nesting in or on such units, and to the extent practical, to discourage birds from perching on the stacks.

Name of specialist and date: Timothy Novotny 07/13/07

NATIVE AMERICAN RELIGIOUS CONCERNS

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

Name of specialist and date: Robyn Watkins Morris 06/04/07

PRIME & UNIQUE FARMLANDS

Affected Environment: Not present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 06/28/07

T&E SPECIES – ANIMALS

Affected Environment: There are no threatened or endangered species or habitat for such species within the project area. The project area is within greater sage-grouse breeding and nesting habitat. Greater sage-grouse are a BLM Special Status Species.

Environmental Consequences: Eight of the thirteen proposed well sites fall within two miles of an active sage-grouse lek. These eight areas do provide nesting habitat for sage-grouse. If drilling activities were to take place during the breeding or nesting season (March 1 to June 30), significant impacts to sage grouse using this habitat would be expected. 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 exotic plants can also degrade sage grouse habitat (Connelly et al. 2004). Noise and increased human activity related to drilling can disrupt breeding and nesting (Connelly et al. 2004). Holloran and Anderson (2004) found a higher annual decline in male lek attendance at leks within 3.2km from drilling activity. To prevent significant impacts to sage grouse species, construction and drilling activities associated with the proposed access roads, pipelines and well pads 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. The development of these eight well pads would impact sage-grouse habitat. Existing oil and gas development in the surrounding area has been moderate compounding the impact to greater sage-grouse. The proposed project would result in a loss of approximately 2.5 acres of nesting habitat per well for a total of 20 acres of lost habitat. Cumulative impacts associate with this project as well as historic development is decreasing greater sage-grouses ability to use the project area for breeding, nesting and brood rearing activities.

Bureau of Land Management. 1991. Colorado Oil and Gas Leasing and Development. Final Environmental Impact Statement. U.S. Dept. of Interior.

Connelly, J.W., S.T. Knick, M.A. Schroeder and S.J. Stiver. 2004. Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats. Western Association of Fish and Wildlife Agencies. Unpublished Report. Cheyenne, Wyoming.

Holloran, M.J., and S.H. Anderson. 2004. Sage-grouse response to natural gas filed development in northwestern Wyoming. Page 16 in Proceedings of the 24th Meeting of the Western Agencies Sage and Columbian Sharp-tailed Grouse Technical Committee. Wenatchee, Washington (Abstract).

Mitigative Measures: CO-30, No surface disturbing activities between March 1 and June 30 in order to protect breeding and nesting greater sage-grouse. This timing restriction applies to the following eight wells: Aldie Federal Well #24-1, Appomattox Federal Well #13-12, Charleston Federal Well #11-11, Lexington Federal Well #13-2, Philadelphia Federal Well #24-3, Princeton Federal Well #12-3, Vincennes Federal Well # 31-10, Serapis Federal Well #42-10

Name of specialist and date: Timothy Novotny 07/13/07

T&E SPECIES – PLANTS

Affected environment: There are no federally listed threatened or endangered plant species present on any of the proposed well sites.

Environmental consequences: None.

Mitigative measures: None.

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

T&E SPECIES - SENSITIVE PLANTS

Affected environment: There are no BLM sensitive plant species present on any of the proposed well sites.

Environmental consequences: None.

Mitigative measures: None.

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

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 06/28/07

WATER QUALITY/HYDROLOGY – GROUND

Affected Environment: The presence of fresh water is expected in the Mesa Verde, Williams Fork, and Trout Creek Formations. The commingling of the water will be prevented by the casing and cementing of the collar and remainder of the hole. The lithologic formation at the surface of this project is the Cretaceous Lance; the top 500 ft. of the well casing and cement and the production casing to TD in the Trout Creek and Isles formations will prevent any contamination of the ground water.

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

Mitigative Measures: Operator committed drilling techniques will prevent communication between any aquifers.

Name of specialist and date: Marilyn D. Wegweiser 07/18/07

WATER QUALITY/HYDROLOGY – SURFACE

Affected Environment: The project area is located on hillslopes north of Big Gulch, a tributary of Lay Creek. Runoff water from the project area would flow in a southerly

direction through several unnamed drainages and Big Gulch, tributaries of Lay Creek, which drains into the Yampa River. All stream segments within the affected environment are presently supporting their classified uses.

Environmental Consequences: Impacts from construction would be greatest shortly after project initiation and would decrease in time as a result of stabilization through revegetation and reclamation of disturbed areas. Increased sedimentation to the Yampa River during spring runoff or from high intensity summer/fall rainstorms would be the greatest potential impact to water quality. Although some sediment may be transported off site and eventually reach perennial waters, the mitigation provided in the Surface Use Plan and the Conditions of Approval would reduce the potential impacts caused by surface runoff to an acceptable level.

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

Name of specialist and date: Roy McKinstry 06/28/07

WETLANDS/RIPARIAN ZONES

Affected Environment: There are no wetlands or riparian zones on public lands within the project area.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Timothy Novotny 07/13/07

WILD & SCENIC RIVERS

Affected Environment: Not present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 06/28/07

WILDERNESS, WSAs

Affected Environment: Not present.

Environmental Consequences: None.

Mitigative Measures: None.

Name of specialist and date: Roy McKinstry 06/28/07

NON-CRITICAL ELEMENTS

FLUID MINERALS

Affected Environment/Surface: Brown's Park Formation sediments covered by Quaternary Alluvium

Environmental Consequences: None.

Mitigative Measures: Operator committed drilling techniques will prevent communication between any aquifers.

Name of specialist and date: Marilyn D. Wegweiser 07/18/07

PALEONTOLOGY

Affected Environment: Paleontological resources are Brown's Park Fm overlain by Quaternary alluvium and exposed in outcrop.

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

Mitigative Measures: None.

Specialist: Marilyn D. Wegweiser 07/19/07

SOILS

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

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

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

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

Name of specialist and date: Roy McKinstry 06/28/07

SOLID MINERALS

Affected Environment: Coal beds within the Williams Fork, Fat Boy Coal, Trout Creek, and Isles would be penetrated by the wells. Cementing and casing of the drill hole should protect the solid minerals encountered.

Environmental Consequences: None.

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

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

VEGETATION

Affected environment:

Allegheny Federal Well #24-6, Auburn Federal Well #11-7, Balls Bluff Federal Well #22-7, Baxter Springs Federal Well #24-7, Lexington Federal Well #13-2, Philadelphia Federal Well #24-3, and Princeton Federal Well #12-3 were not specifically visited by this reviewer, however, these sites are similar to those described below:

Athens Federal Well #13-6: This site is located in a sagebrush-grass plant community. Dominant plants present include basin big sagebrush, Wyoming big sagebrush, prickly pear, Indian ricegrass, western wheatgrass, and prairie junegrass. Most sagebrush plants are old and decadent with many dying or dead. Indian ricegrass exhibits good vigor and seed production. Cheatgrass occurs in high densities throughout the site and blue mustard is also present.

Aldie Federal Well #24-1: This site is located in a sagebrush-grass plant community. Dominant plants include Wyoming big sagebrush, prickly pear, Sandberg bluegrass, Indian ricegrass, prairie junegrass, basin wildrye (in the drainage), and western wheatgrass. There are high amounts of young sagebrush on the site. Perennial grass density and abundance is low and the site appears to have been severely grazed in the past. Cheatgrass abundance is very high and there are areas of blue mustard.

Appomattox Federal Well #13-12: This site is located in a sagebrush-grass plant community. Dominant plants present include Wyoming big sagebrush, basin big sagebrush, prickly pear, pussytoes, rubber rabbitbrush, basin wildrye, prairie junegrass, Indian ricegrass, western wheatgrass, and Sandberg bluegrass. Perennial grass abundance is good, but cheatgrass abundance is also fairly high.

Charleston Federal Well #11-11: This site is located in a sagebrush-grass plant community with some juniper encroachment, but its ridgetop location results in some community characteristics similar to a dry exposure site, i.e. less production but higher diversity especially among forbs and shrubs. Dominant plants include Wyoming big sagebrush, Utah juniper, stemless goldenweed (in very high amounts), prickly pear, green rabbitbrush, rubber rabbitbrush, *Eriogonum* spp., Hood's phlox, bitterbrush, bluebunch wheatgrass, thickspike wheatgrass, western wheatgrass, squirreltail, Indian ricegrass, needle-and-thread, prairie junegrass, and Sandberg bluegrass. Scattered instances of cheatgrass are also present.

Serapis Federal Well #42-10: This site is located at the interface between a sagebrush-grass plant community and a juniper woodland. Dominant plants include Utah juniper, Wyoming big sagebrush, green rabbitbrush, rubber rabbitbrush, prickly pear, needle-and-thread, Indian ricegrass, prairie junegrass, squirreltail, western wheatgrass, thickspike wheatgrass, bluebunch wheatgrass, and Sandberg bluegrass. Cheatgrass is present in small amounts. Perennial grass density is very high.

Vincennes Federal Well # 31-10: This site is within a sagebrush-grass plant community. Dominant plants include Wyoming and basin big sagebrush, bitterbrush, green rabbitbrush, rubber rabbitbrush, stemless goldenweed, needle-and-thread, Indian ricegrass, bluebunch wheatgrass, basin wildrye, prairie junegrass, squirreltail, and Sandberg bluegrass. Grass diversity and abundance is very high. Some cheatgrass is also present and the site appears very susceptible to further cheatgrass invasion with the loss of high native grass densities.

Environmental consequences: The proposed action would completely remove approximately 36 acres of native vegetation between the well pads and associated facilities. This removal would be somewhat uniformly spread throughout the eight square mile project area. Direct disturbances involved in well pad, road, and pipeline construction would only minimally impact the plant communities as a whole; however, it is apparent that the majority of plant communities within the project area are highly susceptible to cheatgrass invasion at even the most minimal levels of disturbance. Cheatgrass is likely to increase throughout the project area unless targeted and appropriate measures are taken to address cheatgrass. Increases in cheatgrass would impact the larger plant community by increasing competition for early spring moisture, nutrients, and space. Increased cheatgrass abundance can also lead to increased fire frequency – a cycle that results in ever increasing dominance in cheatgrass and eventual elimination of most perennial herbaceous species. Utilizing newer classes of pre-emergent herbicides would greatly lessen this impact to the native plant community.

Mitigative measures: Weed control measures need to include utilization of herbicides that specifically prevent the germination of cheatgrass.

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

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 classifications.

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

Name of specialist and date: Roy McKinstry 06/28/07

WILDLIFE, TERRESTRIAL

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

Environmental Consequences: Disturbances associated with construction of well pads and access roads for these thirteen wells as well as activities associated with drilling of the wells have the potential to displace wildlife from the project area. Surrounding habitats are sufficient to support displaced wildlife from the project area. If construction or drilling activities were permitted during winter months (December 1 April 30), they would likely result in increased stress on mule deer and elk and would likely have negative impacts on these individuals. Forcing these animals off of severe winter range could result in decreased fitness of these individuals and indirectly lead to increased mortality of wintering mule deer and elk. The development of these wells would result in a long term loss of approximately 36 acres of habitat for big game animals. Once completed, the project area would still be capable of supporting big game animals; however, productivity of this area is likely to decrease as a result of this project.

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. Timing restrictions for greater sage-grouse along would likely protect these animals during critical times of the year such as nesting periods for song birds.

Mitigative Measures: CO-9, No surface disturbing activities between March 1 and April 30 in order to protect wintering mule deer and elk.

Name of specialist and date: Timothy Novotny 07/13/07

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

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Fluid Minerals			MW 07/18/07
Forest Management	RM 06/28/07		
Hydrology/Ground			MW 07/18/07
Hydrology/Surface			RM 06/28/07
Paleontology			MW 07/18/07

Range Management		HS 7/10/07	
Realty Authorizations	MAA 07/16/07		
Recreation/Transportation		RS 7/16/07	
Socio-Economics		MAA 07/16/07	
Solid Minerals			JM 07/01/07
Visual Resources			RM 06/28/07
Wild Horse & Burro Mgmt	RM 05/28/07		
Wildlife, Aquatic	TN 07/13/07		

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 Lay, CO area. Currently 28 producing wells exist within the area of the proposed wells. Other past or existing actions near the project area that have influence on the landscape are wildfire, hunting, grazing, and ranching activities.

Surface disturbance associated with oil and gas activity would increase the potential for erosion and sedimentation. Only a small reduction in available forage would be anticipated. Some wildlife species may be temporarily displaced by construction at the well sites, access roads, powerlines, and future pipeline routes, but should return once construction is completed. Displacement of hunters and recreationists during the short-term construction and drilling periods would occur. Contrasts in line, form, color, and texture from development would impact the visual qualities on the landscape.

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

STANDARDS:

PLANT AND ANIMAL COMMUNITY (animal) STANDARD: The proposed project area provides quality habitat for a variety of big game, small mammals, song birds and reptilian wildlife. Mule deer and elk use the area for severe winter range. Construction and drillings activities during winter months would have a negative impact on mule deer and elk. The development of this many wells in addition to development that has already occurred would

decrease this areas production potential. This standard is currently being met. While some decreased level of production is expected, this area would still be capable of supporting wildlife species once this project is completed. This standard would continue to be met.

Name of specialist and date: Timothy Novotny 07/13/07

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (animal)

STANDARD: The development of these eight well pads will have negative impacts on sage-grouse habitat. Existing oil and gas development in the surrounding area has been moderate compounding the impact to greater sage-grouse. The proposed project will result in a loss of approximately 2.5 acres of nesting habitat per well for a total of 20 acres of lost habitat. Cumulative impacts associate with this project as well as historic development is decreasing greater sage-grouses ability to use the project area for breeding, nesting and brood rearing activities. This standard is currently being met. The proposed action may prevent this standard from being met in the future.

Name of specialist and date: Timothy Novotny 07/13/07

PLANT AND ANIMAL COMMUNITY (plant) STANDARD: The area affected by the proposed action is currently meeting this standard. Most of the plant communities contain a diversity and abundance of native species appropriate for the given sites. Cheatgrass is present within most communities to varying degrees. The relative prevalence of cheatgrass from site to site reveals that most areas are highly susceptible to cheatgrass invasion under any type of community stress, be it excessive grazing or direct impacts from existing roads. The proposed action would meet this standard only with the application of required reclamation practices and weed control capable of preventing the spread of cheatgrass.

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

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (plant)

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

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

RIPARIAN SYSTEMS STANDARD: There are no wetlands or riparian zones present on BLM lands within this project area. This standard does not apply.

Name of specialist and date: Timothy Novotny 07/13/07

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

Name of specialist and date: Roy McKinstry 06/28/07

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

Name of specialist and date: Roy McKinstry 06/28/07

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-100-2007-006

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 Allegheny Federal Well #24-6, Athens Federal Well #13-6, Auburn Federal Well #11-7, Balls Bluff Federal Well #22-7, Baxter Springs Federal Well #24-7, Aldie Federal Well #24-1, Appomattox Federal Well #13-12, Charleston Federal Well #11-11, Lexington Federal Well #13-2, Philadelphia Federal Well #24-3, Princeton Federal Well #12-3, Serapis Federal Well #42-10, Vincennes Federal Well # 31-10, APD is in conformance with the approved land use plan. It is my decision to implement the project with the mitigation measures provided in the Application for Permit to Drill and the Conditions of Approval. The project will be monitored as stated in the Compliance Plan outlined below.

MITIGATION MEASURES: The mitigation measures for this project are found in the file room of the Little Snake Field Office. The APD 12-point surface use plan, well location map, and the Conditions of Approval are found in the well case file labeled COC63306: Allegheny Federal Well # 24-6, Athens Federal Well #13-6, Auburn Federal Well #11-7, Ball Bluff Federal Well #22-7, Baxter Springs Federal Well #24-7, C63308: Lexington Federal Well #13-2, Charleston Federal Well #11-11, Aldie Federal Well #24-1, Appomattox Federal Well #13-12, COC63309: Serapis Federal Well #42-10, Vincennes Federal Well # 31-10, COC63509: Princeton Federal Well #12-3, COC63942: Philadelphia Federal Well #24-3.

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: