

**U.S. Department of the Interior
Bureau of Land Management
White River Field Office
220 E Market St
Meeker, CO 81641**

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2008-120-EA

CASEFILE/PROJECT NUMBER: COC42598

PROJECT NAME: Eden Energy Location 13-43

LEGAL DESCRIPTION: T. 2 N., R. 97 W., Sec. 13, 6th P.M. (Well 13-43)

APPLICANT: Eden Energy Colorado LLC

ISSUES AND CONCERNS: No issues or concerns were identified.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: The White River Field Office (WRFO) received one (1) Application for Permit to Drill (APD) by Eden Energy Colorado LLC on 5 March 2008 for the well referenced above. Site characteristics of the proposed well pad location are summarized in Table 1.

Table 1. Dominant vegetation, elevation, date of on-site, watershed, and well and road density for the proposed well pad locations.

Well Pad	Surface Owner	Unit Name	Dominant Cover Type	Elevation (ft)	Well Density (wells/mi²)	Road Density (roads/mi²)	Watershed	On-site Date
13-43	BLM	Ant Hill Unit	Mixed perennial grasses and Wyoming Big sagebrush	6,119	2.6	3.8	Wray Gulch	04/16/08

Proposed Action: The proposed action includes constructing one well pad and drilling one well on the pad (see Table 2 for pad dimensions and total area disturbed). The proposal also includes a request to construct 50 feet of access road (0.03 acres of new disturbance) to access the proposed well pad location. Total acres disturbed including overburden to construct well pad and access road would be approximately 1.55 acres.

Note: A pipeline right of way (ROW) application was not included with the APD for well 13-43; therefore, pipeline ROW actions were not analyzed for this location. As such, subsequent pipeline ROW requests for location 13-43 will require additional NEPA documentation.

Table 2. Pad dimensions and acres disturbed for the proposed well pads and access roads.

Well Pad	Anticipated Construction Date	Anticipated Spud Date	Pad Size (ft)	Disturbance ^a (Acres)	New Access (ft)	Disturbance (Acres)
13-43	15 August 2008	20 August 2008	240 x 275	1.52	15 x 50	0.03
Total				1.52		0.03
Total Acres Disturbed^b						1.55

^a Estimate includes total acres disturbed for pad surface and overburden.

^b Estimate includes total acres disturbed for well pads, and new road construction.

No Action Alternative: Under the no action alternative, the application would be denied and the well pads and access roads would not be constructed.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD: None

NEED FOR THE ACTION: The purpose of the proposed action is to manage the exploration and development of mineral resources on Public Lands in a manner that avoids, minimizes, reduces, or mitigates potential impacts to other resource values.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Page 2-5

Decision Language: “Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values.”

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be

made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The entire White River Resource area has been classified as either attainment or unclassified for all air pollutants, and most of the area has been designated for the prevention of significant deterioration (PSD) class II. The proposed action is more than ten miles from any special designation air sheds or non-attainment areas. Unfortunately, no air quality monitoring data is available for this area. However, air quality conditions near the proposed location (Grand Junction, CO) indicate generally good air quality for this region.

Environmental Consequences of the Proposed Action: The proposed action includes constructing 1 well pad, building 50 feet of access road and drilling activities. Total disturbance will be at most 1.55 acres. Visible dust is likely to increase due to construction and vehicle traffic during drilling, completion, and production activities.

The proposed action would increase the level of inhalable particulate matter, specifically particles ten microns or less in diameter (PM₁₀) associated with fugitive dust. In addition, increases in the following criteria pollutants: carbon monoxide, ozone (secondary pollutant), nitrogen dioxide, and sulfur dioxide would also occur due to combustion of fossil fuels which will likely be the highest during construction and drilling activities. Also, non-criteria pollutants such as visibility, nitric oxide, air toxics (e.g. benzene) and total suspended particulates (TSP) may also experience slight, temporary increases as a result of the proposed action (no national ambient air quality standards have been set for non-criteria pollutants). The Colorado Air Pollution Control Division (APCD) estimates the maximum PM₁₀ levels (24-hour average) in rural portions of western Colorado to be near 50 micrograms per cubic meter (µg/m³). This project is not likely to exceed this western Colorado dust standard.

Environmental Consequences of the No Action Alternative: No impacts would occur

Mitigation: These items should be added as conditions of approval (COAs).

All access roads will be maintained according to BLM Manual Section 9113 standards for road shape and drainage features at all times during construction, drilling and production.

All access roads will be treated with water and/or a dust suppressant during construction and drilling activities so that there is not a visible dust trail behind vehicles. All vehicles will abide by company or public speed restrictions during all activities. If water is used as a dust suppressant, there should be no traces of oil or solvents in water. Only water needed for abating dust should be applied; dust abatement should not be used as a water disposal option under any circumstances.

CULTURAL RESOURCES

Affected Environment: Ant Hill Unit 13-43 well pad and access road: The proposed well pad location and access route have been inventoried at the Class III (100% pedestrian) level (Slaughter 2008, Compliance Dated 7/23/2008) with no new cultural resources identified in the inventoried area. However, previously undetected resources may exist within 308 meters of the proposed project.

Environmental Consequences of the Proposed Action: Ant Hill Unit 13-43 well pad and access road: The proposed well pad and access road would not impact any known cultural resources. However, previously undetected resources within 308 meters could be adversely impacted by vibrations from construction of the pad and drilling operations or increased unauthorized collection due to increased access and activity in the area.

Environmental Consequences of the No Action Alternative: There would be no new impacts to cultural resources under the No Action Alternative.

Mitigation: Ant Hill Unit 13-43 well pad and access road: 1. The operator is responsible for informing all persons who are associated with the project 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 uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). 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 site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

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 cost. 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.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: Cheatgrass, a non-native, invasive annual grass species is common in the area of the proposed action. Musk thistle, Canada thistle and knapweed also occur in the general area of the proposed action. All of these noxious weeds readily invade and establish on disturbed sites such as pads, pipelines, and road shoulders. These species provide minimal resource value and are an impediment to meeting Public Land Health Standards. Successful reclamation is critical in preventing the area associated with the proposed action from being invaded by noxious weed species present in the area. Reclamation success in the area of the proposed action is almost entirely dependent on favorable and timely precipitation.

Environmental Consequences of the Proposed Action: Activities and disturbances associated with the proposed action will likely result in further establishment of undesirable, invasive, non-native species. This is directly related to soil disturbing activities and associated elimination of the native plant community, as well as noxious and invasive weed seeds being transported by equipment. Invasive species such as cheat grass compete with desirable vegetation resulting in a degraded plant community.

Establishment of desirable species during interim reclamation reduces or prevents establishment of noxious weeds. The proposed seed mix (Native Seed Mix # 2) from the White River ROD/RMP is recommended because those plant species are best adapted to these sites and offer the best opportunity to establish vegetation cover that mimics these native rangelands. If noxious weeds invade the disturbed areas associated with the proposed action, prompt control will be necessary to prevent spread into the adjacent plant communities.

Environmental Consequences of the No Action Alternative: None

Mitigation: The applicant shall monitor all disturbed and reclaimed areas until final abandonment for the presence of invasive, non-native, and/or noxious plant species that have become established as a result of the proposed action. The applicant will be responsible for controlling cheatgrass, noxious weeds, and/or invasive weeds should they occur and/or increase in density on the site of, or as a result of the proposed action.

Upon detection of noxious, non-native, and/or invasive plant species, the applicant will control their presence before seed production using materials and methods as outlined in the RMP and/or authorized in advance by the White River Field Office Manager. Application of herbicides must be under field supervision of an EPA certified pesticide applicator. Herbicides must be registered by the EPA and application proposals must be approved by the BLM. Approved and current Pesticide Use Proposals must be on file with the WRFO BLM office prior to any herbicide application.

Any hay and/or straw used for this proposal shall be certified free of noxious weeds.

MIGRATORY BIRDS

Affected Environment: The Migratory Bird Treaty Act (MBTA) prohibits disturbance or destruction to an active nest, nesting birds, or their eggs or young. This applies to all birds

(including raptors), except non-native species including house sparrow, European starling, rock dove, and upland game birds.

Executive Order (EO) 13186 sets forth the responsibilities of federal agencies to implement further the provisions of the MBTA by integrating bird conservation principles and practices into agency activities and by ensuring that federal actions evaluate the effects of actions and agency plans on migratory birds.

U.S. Fish and Wildlife Service (USFWS) compiled a list of Birds of Conservation Concern (BCC) to identify migratory and non-migratory bird species (not including those already designated as federally threatened or endangered) that without conservation actions may become candidates for listing under the Endangered Species Act (ESA) (USFWS 2002). Additionally, Partners in Flight (PIF) North American Landbird Conservation Plan (Rich et al. 2004) addresses bird species not protected by other existing conservation programs.

The project area includes suitable nesting habitat for a variety of migratory bird species. These habitats, which include Pinyon-juniper woodlands, mixed perennial grasslands, and Wyoming big sagebrush shrublands, are used by these species for nesting purposes from late May through early August. Species associated with woodland communities within the project area are typical and widely represented in the WRFO Resource Area and throughout the region. Those bird populations identified by the Rocky Mountain Bird Observatory Partners in Flight program as having higher conservation interest include Brewer's sparrow (which occur in sagebrush-dominated areas), and gray flycatcher, pinyon jay, juniper titmouse, black-throated gray warbler, and violet-green swallow, which occur in pinion-juniper dominated woodlands. The species identified are well distributed at appropriate densities in the White River Resource Area's extensive woodland and shrubland habitats. The project area also includes extensive stands of greasewood and basin big sagebrush in selected areas. These shrub-dominated sites typically support few nesting birds.

The dominant vegetation at location 13-43 includes mixed stands of perennial grasses and Wyoming big sagebrush. Dominant perennial grass species that occur at the proposed site location include western wheatgrass, basin wild rye, Sandberg bluegrass and squirreltail. Blue-gray gnatcatcher, Brewer's sparrow and Vesper's sparrow are associated with these shrub and grass communities. There are no species of high conservation interest associated with this project.

Environmental Consequences of the Proposed Action: It is anticipated that construction-related activities would start as early as 15 August, 2008, with drilling and completion operations extending into September. Given the anticipated time and duration of construction activities submitted by the Operator, heavy equipment use and high levels of activity associated with site construction would not occur during the migratory bird nesting season. Consequently, impacts to local and regional bird populations as a result of direct and indirect effects to breeding behavior, distribution and abundance are unknown. Furthermore, long-term, large-scale cumulative impacts to breeding populations of migratory birds within the WRFO Resource Area as a result of increased oil and gas activity is unknown. However, because construction-related activities will not occur during the migratory bird breeding season, because of the relative small size of the individual surface disturbance actions, and the small spatial extent of nesting habitat that will be

impacted directly as a result of the proposed action, short-term impacts will most likely not influence the distribution and abundance of local and regional migratory bird populations.

The development of reserve pits in the project area may be expected to attract waterfowl and other migratory birds for purposes of resting, foraging, or as a source of free water. It has been brought to the White River Field Office's attention that migratory waterfowl (e.g., teal and gadwall) have contacted oil-based drilling fluids stored in reserve pits during or after completion operations and are suffering mortality in violation of the Migratory Bird Treaty Act. The extent and nature of the problem is not well defined, but is being actively investigated by the federal agencies and the companies. Until the vectors of mortality are better understood, management measures must be conservative and directed at preventing bird contact with produced water and drilling and completion fluids that may pose a risk (i.e., acute or chronic toxicity, compromised insulation) to these species.

Environmental Consequences of the No Action Alternative: There would be no effect on migratory birds or their habitats under the no action alternative.

Mitigation: The Operator will be responsible for implementing mitigation measures that minimize bird injuries or mortality as a result of contact with produced water in the reserve pit. The most effective measure currently being used includes the use of netting to cover the pit. The use of plastic balls that float on the surface and reduce the area that might be perceived by waterfowl as a place to rest and/or forage has also been used in certain circumstances, with limited results. The use of plastic flagging has proven to be ineffective at deterring use by migratory waterfowl for foraging, resting or as a source of free water, and is strongly discouraged. The Operator will notify WRFO Natural Resource Specialist, Brett Smithers via Email (brett_smithers@blm.gov) or by phone ([970] 878-3818) of the method that will be used to prevent impacts to birds two weeks prior to the date when completion activities are expected to begin. The BLM-approved method will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: There are no threatened or endangered animals that are known to inhabit or derive important benefit from the project vicinity.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on animals listed under the Endangered Species Act.

Environmental Consequences of the No Action Alternative: No immediate action would be authorized that would involve the adverse modification of habitat that supports threatened, endangered or BLM-sensitive animal species.

Mitigation: None

Finding on the Public Land Health Standard for Threatened & Endangered species: The proposed and no-action alternatives would have no influence on special status species or associated habitats and, as such, would have no influence on applicable land health standards.

THREATENED, ENDANGERED, AND SENSITIVE PLANT SPECIES (includes a finding on Standard 4)

Affected Environment: There are no plant species listed, proposed, or candidate to the Endangered Species Act, nor plants considered sensitive by the BLM, that are known to inhabit areas potentially influenced by the proposed action.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on special status species or associated habitats.

Environmental Consequences of the No Action Alternative: There would be no action authorized that would have potential to influence special status species or associated habitats.

Mitigation: None

Finding on the Public Land Health Standard for Threatened & Endangered species: The proposed and no-action alternatives would have no influence on populations or habitats of plants associated with the Endangered Species Act or BLM sensitive species and, as such, would have no influence on the status of applicable land health standards.

WASTES, HAZARDOUS OR SOLID

Affected Environment: Fuels, oils, and lubricants will be used during the project, and solid waste (human waste, garbage, etc.) will be generated during activities. There are no known hazardous or other solid wastes on the subject lands. No hazardous materials have been identified that will be used, stored or disposed of at sites included in the project area. Garbage will be contained onsite and then hauled to an approved disposal site.

Environmental Consequences of the Proposed Action: Accidental spills or leaks associated with equipment failures, refueling or maintenance of equipment, and storage of fuel, oil, or other fluids could cause soil, surface water and/or groundwater contamination. With implementation of the mitigation measures described below and Exxon Mobile's spill prevention program, impacts would likely be temporary. Solid wastes would be properly disposed of offsite in an approved facility.

Environmental Consequences of the No Action Alternative: No hazardous or other solid wastes would be generated under the no-action alternative.

Mitigation: The following items should be added as conditions of approval.

Sewage from trailers and portolets will be hauled to an approved disposal site.

The release of any chemical, oil, petroleum product, produced water, or sewage, etc, (regardless of quantity) must be reported by the lease holder, to the Bureau of Land Management – WRFO Hazardous Materials Coordinator at (970) 878-3800.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: The proposed action includes constructing 1 well pad, building 50 feet of access road and drilling activities. Total disturbance will be 1.55 acres. This project is entirely within the Crooked Wash watershed. The water quality classification of White River tributaries from the North Fork of the South Fork to Piceance Creek (segment 9a) is for Aquatic Life Cold 2, Recreation 2, Water Supply, and Agriculture. The Surface Use Plan indicates there will be surfacing of the roads with native materials and that topsoil will be used to build the road crown (see section 2E).

Environmental Consequences of the Proposed Action: Construction of the roads and pads will result in temporary disturbance causing increased erosion and surface runoff until re-vegetation efforts are successful. Inadequate surfacing on access roads could result in localized erosion and sediment production off the road surface. Top soil from the road surface should be salvaged and used to re-vegetate the borrow roads on new road construction or salvaged for interim reclamation. Placing topsoil in the road crown will reduce the stability of the road surface and hinder reclamation of the borrow ditches. Drainage features on the access road and pad should be adequate to protect surface waters from erosion due to concentrated flows and/or sediment from the construction site.

Environmental Consequences of the No Action Alternative: No impacts identified.

Mitigation: The following should be attached as conditions of approval.

Consider additional improvements and maintenance to the access roads from Country Road 142 to the well site to maintain 9113 standards for access road construction and maintenance. Culverts and waterbars should be installed according to 9113 standards and sized for the 10-year storm event with no static head and to pass a 25-year event without failing.

Instead of using topsoil to build the road crown on the new access road, salvage topsoil from the new access road with the well pad for storage and use a portion of the topsoil to reclaim the borrow ditches on the new access road and on disturbed sites due to culvert installation.

Provide for erosion-resistant surface drainage by adding necessary drainage facilities and prior to rain or snow events. When erosion in disturbed areas is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site.

Locate culverts or drainage dips (waterbreaks) in such a manner as to avoid discharge onto unstable terrain such as headwalls or slumps. Provide adequate spacing of these drainage features

to avoid accumulation of water in ditches or road surfaces. Monitor culvert installations to ensure proper placement and adequate armoring of inlets and outlets. Patrol areas susceptible to road or watershed damage during periods of high runoff.

Keep road inlet and outlet ditches, catchbasins, and culverts free of obstructions, particularly before and during spring runoff. Routine machine-cleaning of ditches should be kept to a minimum during wet weather. Leave the disturbed area in a condition that provides drainage with no additional maintenance.

A Reclamation Status Report will be submitted to the WRFO biannually for all actions that require disturbance of surface soils on BLM-administered lands as a result of the proposed action. Actions may include, but are not limited to, well pad and road construction, construction of ancillary facilities, or power line and pipeline construction. The Reclamation Status Report will be submitted by 15 May and 15 November of each calendar year, and will include the well number, legal description, project description (e.g., well pad or pipeline), reclamation status (e.g., interim or final), whether the well pad or pipeline has been re-vegetated and/or re-contoured, date seeded, photos of the reclaimed site, estimate of acres seeded and seeding method (e.g., disk-plowed, drilled, or both). Internal and external review of this plan and the process used to acquire the necessary information will be conducted annually, and new information or changes in the reporting process will be incorporated into the plan. The Reclamation Status Report will be submitted electronically via email as a Microsoft Excel table to Natural Resource Specialist, Brett Smithers (brett_smithers@blm.gov).

Finding on the Public Land Health Standard for water quality: It is unlikely that the access road and well pad construction, as well as drilling and production activities would result in an exceedence of state water quality standards.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: The area adjacent to the proposed project area does not support riparian or wetland communities. Furthermore, riparian or wetland communities will not be directly involved or potentially affected by the proposed action.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on riparian or wetland communities.

Environmental Consequences of the No Action Alternative: The no-action alternative would not have any conceivable influence on riparian or wetland communities.

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: This project would have no conceivable potential for influencing riparian attributes addressed in the Standards.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No ACEC, flood plains, prime and unique farmlands, Wilderness, or Wild and Scenic Rivers exist within the area affected by the proposed action. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The proposed action includes constructing 1 well pad, building 50 feet of access road and drilling activities. Total disturbance will be at most 1.55 acres. Soils classifications that will be impacted by this project are shown in the table below. The Forelle loam soils in this area have medium runoff, and the hazard of water erosion is moderate to high.

A portion of this project is in fragile soils and steep slopes as identified in the 1997 RMP for the White River Field Office. A site visit on April 16, 2008 indicated that the area to be disturbed is flat and does not have the characteristics of fragile soils. The Torriorthents-Rock Outcrop complex soils adjacent to the project area have very rapid runoff with highly erodible soils. Best management practices (BMPs) recommended during the site visit on April 16, 2008 have been adopted by the operator and should reduce the risk of concentrated runoff from the site and transport of sediment from the site.

Soil Types within 30 meters of the Proposed Disturbance

Soil Complex	Acres Potentially Impacted
Torriorthents-Rock Outcrop, complex, 15-90% slopes	2.2
Forelle loam, 8-15% slopes	2.7

Environmental Consequences of the Proposed Action: If successful, stabilization and reclamation activities should minimize the risk of potential impacts past the construction phase of the project. The potential for localized erosion during construction is the most likely source of impacts as well as inadequate or poorly executed stabilization and reclamation activities between drilling sequences. If interim reclamation does not occur within six months the viability of topsoil piles and the success of stabilization efforts would be reduced. Drainage features need to be properly implemented to avoid unnecessary erosion. Restoring the productivity of these soils will be entirely dependent on successful reclamation and proper construction practices.

Environmental Consequences of the No Action Alternative: No impacts to soils would likely occur.

Mitigation: See the Water Quality Section

Finding on the Public Land Health Standard for upland soils: With mitigation this action is unlikely to reduce the productivity of soils impacted by surface disturbing activities on public lands.

VEGETATION (includes a finding on Standard 3)

Affected Environment: The proposed action is located within a Rolling Loam ecological site, which is dominated by Wyoming big sagebrush (*Artemisia tridentat* ssp. *wyomingensis*) community. The understory of this shrub type is dominated by western wheatgrass (*Agropyron smithii*), Needle and thread grass (*Stipa comata*) Sandberg bluegrass (*Poa secunda*), and June grass (*Koeleria cristata*) (see table below). Cheatgrass (*Bromus tectorum*) is an undesirable, annual, invasive, and non-native plant which is also present within the area of the proposed action.

Ecological Site / Woodland Type	Plant Community Appearance	Predominant Plant Species in the Plant Community
Rolling Loam	Sagebrush / Grass Shrubland	Wyoming big sagebrush, winterfat, low rabbitbrush, horsebrush, bitterbrush, western wheat grass, Indian rice grass, squirreltail, June grass, Nevada and Sandberg bluegrass

The soils within the project area are principally a Yamac Loam, 2 to 15% Slopes (Rolling Loam ecological site). This soil type was formed in eolian and alluvial material, which is deep and well drained. Also, Yamac Loam's have a surface layer of brown loam that is approximately 4 inches with moderate permeability, moderate to high water holding capacity, medium runoff, and slight to moderate water erosion potential. Therefore, this site normally favors successful rehabilitation efforts following a disturbance with proper moisture levels and rehabilitation techniques.

Recent drought conditions or general unfavorable precipitation patterns have prevailed for several years, hampering successful establishment of seeded plant species on other projects in this area. Undesirable and invasive annual plant species (e.g., cheatgrass) have established in portions of previously disturbed areas providing minimal resource value and hampering efforts to meet Public Land Health Standards.

Environmental Consequences of the Proposed Action: The proposed action would disturb a mid seral class of shrub and grass community on approximately 1.55 acres of public land. Even after successful interim reclamation, most of the disturbed area would be considered a long-term vegetative loss.

Well pads and access roads are considered to be long-term vegetative losses. The overall disturbed area would be reduced with successful interim reclamation of that portion of the well pad outside of the operational area. The un-reclaimed areas of the well pad and access road would be considered a long-term vegetative loss. Without successful reclamation including adequate establishment of seeded species there is potential for an increase in undesirable plant species (i.e. cheatgrass, annual mustards) that readily invade disturbed sites.

Generally through the first two growing seasons after reclamation has occurred seeded plant species are becoming established and developing adequate root systems. During this timeframe the plants are especially vulnerable to grazing pressure. Because they are succulent and readily available they tend to be sought out by livestock and wildlife as preferred forage. This situation of heavy livestock/wildlife grazing use on newly reclaimed areas reduces the ability of seeded plants to establish. The area surrounding the proposed well sites has already sustained considerable impacts from oil and gas activities including a network of access roads, well pads, and pipeline corridors resulting in fragmentation and reduced productivity of ecological sites. The proposal would result in an additional 1.55 acres of disturbed plant communities.

Environmental Consequences of the No Action Alternative: None

Mitigation: Successful interim reclamation shall include the re-vegetation (adequate establishment of seeded plant species as determined by the BLM) of all disturbed areas not needed for site access or production including, shoulders of access roads, cut and fill slopes, and topsoil stockpiles, immediately after completion of drilling. All seeding will be done with Native Seed Mix #2 from the White River Resource Area Resource Management Plan (RMP), B-19, Appendix B (see table below). Seeding rates in the RMP are shown as pounds of Pure Live Seed (PLS) per acre and apply to drill seeding. When drill seeding is not feasible (e.g. steep slopes, etc.), then broadcast seed using double the seeding rate and then harrowed to insure seed coverage. Applied seed must be certified and free of noxious weeds. Once the proposed wells are abandoned, the applicant shall re-contour all disturbances (i.e., cut and fill slopes, well pads, roadways, etc.) to the natural contour interval of the site prior to final rehabilitation activities, again using Native Seed Mix #2 or the current seed mix recommended for this site at the time of reclamation.

Native Seed Mix #	Species (Variety)	Lbs PLS/Acre
2	Western wheatgrass (Rosanna)	2
	Indian Ricegrass (Rimrock)	1
	Bluebunch wheatgrass (Whitmar)	2
	Thickspike wheatgrass (Critana)	2
	Green Needlegrass (Lodorm)	1
	Globemallow	0.5

Topsoil shall be stockpiled separately from the spoil piles during construction of the pad. This separated topsoil shall be spread evenly, recreating the top soil horizon upon interim reclamation and final rehabilitation. Re-use of the topsoil will aid in the establishment of seeded species.

The applicant shall be required to achieve a reclamation success rate of sufficient vegetative ground cover from reclaimed plant species within three growing seasons after the application of seed. The ground cover of reclaimed seed species shall be comparable to that of the nearby undisturbed plant communities that are at a Potential Natural Community (PNC) state in relation to the seed mix as deemed appropriate by the BLM. Rehabilitation efforts must be repeated until it is concluded that the success rate is at an acceptable level as determined by the BLM.

Re-vegetation of disturbed areas will be severely hampered if livestock are allowed to graze the seeded areas in the first two growing seasons after reclamation. To facilitate successful re-vegetation the site will be fenced to exclude livestock from the reclaimed area of the well pad

location (including cut and fill slopes) to provide a livestock (cattle) proof barrier. Fencing will be installed within two weeks after interim reclamation is completed. Fencing will consist of braced corners with a 4 strand barbwire fence built to BLM specifications (COA 104 in WRFO RMP – BLM Manual H 1737-1). BLM specified cattleguards will be installed at the same time as fence construction where the well access road bisects the fenceline surrounding the well pad's disturbance imprint. Once reclaimed plant species are fully established on disturbed sites as determined by the BLM (see paragraph above), the fences and cattleguards will be completely removed by the applicant. This will allow reclaimed plant species to become well established without grazing pressure from livestock.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): The proposed action would disturb a segment of a Rolling Loam ecological site. Therefore, the action would further fragment these landscapes into isolated and disconnected parcels. Mid seral ecological sites at the proposed action locality have acceptable components within the plant community and are meeting standards for public land health.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: The proposed locations are separated from warm-water aquatic communities supported by the White River by approximately **1.9** miles.

Environmental Consequences of the Proposed Action: Separated by approximately **1.9** miles of ephemeral channel, there is no reasonable likelihood that aquatic habitats associated with downstream perennial systems would be influenced by proposed well and road construction.

Environmental Consequences of the No Action Alternative: There would be no immediate action authorized that would have potential to affect wetland or riparian communities.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): Because there are no aquatic habitats or animals potentially influenced by the proposed or no-action alternatives, a land health standard finding is not applicable. The proposed and no action alternatives would have no measurable influence on aquatic habitats associated with downstream systems.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The proposed well would be drilled in an area that is classified as big game winter range. Moreover, the proposed well pad location falls within an area classified as deer critical winter habitat. One of the most important functions of areas classified as big game winter range is fulfilled during the early spring periods (April through early May).

Non-game bird abundance and composition associated with the woodland and shrub-dominated habitats associated within the proposed project area are considered representative, with no obvious deficiencies in composition. Small mammal abundance and distribution is poorly documented; however, the species potentially occurring within the project area are widely distributed throughout the State and the WRFO Resource Area. Furthermore, these species display broad ecological tolerance and occur in suitable habitats ranging in elevation from foothill to alpine tundra. No narrowly distributed or highly specialized species or sub-specific populations are known to occur in Piceance Basin or within the project area boundary.

The proposed location does not include suitable nesting habitat for raptors. As such, raptor surveys were not required for the proposed well locations, access routes or pipeline ROWs.

Environmental Consequences of the Proposed Action: Surface disturbances associated with the proposed action would result in the direct loss of mule deer critical winter habitat. In addition, human activity associated with drilling activities and increased traffic could result in increased mortality from vehicle collisions and temporarily displace elk and mule deer into areas of decreased disturbance. Both species commonly avoid areas of human activity and would potentially disperse up to 300 feet from all activity areas (Hollowed, E., personal communication, May 2004).

Big game impacts associated with unregulated vehicle use that result in avoidance and disuse of affected habitats, and increased energetic demands during critical periods, were addressed in the White River ROD/RMP. To stabilize road density and its influence on big game physiology and habitat utility, an effective road density objective of ≤ 3 miles per square mile was established in the White River ROD/RMP on big game winter ranges. Road density within the project area is high and equals approximately 3.8 miles of road per square mile.

Because of potential cumulative local and regional impacts to big game dispersal and seasonal movement patterns as a result of increased oil and gas activity in areas identified as critical big game habitat, as directed by the WRFO RMP (1997) the stipulation developed specifically for big game critical habitat will apply. As such, no development activity is allowed from December 1 through April 30. Development is allowed from May 1 through November 30.

Environmental Consequences of the No Action Alternative: No immediate action would be authorized that would involve the adverse modification of terrestrial wildlife habitats.

Mitigation: Because of potential cumulative local and regional impacts to big game dispersal and seasonal movement patterns as a result of increased oil and gas activity in areas identified as critical big game habitat, as directed by the WRFO RMP (1997) the stipulation developed specifically for big game critical winter habitat will apply. As such, no development activity (i.e., drilling activities, or any action or activity that requires disturbance of surface soils) is allowed from December 1 through April 30 for locations 13-43. Development is allowed from May 1 through November 30. This stipulation applies to all surface disturbing activities.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): The project area presently meets the public land health standards

for terrestrial animal communities. As conditioned, the proposed action would have negligible long term influence on the utility or function of big game, raptor, or non-game habitats surrounding the proposed location for the well pad and access road. In an overall context, lands affected by the no-action or proposed action would continue to meet the land health standard for terrestrial animals.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation			X
Cadastral Survey	X		
Fire Management	X		
Forest Management	X		
Geology and Minerals			X
Hydrology/Water Rights			X
Law Enforcement		X	
Noise		X	
Paleontology			X
Rangeland Management			X
Realty Authorizations		X	
Recreation			X
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

ACCESS AND TRANSPORTATION

Affected Environment: Proposed action will impact Rio Blanco County (RBC) road 71 and an unnamed unnumbered BLM route. Both routes are primarily utilized by the energy industry but receive significant use by hunters during fall big game hunting season.

Environmental Consequences of the Proposed Action: It is likely with the continued increase in traffic of all types to service and construct energy development infrastructure that road surface damage may occur as a result if road maintenance activities are not commensurate with the levels of road usage. An increase in route proliferation is also likely due to the increase in new roads being developed. No new access will be created.

Environmental Consequences of the No Action Alternative: None.

Mitigation: All roads shall be constructed and maintained by permittee per “Gold Book” standards.

GEOLOGY AND MINERALS

Affected Environment: The surface geologic formation of the well locations is Wasatch and the targeted zone is in the Mesaverde. During drilling potential water, coal, and gas zones will be encountered from surface to the targeted zone. Coal zones are at depths greater than 3,000 feet and are recoverable by conventional means.

Environmental Consequences of the Proposed Action: Cementing procedure of the proposed actions isolates the formations and will prevent the migration of gas, water, and oil between formations. The coal zones will also be isolated during this procedure. Development of these wells will remove the water and deplete the methane resources in the targeted formation.

Environmental Consequences of the No Action Alternative: None

Mitigation: None

HYDROLOGY AND WATER RIGHTS

Affected Environment: Water will be used for construction, drilling, completion and fracing operations as part of this action. Sources of water have been identified in the Surface Use Plan (SUP) as the town of Meeker and estimates of water use have been given.

Environmental Consequences of the Proposed Action: No impacts to depletions in the Colorado River system or to water rights are anticipated, since water amounts will be considered by the Town of Meeker.

Environmental Consequences of the No Action Alternative: no water would be used.

Mitigation: None identified.

PALEONTOLOGY

Affected Environment: Ant Hill Unit 13-43 well pad location, access road and well tie pipeline: the proposed well pad, access road and well tie pipeline are in an area generally mapped as the Wasatch Formation (Tweto 1979) which the BLM, WRFO has classified as a PFYC 5 formation meaning it is known to produce fossils of scientific importance

Environmental Consequences of the Proposed Action: Ant Hill Unit13-43 well pad, access road and well tie pipeline: If it becomes necessary, for any reason, to excavate into the underlying rock formation to construct the access road, bury the well tie pipeline, level the well pad or

excavate the reserve/blooiie pit there is the potential to impact scientifically important fossil resources.

Environmental Consequences of the No Action Alternative: There would be no new impacts to fossil resources under the No Action Alternative.

Mitigation: Ant Hill Unit 13-43 well pad, access road and well tie pipeline: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

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 cost. 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.

2. If, for any reason it becomes necessary to excavate into the underlying rock formation to construct the access road, bury the well tie pipeline, level the well pad or excavate the reserve/blooiie pit an approved paleontological monitor shall be present during all such excavations.

RANGELAND MANAGEMENT

Affected Environment: The proposed action is located in the middle pasture of the West Shutta allotment (06604), which is currently authorized for grazing by cattle from April 20 to June 10 and again from November 20 through January 15 each year. A proposal is being analyzed to change the class of livestock from cattle to horses. This proposal is scheduled to be completed by early winter of 2008.

Soils in the project area are principally a Yamac Loam, 2-15% Slopes (Rolling Loam ecological site). This soil type provides a productive forage capacity of rangelands that are utilized by livestock to meet nutrient requirements.

Drought conditions have prevailed in northwest Colorado for the past several years, minimizing successful reclamation with and re-establishment of desired plant species at other projects in this area. Undesirable and invasive annual plant species (e.g. cheatgrass and halogeton) have become well established to dominant in portions of previously disturbed areas. These species provide little resource value and hinder efforts to meet Public Land Health Standards.

Environmental Consequences of the Proposed Action: The individual proposed action would have minimal impacts on the authorized grazing use because the amount of new surface disturbance (1.55 acres) is nominal in regard to the overall scale of the allotment (2,416 acres).

The 1.55 acres of disturbance associated with the proposed well pad and access road is considered long term. The total acres disturbed would decrease somewhat with successful interim reclamation of the parts of the well pad outside of the operational area, and berms on the roadside.

Long-term forage losses associated with the individual proposed action is estimated at less than 1 active Animal Unit Month (AUM) due to a reduction of forage availability. An AUM is the amount of forage necessary for the sustenance of 1 cow and her calf for a period of 1 month. Previous oil and gas related activities and disturbance in the West Shutta allotment is resulting in a reduction of and fragmentation of available rangelands and a net loss of forage for grazing use. Cumulative impacts from past, present, and future oil and gas development will likely have long-term effects on rangeland carrying capacity potentially affecting the AUMs authorized on this grazing permit. These effects would be determined during the grazing permit renewal process, which includes an evaluation of forage capacity available for livestock. It is foreseeable that the grazing permit holder could lose a portion of permitted active AUMs due to a loss of forage production and fragmentation of the rangelands associated with oil and gas development.

If the proposed action is authorized during the permitted grazing period, it would likely have some impact on livestock grazing. This is in part due to increased activity associated with drilling and associated activities and a decrease in rangelands available for grazing. BLM livestock grazing permittees have experienced injury to and losses of livestock due to heavy truck travel and inadequate fencing of disposal pits on pads. Another impact to livestock grazing may include modification in livestock distribution related to increased equipment and vehicle activity.

Environmental Consequences of the No Action Alternative: None

Mitigation: Any livestock control facilities and/or rangeland improvements impacted during this operation will be replaced or repaired to at least their condition prior to these activities. The cattleguard associated with the access road must be maintained (i.e. kept cleaned of sediment to a depth that maintains its function). Structural integrity of fences and cattleguards affected by proposed activities must be maintained at all times.

All reserve pits must be fenced with woven wire or 4-strand barbwire with reinforced corners strung to the ground surface to prevent livestock from entering the pits. On-site silt retention methods must be designed and implemented for the access road and well pad to minimize silt loads into the watersheds of nearby stock ponds.

REALTY AUTHORIZATIONS

Affected Environment: The access road and pipeline routes will be located all within the Ant Hill Unit and rights-of-way will not be needed.

Environmental Consequences of the Proposed Action: None

Environmental Consequences of the No Action Alternative: None

Mitigation: None

RECREATION

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The project areas most resemble the Recreation Opportunity Spectrum (ROS) classes of primarily Semi-Primitive Motorized (SPM) and Roaded Natural (RN).

SPM physical and social recreation setting is typically characterized by a natural appearing environment with few administrative controls, low interaction between users but evidence of other users may be present. SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment that offers challenge and risk.

Roaded Natural physical and social recreation setting may have modifications which range from being easily noticed to strongly dominant to observers within the area. However, from sensitive travel routes and use areas these alterations would remain unnoticed or visually subordinate. There is strong evidence of designed roads and/or highways. Structures are generally scattered, remaining visually subordinate or unnoticed to the sensitive travel route observer. Structures may include utility corridors, microwave installations and so on. Frequency of contact is moderate to high on roads and low to moderate on trails and away from roads. RN recreation experience is characterized by a moderate probability of isolation from the sights and sounds of humans that offers an environment that offers challenge and risk.

Environmental Consequences of the Proposed Action: The public will lose approximately 2 acres of dispersed recreation potential while energy development is present. The public will most likely not recreate in the vicinity of these facilities and will be dispersed elsewhere. If action coincides with hunting seasons (September through November) it will most likely disrupt the experience sought by those recreationists.

With the introduction of new well pads and roads, an increase of traffic could be expected increasing the likelihood of human interactions, the sights and sounds associated with the human environment and a less naturally appearing environment.

Environmental Consequences of the No Action Alternative: No loss of dispersed recreation potential and no impact to hunting recreationists.

Mitigation: None.

VISUAL RESOURCE

Affected Environment: The proposed action is within a VRM class III area. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape

Environmental Consequences of the Proposed Action: The proposed action is small in scale relative to the surrounding landscape; therefore, any modifications will be unseen to the casual observer, and VRM III objectives will be met.

Environmental Consequences of the No Action Alternative: No impact on visual resources.

Mitigation: All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed above ground shall be painted Munsell Soil Color Chart Covert Green or equivalent within six months of installation.

CUMULATIVE IMPACTS SUMMARY: This action is consistent with the scope of impacts addressed in the White River ROD/RMP. The cumulative impacts of oil and gas activities are addressed in the White River ROD/RMP for each resource value that would be affected by the proposed action.

REFERENCES CITED:

Brogan, John M.

2002 Class III Cultural Resource Inventory Report for the Proposed Tom Brown, Inc. AHU #28-44 Well Pad, Access road and Pipeline Tie-in, Rio Blanco County, Colorado. Metcalf Archaeological Consultants, Inc., Eagle Colorado.

Tweto, Ogden

1979 Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

PERSONS / AGENCIES CONSULTED: None

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Bob Lange	Hydrologist	Air Quality, Wastes (Hazardous or Solids), Water Quality (Surface and Ground), Hydrology and Water Rights, and Soils.

Name	Title	Area of Responsibility
Ken Holsinger	Botanist	Areas of Critical Environmental Concern, Threatened and Endangered Plant Species
Michael Selle	Archeologist	Cultural Resources, Paleontological Resources
Mary Taylor	Rangeland Management Specialist	Invasive, Non-Native Species, Vegetation , Rangeland Management, Wetlands and Riparian Zones
Brett Smithers	Wildlife Biologist	Migratory Birds, Threatened, Endangered and Sensitive Animal Species, Terrestrial and Aquatic Wildlife,
Chris Ham	Outdoor Recreation Planner	Wilderness, Access and Transportation, Recreation & Visual Resources
Jim Michels	Fire/Fuels Technician	Fire Management
Jim Michels	Fire/Fuels Technician	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Penny Brown	Realty Specialist	Realty Authorizations
Melissa J. Kindall	Range Technician	Wild Horses

Finding of No Significant Impact/Decision Record (FONSI/DR)

CO-110-2008-120-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analysis of the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION/RATIONALE: It is my decision to approve the proposed action with the mitigation measures listed below.

MITIGATION MEASURES:

1. All access roads will be maintained according to BLM Manual Section 9113 standards for road shape and drainage features at all times during construction, drilling and production.
2. All access roads will be treated with water and/or a dust suppressant during construction and drilling activities so that there is not a visible dust trail behind vehicles. All vehicles will abide by company or public speed restrictions during all activities. If water is used as a dust suppressant, there should be no traces of oil or solvents in water. Only water needed for abating dust should be applied; dust abatement should not be used as a water disposal option under any circumstances.
3. Ant Hill Unit 13-43 well pad and access road: 1. The operator is responsible for informing all persons who are associated with the project 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 uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:
4. The applicant shall monitor all disturbed and reclaimed areas until final abandonment for the presence of invasive, non-native, and/or noxious plant species that have become established as a result of the proposed action. The applicant will be responsible for controlling cheatgrass, noxious weeds, and/or invasive weeds should they occur and/or increase in density on the site of, or as a result of the proposed action.
5. Upon detection of noxious, non-native, and/or invasive plant species, the applicant will control their presence before seed production using materials and methods as outlined in the RMP

and/or authorized in advance by the White River Field Office Manager. Application of herbicides must be under field supervision of an EPA certified pesticide applicator. Herbicides must be registered by the EPA and application proposals must be approved by the BLM. Approved and current Pesticide Use Proposals must be on file with the WRFO BLM office prior to any herbicide application.

6. Any hay and/or straw used for this proposal shall be certified free of noxious weeds.
7. The Operator will be responsible for implementing mitigation measures that minimize bird injuries or mortality as a result of contact with produced water in the reserve pit. The most effective measure currently being used includes the use of netting to cover the pit. The use of plastic balls that float on the surface and reduce the area that might be perceived by waterfowl as a place to rest and/or forage has also been used in certain circumstances, with limited results. The use of plastic flagging has proven to be ineffective at deterring use by migratory waterfowl for foraging, resting or as a source of free water, and is strongly discouraged. The Operator will notify WRFO Natural Resource Specialist, Brett Smithers via Email (brett_smithers@blm.gov) or by phone ([970] 878-3818) of the method that will be used to prevent impacts to birds two weeks prior to the date when **completion activities** are expected to begin. The BLM-approved method will be applied within **24 hours** after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.
8. Sewage from trailers and portolets will be hauled to an approved disposal site.
9. The release of any chemical, oil, petroleum product, produced water, or sewage, etc, (regardless of quantity) must be reported by the lease holder, to the Bureau of Land Management – WRFO Hazardous Materials Coordinator at (970) 878-3800.
10. Consider additional improvements and maintenance to the access roads from Country Road 142 to the well site to maintain 9113 standards for access road construction and maintenance. Culverts and waterbars should be installed according to 9113 standards and sized for the 10-year storm event with no static head and to pass a 25-year event without failing.
11. Instead of using topsoil to build the road crown on the new access road, salvage topsoil from the new access road with the well pad for storage and use a portion of the topsoil to reclaim the borrow ditches on the new access road and on disturbed sites due to culvert installation.
12. Provide for erosion-resistant surface drainage by adding necessary drainage facilities and prior to rain or snow events. When erosion in disturbed areas is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site.
13. Locate culverts or drainage dips (waterbreaks) in such a manner as to avoid discharge onto unstable terrain such as headwalls or slumps. Provide adequate spacing of these drainage features to avoid accumulation of water in ditches or road surfaces. Monitor culvert

installations to ensure proper placement and adequate armoring of inlets and outlets. Patrol areas susceptible to road or watershed damage during periods of high runoff.

14. Keep road inlet and outlet ditches, catchbasins, and culverts free of obstructions, particularly before and during spring runoff. Routine machine-cleaning of ditches should be kept to a minimum during wet weather. Leave the disturbed area in a condition that provides drainage with no additional maintenance.
15. A Reclamation Status Report will be submitted to the WRFO biannually for all actions that require disturbance of surface soils on BLM-administered lands as a result of the proposed action. Actions may include, but are not limited to, well pad and road construction, construction of ancillary facilities, or power line and pipeline construction. The Reclamation Status Report will be submitted by 15 May and 15 November of each calendar year, and will include the well number, legal description, project description (e.g., well pad or pipeline), reclamation status (e.g., interim or final), whether the well pad or pipeline has been re-vegetated and/or re-contoured, date seeded, photos of the reclaimed site, estimate of acres seeded and seeding method (e.g., disk-plowed, drilled, or both). Internal and external review of this plan and the process used to acquire the necessary information will be conducted annually, and new information or changes in the reporting process will be incorporated into the plan. The Reclamation Status Report will be submitted electronically via email as a Microsoft Excel table to Natural Resource Specialist, Brett Smithers (brett_smithers@blm.gov).
16. Successful interim reclamation shall include the re-vegetation (adequate establishment of seeded plant species as determined by the BLM) of all disturbed areas not needed for site access or production including, shoulders of access roads, cut and fill slopes, and topsoil stockpiles, immediately after completion of drilling. All seeding will be done with Native Seed Mix #2 from the White River Resource Area Resource Management Plan (RMP), B-19, Appendix B (see table below). Seeding rates in the RMP are shown as pounds of Pure Live Seed (PLS) per acre and apply to drill seeding. When drill seeding is not feasible (e.g. steep slopes, etc.), then broadcast seed using double the seeding rate and then harrowed to insure seed coverage. Applied seed must be certified and free of noxious weeds. Once the proposed wells are abandoned, the applicant shall re-contour all disturbances (i.e., cut and fill slopes, well pads, roadways, etc.) to the natural contour interval of the site prior to final rehabilitation activities, again using Native Seed Mix #2 or the current seed mix recommended for this site at the time of reclamation.

Native Seed Mix #	Species (Variety)	Lbs PLS/Acre
2	Western wheatgrass (Rosanna)	2
	Indian Ricegrass (Rimrock)	1
	Bluebunch wheatgrass (Whitmar)	2
	Thickspike wheatgrass (Critana)	2
	Green Needlegrass (Lodorm)	1
	Globemallow	0.5

17. Topsoil shall be stockpiled separately from the spoil piles during construction of the pad. This separated topsoil shall be spread evenly, recreating the top soil horizon upon interim

reclamation and final rehabilitation. Re-use of the topsoil will aid in the establishment of seeded species.

18. The applicant shall be required to achieve a reclamation success rate of sufficient vegetative ground cover from reclaimed plant species within three growing seasons after the application of seed. The ground cover of reclaimed seed species shall be comparable to that of the nearby undisturbed plant communities that are at a Potential Natural Community (PNC) state in relation to the seed mix as deemed appropriate by the BLM. Rehabilitation efforts must be repeated until it is concluded that the success rate is at an acceptable level as determined by the BLM.
19. Re-vegetation of disturbed areas will be severely hampered if livestock are allowed to graze the seeded areas in the first two growing seasons after reclamation. To facilitate successful re-vegetation the site will be fenced to exclude livestock from the reclaimed area of the well pad location (including cut and fill slopes) to provide a livestock (cattle) proof barrier. Fencing will be installed within two weeks after interim reclamation is completed. Fencing will consist of braced corners with a 4 strand barbwire fence built to BLM specifications (COA 104 in WRFO RMP – BLM Manual H 1737-1). BLM specified cattleguards will be installed at the same time as fence construction where the well access road bisects the fenceline surrounding the well pad's disturbance imprint. Once reclaimed plant species are fully established on disturbed sites as determined by the BLM (see paragraph above), the fences and cattleguards will be completely removed by the applicant. This will allow reclaimed plant species to become well established without grazing pressure from livestock.
20. All roads shall be constructed and maintained by permittee per "Gold Book" standards.
21. Because of potential cumulative local and regional impacts to big game dispersal and seasonal movement patterns as a result of increased oil and gas activity in areas identified as critical big game habitat, as directed by the WRFO RMP (1997) the stipulation developed specifically for big game critical winter habitat will apply. As such, no development activity (i.e., drilling activities, or any action or activity that requires disturbance of surface soils) is allowed from **December 1** through **April 30** for locations **13-43**. Development is allowed from May 1 through November 30. This stipulation applies to all surface disturbing activities.
22. Any livestock control facilities and/or rangeland improvements impacted during this operation will be replaced or repaired to at least their condition prior to these activities. The cattleguard associated with the access road must be maintained (i.e. kept cleaned of sediment to a depth that maintains its function). Structural integrity of fences and cattleguards affected by proposed activities must be maintained at all times.
23. All reserve pits must be fenced with woven wire or 4-strand barbwire with reinforced corners strung to the ground surface to prevent livestock from entering the pits. On-site silt retention methods must be designed and implemented for the access road and well pad to minimize silt loads into the watersheds of nearby stock ponds.

24. All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed above ground shall be painted Munsell Soil Color Chart Covert Green or equivalent within six months of installation.

COMPLIANCE/MONITORING: On-going compliance inspections and monitoring of drilling, production and post-production activities will be conducted by White River Field Office staff during construction of well pads, access roads, and pipelines. Specific mitigation developed in this Environmental Assessment and the lease terms and conditions will be followed. The Operator will be notified of compliance related issues in writing, and depending on the nature of the issue(s), will be provided 30 days to resolve such issues.

NAME OF PREPARER: Brett Smithers

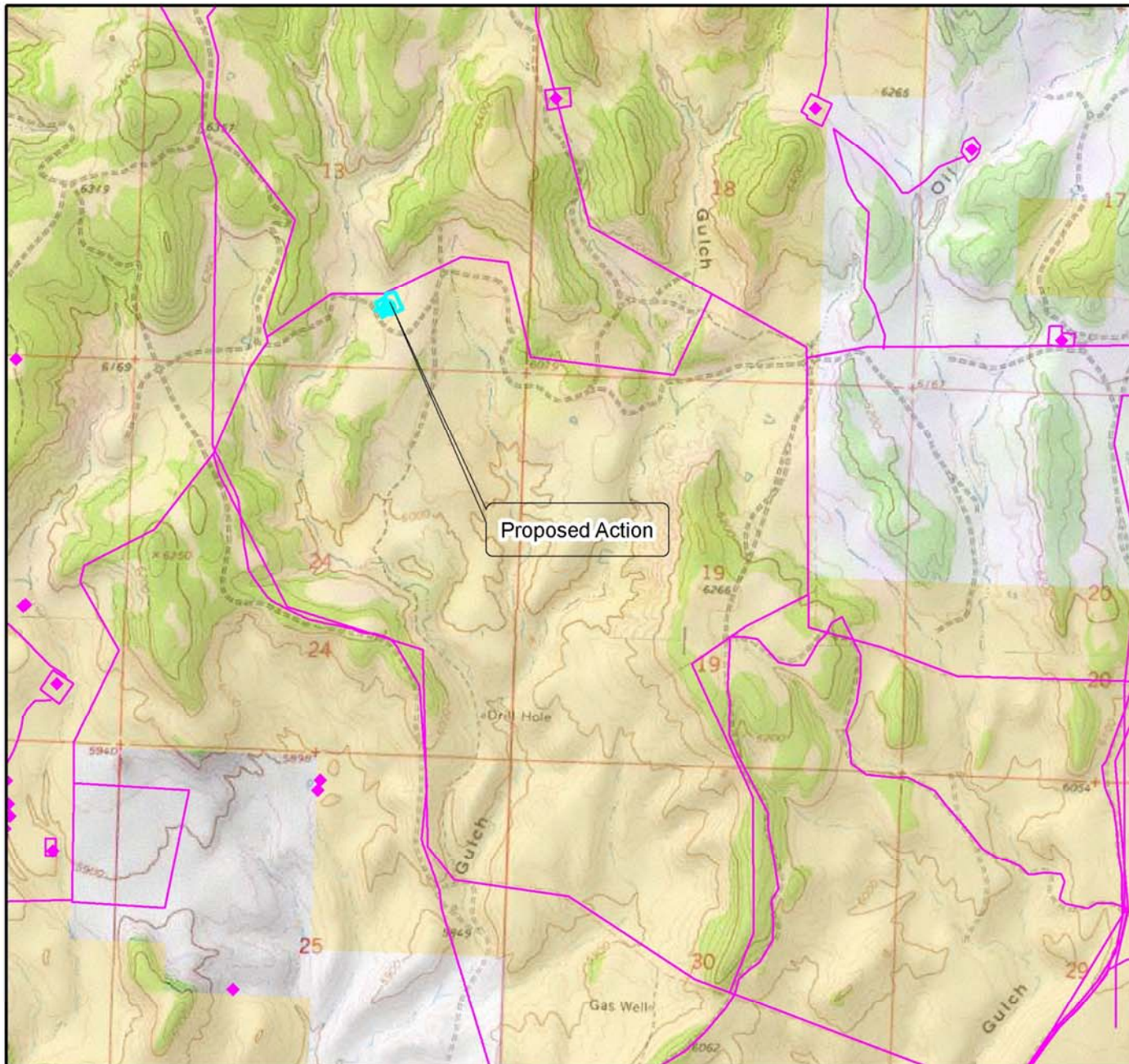
NAME OF ENVIRONMENTAL COORDINATOR: Caroline Hollowed

SIGNATURE OF AUTHORIZED OFFICIAL: 
Field Manager

DATE SIGNED: 08/14/08


ATTACHMENTS: Figure 1 – Map of project area.

CO-110-2008-120-EA



Legend

- Projects: polygon
- Projects: line
- Projects: point
- BLM
- CDW
- FOR
- NPS
- PRI
- STA



8/14/08

