

**U.S. Department of the Interior
Bureau of Land Management
Glenwood Springs Field Office
2425 South Grand Avenue, Suite 101
Glenwood Springs, Colorado 81601**

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-140-2007-076EA

CASEFILE NUMBER: Federal Leases COC-55198, COC-58674, COC-58675, COC-58676, COC-59629, and COC-64191

PROJECT NAME: Installation of Buried Pipelines to Serve West Orchard Trunk Pipeline System within Orchard Unit.

LEGAL DESCRIPTION: The proposed pipelines would traverse the following aliquot parts of seven sections:

NE $\frac{1}{4}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, E $\frac{1}{2}$ SE $\frac{1}{4}$, Section 8
W $\frac{1}{2}$ W $\frac{1}{2}$, Section 16
NE $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$, Section 17
NE $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$, Section 20
W $\frac{1}{2}$ W $\frac{1}{2}$, Section 21
W $\frac{1}{2}$ NW $\frac{1}{4}$, Section 28
E $\frac{1}{2}$ NE $\frac{1}{4}$, Section 29

Township 8 South, Range 96 West, Sixth Principal Meridian

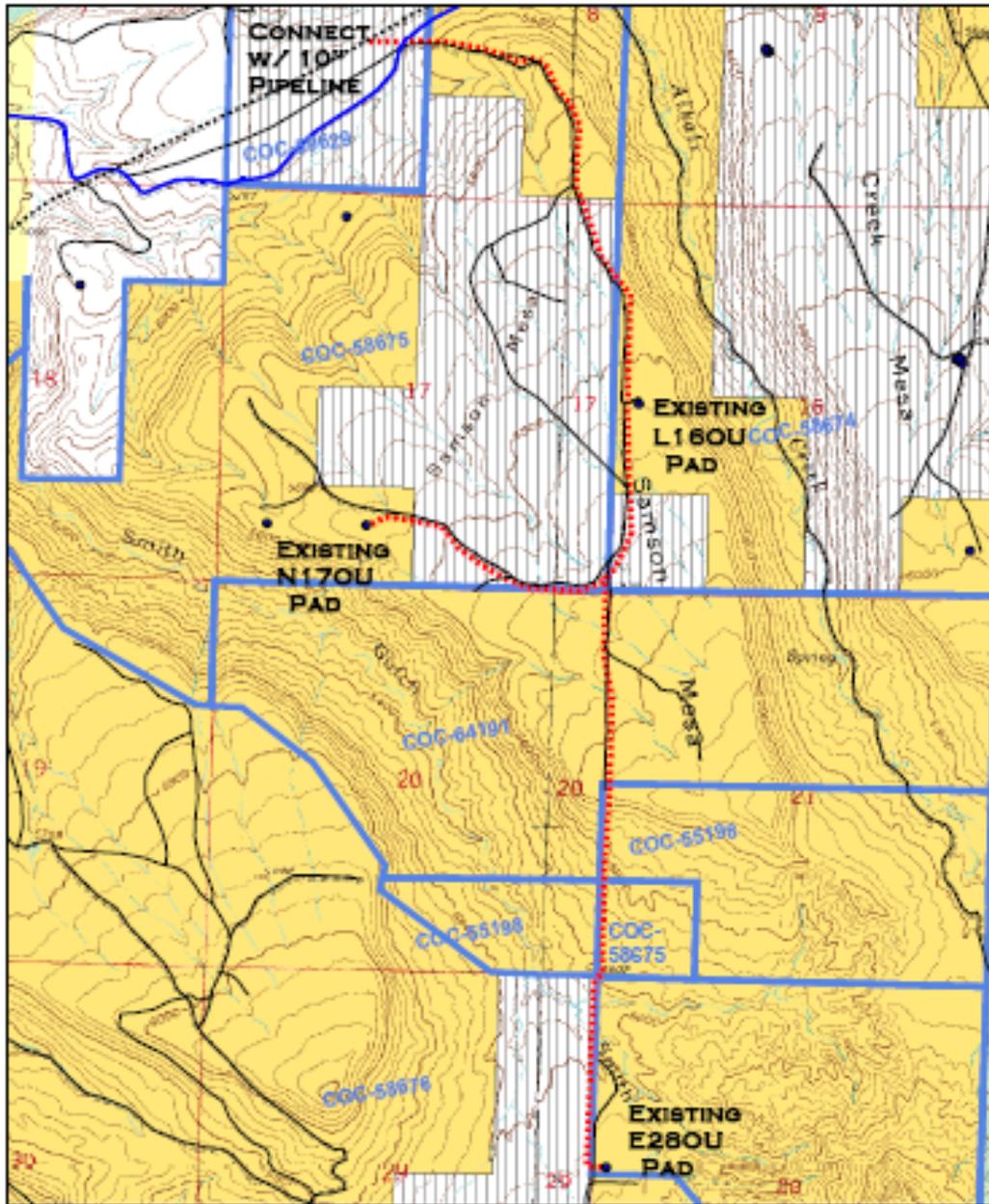
APPLICANT: EnCana Oil & Gas (USA) Inc. ("EnCana")

DESCRIPTION OF THE PROPOSED ACTION AND NO ACTION ALTERNATIVE

Proposed Action: The proposed action is to replace the existing 3½" diameter surface gas pipeline between the E28OU, N17OU and L16OU pads and the existing pipeline connection with EnCana's 10" diameter Orchard trunk pipeline with a series of new buried pipelines (Figure 1). The surface line serving the L16OU pad has been in place since late 2003 (EA #CO140-02-095) and the E28OU surface line segment was installed in early 2005 (EA #CO140-05-011). With the development of the Horsethief field in the Orchard Unit, EnCana proposes to upgrade and bury the gathering system.

The upgrade would consist of two new pipeline segments. The first segment would be routed from the existing 10" diameter trunk line in Section 8 approximately 17,875 feet (3.39 miles) south to the E28OU pad. The gathering lines would consist of a maximum 16" diameter natural gas pipeline collocated with a maximum 8" water line.

The other pipeline segment would connect to the proposed 16" diameter gas line in Section 17 and would be routed approximately 3,200 feet (0.61 mile) in a westerly direction to the N17OU pad. The gas line would be a maximum 6" diameter and the waterline would be a maximum 2" diameter. The proposed disturbance corridor for the all pipeline installations would be a maximum 55 feet. The project would be scheduled for construction during the Spring and Summer of 2007.



ENCANA'S WEST ORCHARD TRUNK PIPELINE

T8S R96W Secs 8, 16, 17, 20, 21, 28, 29, 6th P.M.

Mesa County, CO

Surface Owners: BLM

Keinath (Sec 8, 16, 17)

EnCana (Sec 29)

Existing Road: Solid Black Line

Existing Pipeline: Dash Black Line

Proposed Pipeline: Dash Red Line



Scale 1: 24,000

3/12/07

Figure 1. Location of the Proposed Pipeline Segments.

The existing surface pipeline would be cut in segments and removed from public land. The operator would conduct the removal of the existing surface line in a manner that avoids impacts to known resources. Standard conditions of approval (COAs) identified in Orchard Unit Geographic Area Plan (GAP) would be implemented as part of the project design.

The proposed action would include the use of heavy equipment to clear, trench, install, and reclaim the proposed pipeline corridor. Construction equipment, materials, and service trucks would be restricted to the staked project boundary. The pipeline alignments would cross various ephemeral drainages through dense juniper woodlands and open sagebrush flats. In many instances, the pipelines would be buried alongside existing field development roads. The proposed alignment is favorable for future gathering tie-ins related to the proposed Orchard II GAP for Federal wells to south and west.

To help protect known resources values along one of the proposed alignments, a resource monitor would be present during initial excavation of the pipeline trench from Station 0+00 to 50+30. From Station 24+37 to 50+30, the pipeline construction work area would be limited to the existing road disturbance corridor to avoid impacts to known resources.

To further minimize resource impacts, the proposed gas and water pipelines would be installed by horizontal boring from the southern edge of Samson Mesa at Station 122+00 to Station 130+00, thereby eliminating any surface disturbance along that section. If the boring project is not successful, trenching would be conducted along the 800-foot segment with the requirement that a resource monitor be present.

Assuming a 55-foot construction corridor and a total length of 21,075 feet (3.99 miles), the project would create approximately 26.6 acres of surface disturbance. Of that total, 15.6 acres would occur on public lands and 11 acres would occur on private lands. No new road construction would be necessary to complete the proposed work. The operator would be responsible for road maintenance on all existing roads used for this project. Public access is available to the proposed project site from the Mesa County's V.O. Road to the E28OU pad and the V $\frac{1}{2}$ Road to the 10" trunk line connection in Section 8.

Seeding of the pipeline corridor with an approved seed mix would be required within 1 week of completion to help establish desirable plant species on the disturbed areas. Reclamation work could be completed in segments largely depending on the construction phasing of the project. Rock would be placed within intermittent drainages to stabilize crossings after construction is completed. Grubbed juniper trees would be placed back across the project area to inhibit motorized travel and provide catchments for seeds and moisture. Stormwater Best Management Practices (BMPs) would be used to restrict overland flow within project area.

The pipeline alignments cross through a number of Federal oil and gas leases, although the entire project lies within the Orchard Federal Unit. Therefore, the project would be authorized through a Sundry Notice.

No Action Alternative: The proposed action involves Federal subsurface minerals that are encumbered with Federal oil and gas leases, which grants the lessee a right to explore and develop the lease. Although BLM cannot deny the right to develop the lease, certain projects, including the construction of gathering systems, can be denied to prevent unnecessary and undue degradation. The no action alternative constitutes denial of the Sundry Notice associated with the pipeline system upgrade.

In accordance with Council on Environmental Quality (CEQ) regulations, the impacts of this alternative are evaluated to provide a base to compare impacts associated with the proposed action. For the purpose

of the following comparative analysis, the existing 3½” diameter surface natural gas pipeline system in the West Orchard Unit would remain operational.

PURPOSE AND NEED FOR THE ACTION: The purpose of the action is to upgrade the existing surface pipeline system serving the West Orchard area. Action is needed because the existing system is inadequate to accommodate increasing levels of development within the Horsethief field and anticipated developments in adjacent areas. Surface lines also present a safety problem, particularly in an area that is accessible to the public.

SUMMARY OF LEASE STIPULATIONS: All of the leases associated with the proposed action include stipulations or lease notices intended to protect natural resources values (Table 1).

Table 1. Lease Stipulations Applicable to the West Orchard Trunk Pipeline Project.		
<i>Lease Number</i>	<i>Description of Lands</i>	<i>Lease Stipulations</i>
COC-55198	All lands	Lease Notice: Inventory for fossil resources may be required if present. Lease Notice: Inventory for biological and/or botanical resources may be required if present.
COC-58674	All lands	Lease Notice: Inventory for fossil resources must be performed by an accredited paleontologist approved by Authorized Officer. Lease Notice: Inventory for biological and/or botanical resources may be required if present.
COC-58675	All lands	No Surface Occupancy: To protect raptor nests within a 1/8 mile radius from the wellsite. Exception may be granted depending on current usage, or relationship to topographic barriers and vegetation screening. Timing Limitation: To protect Raptor nesting and fledgling habitat during usage for ¼ mile around the nest site (2/1– 8/15). Exception may be granted during years when the nest site is unoccupied, when occupancy ends by or after 5/15 or once the young have fledged and dispersed from the nest. Timing Limitation: To protect Big Game Winter Habitat (12/1-4/30). Exception may be granted under mild winter conditions for the last 60 days. Controlled Surface Use: To protect fragile soils. Prior to surface disturbance of fragile soils, it must be demonstrated to AO through a plan of development that performance objectives will be met. Lease Notice: Inventory for biological and/or botanical resources may be required if present.
COC-58676	T.8S., R. 96W. Section 28: W½NW¼, SE¼NW¼, SW¼, W½SE¼, SE¼SE¼	Controlled Surface Use: To protect fragile soils. Prior to surface disturbance of fragile soils, it must be demonstrated to AO through a plan of development that performance objectives will be met.
	Section 29: All All lands	Lease Notice: Inventory for fossil resources must be performed by an accredited paleontologist approved by Authorized Officer. Lease Notice: Inventory for biological and/or botanical resources may be required if present.
COC-59629	Land within ½ mile either side of the river’s high water mark	No Surface Occupancy: To protect plants and animals, riparian values, waterfowl production areas, and the sensitive resource values of the Lower Colorado River ACEC.
	All lands	Timing Limitation: To protect Big Game Winter Habitat (12/1-4/30). Exception may be granted under mild winter conditions for the last 60 days. Controlled Surface Use: To protect scenic values of Class III visual resource mgmt areas Lease Notice: Inventory for biological and/or botanical resources may be required if present.

Table 1. Lease Stipulations Applicable to the West Orchard Trunk Pipeline Project.		
<i>Lease Number</i>	<i>Description of Lands</i>	<i>Lease Stipulations</i>
COC-64191	T.8S., R. 96W. Section 20: N½, N½S½ Section 21: SW¼NW¼	No Surface Occupancy: To protect threatened or endangered species. Exceptions: surface occupancy may be authorized. The Authorized Officer will consider the type and amount of surface disturbance, plant frequency and density, relative abundance of habitat, species and location, topography, and other related factors. Controlled Surface Use: To protect sensitive species (plants and animals) including relocation of operations by more than 200 meters may be required.
	T.8S., R. 96W. Section 20: N½, N½S½ Section 21: N½	Controlled Surface Use: To protect erosive soils and slopes greater than 30%. Specific measures to control are sited in the Surface Use Plan. Implementation may include relocation of operations beyond 200 meters.

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: Glenwood Springs Resource Management Plan (BLM 1984).

Date Approved: Amended in November 1991 – Oil and Gas Leasing and Development - Final Supplemental Environmental Impact Statement; amended in March 1999 – Oil and Gas Leasing & Development Final Supplemental Environmental Impact Statement.

Decision Number/Page: Record of Decision, Glenwood Springs Resource Management Plan Amendment, November 1991, page 3.

Decision Language: “697,720 acres of BLM-administrated mineral estate within the Glenwood Springs Resource Area are open to oil and gas leasing and development, subject to lease terms and (as applicable) lease stipulations.” This decision was carried forward unchanged in the 1999 RMP amendment (BLM 1999a).

Discussion: The proposed action is in conformance with the 1991 and 1999 Oil and Gas RMP amendments because the Federal mineral estate proposed for development is open for oil and gas leasing and development.

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado BLM approved the Standards for Public Land Health. The five 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. The environmental analysis must address whether the proposed action or alternatives being analyzed would result in impacts that would maintain, improve, or deteriorate land health conditions relative to these resources. These analyses are presented in the applicable resource narratives below.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

A variety of laws, regulations, and policy directives mandate the evaluation of the effects of a proposed action and alternative(s) on certain critical environmental elements. Not all of the critical elements that require inclusion in this EA are present, or if they are present, may not be affected by the proposed action and alternative (Table 2). Only those mandatory critical elements that are present and affected are described in the following narrative.

Table 2. Critical Elements of the Human Environment									
Critical Element	Present		Affected		Critical Element	Present		Affected	
	Yes	No	Yes	No		Yes	No	Yes	No
Air Quality	X		X		Prime or Unique Farmlands		X		X
ACECs		X		X	Special Status Species*	X			X
Cultural Resources	X		X		Wastes, Hazardous or Solid	X		X	
Environmental Justice		X		X	Water Quality, Surface and Ground*	X			X
Floodplains		X		X	Wetlands and Riparian Zones*		X		X
Invasive, Non-native Species	X		X		Wild and Scenic Rivers		X		X
Migratory Birds	X		X		Wilderness/ WSAs		X		X
Native American Religious Concerns	X		X						

* Public Land Health Standard

In addition to the mandatory critical elements, there are additional resources that would be impacted by the proposed action and alternative. These are presented under **Other Affected Resources**.

Critical Elements

The following discussion presents critical elements of the human environment that are present and affected by the proposed action and/or no action alternative.

Air Quality

Affected Environment: The proposed action area (Mesa County) has been described as an attainment area under CAAQS and NAAQS (Colorado Ambient Air Quality Standards and National Ambient Air Quality Standards). An attainment area is an area where ambient air pollution amounts are determined to be below NAAQS standards.

Proposed Action:

Environmental Consequences: The Roan Plateau RMPA and EIS describe potential effects from oil and gas development (BLM 2006:4-26 to 4-37). Analysis was completed with regard to greenhouse gas emissions, a near-field and far-field analysis for carbon monoxide, particulate matter (PM₁₀ and PM_{2.5}), sulfur dioxide, hazardous air pollutants including: benzene, ethylbenzene, formaldehyde, hydrogen sulfide, toluene, and xylenes. Sulfur and nitrogen deposition analysis, acid neutralizing capacity, and visibility screening-level analysis were also completed in the Roan Plateau RMPA and EIS. Findings indicate that no adverse long-term effects would result under that plan. Since the proposed action is within the scope of the reasonable foreseeable development (RFD) scenario analyzed in that document, it is anticipated that the proposed action would be unlikely to have adverse effects on air quality.

Activities described in the proposed action would result in localized short-term increases in vehicle and equipment emissions. Concentrations of emissions would be below applicable ambient air quality standards as analyzed in the Roan Plateau RMPA & EIS. However, it is anticipated that construction activities would likely produce high levels of dust in dry conditions without dust abatement. To mitigate dust generated by these activities, the operator would be required to implement dust abatement strategies

as needed by watering the access road and construction areas and/or by applying a surfactant approved by the Authorized Officer (Appendix A, Number 1).

No Action Alternative:

Environmental Consequences: The no action alternative would not result in an increase in dust generation or emissions from equipment.

Cultural Resources

Affected Environment: A Class III cultural resource inventory (GSFO# 1107-11) was conducted of the proposed pipeline project area by Grand River Institute of Grand Junction, Colorado. Four properties were identified that are eligible for listing on the National Register of Historic Places.

Proposed Action:

Environmental Consequences: Avoidance of the historic properties is the preferred action to reduce the potential of direct and indirect impacts. Consultation with the Colorado State Historic Preservation Officer (SHPO) was undertaken on April 4, 2007 via a phone conversation notifying the SHPO of the BLM's mitigation plan for these historic properties. The SHPO concurred with the mitigation plan and as long as all the mitigation measures are followed a determination of “**No Effect**” can be made in accordance with the National Historic Preservation Act (16U.S.C 470f), National BLM/SHPO Programmatic Agreement (1997), and Colorado Protocol (1998).

The potential of direct impacts from the proposed action should be avoided as long as the mitigation measures are followed. Indirect long-term cumulative impacts from increased access and personnel could result in a range of impacts to known and undiscovered cultural resources in the vicinity of the location. These impacts could range from illegal collection and excavation to vandalism.

An archaeological monitor condition of approval (COA) would be required for all ground disturbance associated with the pipeline (Appendix A, Number 2a). In addition, no trees are to be cut, uprooted or removed in the monitored areas. A standard Education/Discovery COA for cultural resource protection along with the Colorado State Statute CRS 24-80-1301 for Historic, Prehistoric, and Archaeological Resources, and for Unmarked Human Graves would be attached to the permit (Appendix A, Number 2b). All work and equipment movement would be restricted to the approved route boundary throughout the entire project alignment (Appendix A, Number 2c). The importance of these COAs should be stressed to EnCana and its contractors, including informing them of their responsibilities to protect and report any cultural resources encountered on during construction operations.

No Action Alternative:

Environmental Consequences: No new surface disturbance would occur with the no action alternative and the potential for impacts to cultural and historic properties would be minimal.

Invasive, Non-native Species

Affected Environment: The proposed pipeline lies within juniper woodlands and sagebrush communities. Weeds such as Russian-thistle (*Salsola kali*), redstem filaree (*Erodium cicutarium*), and cheatgrass (*Bromus tectorum*) are present along the proposed alignment.

Proposed Action:

Environmental Consequences: Surface-disturbing activities create conditions favorable for the invasion and establishment of noxious weeds and other invasive non-native species, particularly when these species are already present in the surrounding area. Since cheatgrass, redstem filaree, and Russian-thistle are present in the vicinity of the proposed pipeline alignments, the potential for weed invasion following construction is high. Mitigation measures designed to minimize the spread of invasive, non-native species are presented in Appendix A (Numbers 3 and 7).

No Action Alternative:

Environmental Consequences: Under the no action alternative, no pipeline construction would take place and, therefore, invasive, non-native species would not be affected.

Migratory Birds

Affected Environment: The proposed pipeline would lie within juniper woodlands and sagebrush communities with a dominant cheatgrass understory. Greasewood is the principal shrub along the southern portion of the route. Although degraded by cheatgrass, the area provides cover, forage, and nesting habitat for a variety of migratory birds.

Proposed Action:

Environmental Consequences: The proposed action would affect approximately 26.6 acres of vegetation and would result in a loss of nesting, breeding, perching, and foraging habitat for migratory birds. The loss of vegetation would further fragment habitat, leading to additional reductions in habitat patch size. Species most sensitive to fragmentation would likely avoid the area. Interim reclamation would reduce vegetation loss, but would not afford the same habitat characteristics provided by shrubs and trees prior to disturbance.

Under the Migratory Bird Treaty Act, the term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct with respect to migratory birds. If vegetation is removed during the March 15 to August 15 nesting period, direct take of active nests could occur. Take of nesting migratory birds could also occur as a result of disturbance. Reactions to disturbance can vary, from subtle physiological changes undetectable to human observers to aggressive defensive behavior. Disturbance may cause some birds to spend less time at the nest, leaving the chicks vulnerable to overheating, chilling, predation, or starvation. It is the responsibility of the operator to comply with the Migratory Bird Treaty Act and avoid take of migratory bird species.

Raptor nesting habitat appears marginally suitable due to the age class and growth form of juniper found in this area. No previously known raptor nests occur within 0.25 mile of proposed disturbance and no new nests were found within 0.25 mile of the proposed disturbance during a March 2007 survey (Appendix A, Number 4). Therefore, it is unlikely that raptors would be negatively affected by project activities.

No Action Alternative:

Environmental Consequences: Under the no action alternative, the proposed pipelines would not be installed, and the local habitat would not be further fragmented. Disturbance-related effects to birds would not occur, and there would be no potential for “take” under the Migratory Bird Treaty Act.

Native American Religious Concerns

Affected Environment: The Ute Tribes claim the project area as part of their ancestral homeland. One area of Native American concern was identified during the cultural resource inventory (GSFO# 1107-11). Traditionally the Ute tribes have requested a large buffer around these areas wherever possible. Formal notification of this sensitive area will occur after completion of the EnCana's Orchard GAP II inventories. If new data are disclosed in the meantime by the Ute Tribes, new terms and conditions may have to be negotiated to accommodate their concerns.

Proposed Action:

Environmental Consequences: Activities that occur near a cultural resource could adversely impact its significance by changing the setting, location, association, and feeling on which its importance is based. The area of Native American concern identified during the inventory is being avoided and no impacts are anticipated as long as the mitigation measures are followed. Indirect long-term cumulative impacts from increased access and personnel could result in a range of impacts to known and undiscovered Native American areas of concern. These impacts could range from illegal collection and excavation to vandalism.

A standard Education/Discovery COA for the protection of Native American values along with Colorado State Statute CRS 24-80-1301 for Historic, Prehistoric, and Archaeological Resources, and for Unmarked Human Graves would be attached to the permit (Appendix A, Numbers 2a and 2b). The importance of these COAs should be stressed to the operator and its contractors, including informing them of their responsibilities to protect and report any cultural resources encountered during construction operations.

No Action Alternative:

Environmental Consequences: Under the no action alternative, no new surface disturbance would occur, and the potential for impacts to Native American areas of concern would be minimal.

Special Status Species (includes an analysis of Public Land Health Standard 4)

Affected Environment: According to the latest species list from the U. S. Fish and Wildlife Service (<http://mountain-prairie.fws.gov/endspp/CountyLists/COLORADO.htm>), the following Federally listed, proposed, or candidate plant and animal species may occur within or be impacted by actions occurring in Garfield and Mesa Counties: Uinta Basin hookless cactus (*Sclerocactus glaucus*), Parachute beardtongue (*Penstemon debilis*), DeBeque phacelia (*Phacelia submutica*), Canada lynx (*Lynx canadensis*), bald eagle (*Haliaeetus leucocephalus*), Mexican spotted owl (*Strix occidentalis*), yellow-billed cuckoo (*Coccyzus americanus*), razorback sucker (*Xyrauchen texanus*), Colorado pikeminnow (*Ptychocheilus lucius*), bonytail chub (*Gila elegans*), and humpback chub (*Gila cypha*).

BLM sensitive plant and animal species with habitat and/or occurrence records in the area include adobe thistle (*Cirsium perplexans*), DeBeque milkvetch (*Astragalus debequaeus*), Naturita milkvetch (*Astragalus naturitensis*), Roan Cliffs blazing star (*Mentzelia rhizomata*), Piceance bladderpod (*Lesquerella parviflora*), Harrington's penstemon (*Penstemon harringtonii*), the milk snake (*Lampropeltis triangulum taylori*), midget faded rattlesnake (*Crotalus viridis concolor*), Great Basin spadefoot (*Spea intermontana*), flannelmouth sucker (*Catostomus latipinnis*), bluehead sucker (*Catostomus discobolus*), and roundtail chub (*Gila robusta*).

Proposed Action:

Environmental Consequences:

Federally Listed, Proposed, or Candidate Plant Species

Suitable habitat for the Uinta Basin hookless cactus, Parachute beardtongue, or DeBeque phacelia is not present in the project area and none of these species are known to occur there. Therefore, the proposed action would have “**No Effect**” on these species.

Federally Listed, Proposed, or Candidate Animal Species

Of the Federally listed, proposed, or candidate animal species with potential for occurrence in Garfield and Mesa Counties, habitat is present near the project area for the threatened bald eagle and two endangered fishes, the Colorado pikeminnow and razorback sucker. Nesting and wintering habitat for the bald eagle is present along the Colorado River, while the river’s 100-year floodplain is Designated Critical Habitat for the two endangered fishes.

Bald eagle nesting and wintering habitat would not be affected by project activities. The pipeline begins approximately 0.6 miles south of the Colorado River where potential bald eagle nesting and wintering habitat are screened from project activities by upland vegetation and topography. The distance between habitat and project activities increases for the remainder of the pipeline route. Therefore, it has been determined that the proposed developments associated with this action would have “**No Effect**” on bald eagles.

Construction of the pipeline would increase the potential for soil erosion and sedimentation. Although a minor, temporary increase in sediment transport to the Colorado River may occur, it is not likely that the increase would be detectable above current background levels. In any case, all of the special status fish species associated the Colorado River are adapted to naturally high sediment loads. Therefore, the proposed action would have “**No Effect**” on the Colorado pikeminnow or razorback sucker.

BLM Sensitive Plant Species

Of the BLM sensitive plants, populations of two of the species, adobe thistle and Harrington’s penstemon, are known to occur in the project vicinity. There are two known populations of adobe thistle (*Cirsium perplexans*), a BLM sensitive species, within a mile of the proposed pipeline route. One population occurs approximately 1,300 feet to the east and the other occurs about 0.75 mile to the east. However, the project area lacks habitat suitable for the adobe thistle and construction activities associated with the proposed pipeline would not affect this species.

Another BLM sensitive plant species, Harrington’s penstemon (*Penstemon harringtonii*), is known to occur in sagebrush flats that range from 6,500 to 9,200 feet in elevation. The elevation of the proposed pipeline is between 5,500 to 6,000 feet, below the elevation at which Harrington’s penstemon is known to occur. The closest known population of Harrington’s penstemon is located approximately 15 miles northwest of the project area, and this species is not known to occur farther west. Therefore, the proposed action would not affect Harrington’s penstemon.

BLM Sensitive Animal Species

Direct effects on these species could include injury or mortality as a result of construction activities. These effects would be most likely during the active season for these species, which are April to October

for the milk snake, March to October for the midget faded rattlesnake, and May through September for the Great Basin spadefoot. Overall, there is a low likelihood that these species would be affected.

Since the flannelmouth sucker, bluehead sucker, and roundtail chub have similar habitat requirements and are similarly adapted to high sediment loads, the proposed action would also not be expected to adversely affect these special status species. Project design measures, use of BMPs, and the COAs presented in Appendix A (Number 5) would be implemented to minimize sedimentation.

No Action Alternative:

Environmental Consequences: Under the no action alternative, new pipeline construction would not occur, and there would be no potential for impacts to special status species.

Analysis on the Public Land Health Standard for Special Status Species: The results of a recent land health assessment indicate that habitat conditions are suitable for those special status species which are known or likely to occur there (BLM 2000). Most of the areas examined were achieving Standard 3. The sites are located in old pinyon-juniper burn areas and, as a result, good plant diversity and productivity were present. Perennial grasses and forbs were common and cheatgrass was not abundant. The landscape appeared to be providing enough quality habitats to sustain the limited number of special status species with potential habitat in the area.

The proposed action would facilitate increased natural gas development which would further fragment habitat, reduce habitat connectivity, and reduce habitat patch size within the Battlement Mesa landscape. When considered with natural gas development that has occurred since the assessment, this Federal action would likely contribute to a declining trend and help to reduce the potential for meeting or maintaining Standard 4 for certain Threatened, Endangered, and BLM Sensitive Species over the long-term.

Since potential habitat for special status plant species is not present in the project area and no offsite or indirect impacts are anticipated, the proposed action should have no effect on these species. The proposed action should not result in a failure of the area to achieve Standard 4 for special status plants.

Under the no action alternative habitat fragmentation and a potential increase in sediment load associated with development activities would not occur. Therefore, Standard 4 for special status animal species would not be affected.

Wastes, Hazardous or Solid

Affected Environment: Hazardous materials are defined by the BLM as any substance, pollutant, or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, 42 USC 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any “hazardous waste” as defined in the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, 42 USC 9601 et seq., and its regulations. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 USC 9601 (14), nor does the term include natural gas. No hazardous or solid wastes are known to be present in the project area, and no hazardous materials are known to have been used, stored, or disposed onsite.

Proposed Action:

Environmental Consequences: A variety of materials, including lubricants, solvents, treatment chemicals, and gasoline and diesel fuels, would be used in the construction activities. Potentially harmful substances used in the construction would be kept onsite in limited quantities and trucked to and from the site as required.

Most waste generated would be exempt from hazardous waste regulations under the exploration and production exemption of the RCRA. Examples of exempt wastes include process water and soils contaminated with hydrocarbons. No hazardous substance, as defined by 40 CFR 355 would be used, produced, stored, transported, or disposed in amounts above the threshold quantities.

No Action Alternative:

Environmental Consequences: Under the no action alternative, no construction activities would occur, and no potentially hazardous substances would be present in the area.

Water Quality, Surface and Ground (includes an analysis of Land Health Standard 5)

Surface Water

Affected Environment: The proposed construction activities would occur within a 13,872-acre unnamed sub-watershed located southeast of the town of DeBeque. The primary drainage in this area is the ephemeral Smith Gulch, which is tributary to the Colorado River. This deeply incised drainage would be crossed by the proposed pipeline at two locations on the boundary of Sections 28 and 29 (see Figure 1).

According to the *Stream Classifications and Water Quality Standards* (CDPHE, Water Quality Control Commission, Regulation No. 37), Smith Gulch is within the Lower Colorado River Basin segment 13a that includes all tributaries to the Colorado River from a point immediately below the confluence of Parachute Creek to the Colorado-Utah border. This segment has been designated as a use-protected stream segment. The use-protected designation refers to waters that the State of Colorado has determined do not warrant the level of protection provided by the outstanding waters designation or the anti-degradation rule (CDPHE, Water Quality Control Commission, Regulation No. 31).

Waters within segment 13a are classified aquatic life warm 2, recreation 1b, and agriculture. Aquatic life warm class 2 refers to waters not capable of sustaining a wide variety of cold or warm water biota due to habitat, flows, or uncorrectable water quality conditions. Recreation class 1b refers to stream segments where there is a potential for primary contact recreation. The agriculture class refers to waters that are suitable for irrigation or livestock use.

Numeric standards include a comprehensive list of physical, biological, inorganic, and metal standards that have been established to protect these designated uses. On April 15, 2004, the BLM Glenwood Springs Field Office collected water quality data on Smith Gulch as part of the Battlement Mesa Land Health Assessment (Table 3).

Table 3. Water Quality Data on Smith Gulch.					
<i>Stream</i>	<i>Date</i>	<i>Flow (cfs)</i>	<i>Temp. (°C)</i>	<i>Cond. (uS/cm)</i>	<i>pH</i>
Smith Gulch tributary	4/15/2004	0.013	10.4	4370	8.4
Smith Gulch	4/15/2004	0.173	9.8	1508	8.5

Smith Gulch is not currently listed on the State of Colorado's 303(d) List of Water Quality Limited Segments Requiring TMDLS (CDPHE, Water Quality Control Commission, Regulation No. 93) or the Monitoring and Evaluation List (CDPHE, Water Quality Control Commission, Regulation No. 94).

Proposed Action:

Environmental Consequences: The excavation of the proposed pipeline trench would involve the removal of soil and vegetation resulting in an increase in erosion potential and offsite sedimentation. Due to the steep slopes and the erosive nature of the area soils, the likelihood of sediment being transported to Smith Gulch is relatively high. This deeply incised drainage contains denuded and disturbed slopes that are prone to erosion during precipitation events. Measures to control runoff should be implemented to minimize the potential for sediment transport to Smith Gulch. In addition, the reclamation measures presented in Appendix A (Number 7) would be implemented to minimize the potential for sediment transport to Smith Gulch following the pipeline installation.

No Action Alternative:

Environmental Consequences: The no action alternative would result in no new surface disturbance and would have little effect on surface water.

Waters of the US

Affected Environment: Section 404 of the Clean Water Act requires a Department of the Army permit from the US Army Corps of Engineers prior to discharging dredged or fill material into waters of the United States as defined by 33 CFR Part 328. A Corps permit is required for both permanent and temporary discharges into waters of the United States. Proposed activities in Smith Gulch would qualify for Nationwide Permit 12 that applies to the construction, maintenance and repair of utilities and associated facilities in waters of the U.S.

Proposed Action:

Environmental Consequences: The proposed activities would involve two crossings of Smith Gulch. Construction activities would disturb channel beds and banks which could result in additional erosion and sediment input. Without proper reclamation, the likelihood of erosion and sediment transport are high. The mitigation measures presented in Appendix A (Numbers 7 and 8) would be implemented to protect waters of the U.S.

No Action Alternative:

Environmental Consequences: The no action alternative would have no effect on waters of the U.S.

Groundwater

Affected Environment: The surficial formation within the project area is the Wasatch Formation. Water wells in the formation are generally relatively shallow. There are no known water wells in or around the project area.

Proposed Action:

Environmental Consequences: With the use of best management practices (BMPs), no adverse impacts to groundwater aquifers are anticipated.

No Action Alternative:

Environmental Consequences: The no action alternative would have no effect on groundwater resources.

Analysis on the Public Land Health Standard for Water Quality: Neither the proposed action with associated BMPs or the no action alternative would not likely prevent standard 5 for water quality from being met.

Other Affected Resources

In addition to the critical elements, the resources presented in Table 4 were considered for impact analysis relative to the proposed action and no action alternative. Resources that would be affected by the proposed action and no action alternative are discussed below.

Table 4. Other Resources Considered in the Analysis.			
<i>Resource</i>	<i>NA or Not Present</i>	<i>Present and Not Affected</i>	<i>Present and Affected</i>
Access and Transportation			X
Cadastral Survey	X		
Fire/Fuels Management		X	
Forest Management	X		
Geology and Minerals			X
Law Enforcement	X		
Paleontology		X	
Noise			X
Realty Authorizations	X		
Recreation			X
Socio-Economics			X
Soils			X
Vegetation			X
Visual Resources			X
Wildlife, Aquatic			X
Wildlife, Terrestrial			X

Access and Transportation

Affected Environment: Public access to the project area is available via County Roads V.0 and V½. Gas field traffic typically occurs within the project area to serve the existing gas wells on Samson Mesa and to serve the E28OU well pad at the south end of the proposed alignment. Public travel typically occurs during hunting seasons which run from late August through January.

Proposed Action:

Environmental Consequences: The proposed action would create a temporary increase in truck traffic during the construction and reclamation phases of the project. Once the pipeline is reclaimed, traffic would be limited to occasional maintenance trips.

No Action Alternative:

Environmental Consequences: This alternative would have no impact on access or transportation, because the development activities would not occur.

Geology and Minerals

Affected Environment: The surficial geology consists of Tertiary Age sedimentary rocks of the Wasatch Formation overlain by Tertiary volcanic rocks.

Proposed Action:

Environmental Consequences: The proposed activities would result in the removal of surface materials and the excavation of subsurface materials along the proposed corridor. Displacement of volcanic rocks and the extraction of Wasatch sedimentary rocks would occur. There would be no effect on mineral resources and little effect on geologic resources.

No Action Alternative:

Environmental Consequences: The no action alternative would have no effect on geology and mineral resources.

Noise

Affected Environment: The project is proposed within a developed gas field. One residence is located within 0.5 mile of the proposed pipeline alignment. The residence is located on the valley floor and is topographically isolated from the project area.

Proposed Action:

Environmental Consequences: The use of excavation equipment during the construction and reclamation phases of the project would result in a localized increase in noise levels. The noise would be evident to people and animals located onsite or in proximity to the project. The localized increase would have little effect on the residence.

No Action Alternative:

Environmental Consequences: Since there would no development under this alternative, there would be no noise generated.

Paleontology

Affected Environment: The surficial formation in the project area is the Paleocene Wasatch Formation. The Wasatch is classified as a Class 1 formation, with areas known or likely to produce abundant scientifically important fossils vulnerable to surface-disturbing activities. The formation may contain early horses, rare primates, rhinoceroses, birds, crocodiles, rodents, fish, turtles, freshwater clams, snails, and plants. There are no identified paleontological sites within the project area.

Proposed Action:

Environmental Consequences: Any new disturbance associated with burying a pipeline could result in the uncovering or destruction of paleontological resources. However, the project area is characterized by generally heavy vegetation and thick soil deposits and the likelihood of encountering paleontological resources during construction activities is low. A survey would not be required prior to the BLM authorization of the Sundry Notice. However, if any fossils are noticed at anytime, the AO must be notified so the resource can be recorded, evaluated, stabilized, or mitigated (Appendix A, Number 9).

No Action Alternative:

Environmental Consequences: The no action alternative would have no effect on paleontological resources, because no new surface disturbance would occur.

Range Management

Affected Environment: The proposed pipeline would be located on public land in the Alkali Creek Common and Alkali Gulch allotments. Table 5 summarizes the permitted grazing use on the allotments. Malcolm Jolley holds a permit for 200 sheep (80 animal unit months [AUMs]) on the Alkali Gulch Allotment (#08131), but he has taken non-use since 2001. There is no indication that Mr. Jolley will be using this allotment in the near future.

Table 5. Permitted Use of the Alkali Creek Common Allotment.					
<i>Allotment</i>	<i>Permittee</i>	<i>Livestock Kind & NO.</i>	<i>Season of Use</i>	<i>% PL</i>	<i>AUMs</i>
Alkali Creek Common # 08130	David and Cynthia Graham	Cattle 40	05/01 – 06/15	100	60
	Phyllis Hyrup	Cattle 93	05/01 – 06/15	100	141

Proposed Action:

Environmental Consequences/Mitigation: The estimated 15.6 acres of surface disturbance on public land would result in minor loss of forage available to livestock. Rehabilitation of vegetation on the location would result in reestablishment of desirable forage, which usually takes a minimum of 3 years. Livestock may also be minimally disturbed by the increase in human activity during construction and reclamation phases of the project. It is not anticipated that the level of impacts from implementation of the proposed action would require adjustment of the livestock stocking rate. The level of forage utilization will be monitored on the allotments.

No Action Alternative:

Environmental Consequences: Since the buried pipeline system would not be installed, impacts to range resources would not occur.

Soils (includes an analysis of Public Land Health Standard 1)

Affected Environment: According to the *Soil Survey of the Douglas-Plateau Area* (USDA 2001), the proposed activities would occur on four soil map units, all of which are classified as having severe erosion hazards.

- *Barx loam* – This deep, well-drained soil is found on structural benches at elevations ranging from 5,000 to 6,400 feet and on slopes of 3 to 12 percent. This soil is derived from a variety of materials and was formed in eolian conditions. Surface runoff for this soil is medium, and the erosion hazard is classified as severe. Primary uses for this soil include livestock grazing and wildlife habitat.
- *Barx-Clapper complex* – This soil unit is found on dissected plateaus at elevations ranging from 5,600 to 7,100 feet and on slopes of 3 to 12 percent. This unit consists of approximately 60 percent Barx loam and 25 percent Clapper very stony loam. The Barx soil is a deep, well-drained soil formed in eolian conditions with medium runoff and severe erosion hazard. The Clapper soil is a deep, well-drained soil derived from glacial till containing basalt rocks. Surface runoff for this soil unit is medium, and the erosion hazard is classified as severe. Primary uses for this soil unit include livestock grazing and wildlife habitat.
- *Bunkwater very fine sandy loam* – This deep, well-drained soil is found on structural benches at elevations ranging from 5,000 to 6,000 feet and on slopes of 1 to 8 percent. This soil is derived from a variety of materials and was formed in eolian conditions. Surface runoff for this soil is slow, and the erosion hazard is classified as severe. Primary uses for this soil include livestock grazing and wildlife habitat.
- *Clapper very stony loam (12 to 25%, 25 to 65%)* – This deep, well-drained soil is found on the sides of mountains at elevations ranging from 5,600 feet to 7,100 feet and on slopes of 12 to 25 percent. This soil formed from weathered glacial till and basaltic rocks. Surface runoff for this soil is rapid, and the erosion hazard is classified as severe. Primary uses for this soil include livestock grazing and wildlife habitat.

Proposed Action:

Environmental Consequences: Some soil loss, loss of soil productivity, and an increase in sediment available for transport would result from the proposed activities. Due to the severe erosion hazard of area soils, steep slopes, and proximity to Smith Gulch, mitigation measures would be implemented to minimize potential impacts associated with soil loss and transport (Appendix A, Numbers 6 and 7).

No Action Alternative:

Environmental Consequences: The no action alternative would have no effect on soil resources because no new surface disturbance would occur.

Analysis on the Public Land Health Standard for Upland Soils: The proposed action with associated mitigation and the no action alternative would not likely prevent standard 1 from being achieved.

Vegetation (includes an analysis of Public Land Health Standard 3)

Affected Environment: The proposed pipeline lies within juniper woodland and sagebrush shrubland communities. Greasewood is a dominant shrub along the southern portion of the route.

Proposed Action:

Environmental Consequences: The proposed pipeline would result in approximately 26.6 acres of ground disturbance, 15.6 acres of which would be on BLM land. With implementation of reclamation practices identified in Appendix A (Number 7), desirable herbaceous vegetation could be restored within 2 to 3 years. The establishment of mature shrubs could take from 5 to 25 years, and the establishment of juniper trees could take up to 100 years.

No Action Alternative:

Environmental Consequences: Under the no action alternative, no pipeline construction would take place. Therefore, there would be no disturbance to vegetation.

Analysis on the Public Land Health Standard for Plant and Animal Communities (partial, see also **Wildlife, Aquatic and Wildlife, Terrestrial**): The results of Battlement Mesa Area Land Health Assessment indicate that portions of these lands were found not to be meeting the Standard 3 (BLM 2000). Specific concerns related to the condition of the sagebrush and pinyon-juniper habitats that comprise important big game winter range as well as habitat fragmentation, loss of habitat, and increased human use associated with natural gas exploration and development.

With the implementation of mitigation measures, the proposed action is not likely to contribute to further degradation relative to Standard 3. The no action alternative would have no bearing on the ability of the area to meet the public land health standard for plant and animal communities.

Visual Resources

Affected Environment: The proposed pipeline is located within an area classified as VRM Class IV (BLM 1984). The objective of this class is to provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

The protection of VRM classes, landscape character, and scenic quality on private lands and split estate is discussed in the FSEIS (BLM 1999b: 3-41 to 3-45). The impacts of development are also discussed (BLM 1999b: 4-49 to 4-54). The proposed action will not affect any of the key viewing areas (KOPs) or viewsheds described in the FSEIS. The proposed action will not be seen from the key viewing areas of the I-70 corridor or the town of DeBeque.

The pipeline will be seen from eastern portions of County Road V.0, which serves as the KOP for this analysis. The current landscape character can be described as mountainous, consisting of flat unevenly vegetated mesa tops dissected by multiple drainages with uneven dense woodlands on the side slopes. Many horizontal and diagonal lines exist within the landscape. The current landscape character as seen from the KOP is semi-developed with a few dirt roads, powerlines, and well pads.

Proposed Action:

Environmental Consequences/Mitigation: The proposed buried pipeline would expand and intensify the contrasts in color, line, shape and texture within the existing landscape due to the removal of additional vegetation along the existing surface pipeline system. Portions of the pipeline would be buried on relatively flat terrain and would not be highly evident within the landscape. However, where the pipeline drops off of Samson Mesa into dense woodland vegetation on south and southwest slopes, it would

dominate the landscape from eastern portions of County Road V.0. Interim reclamation of the pipeline in this section would reduce some contrasts; however, the linear scar resulting from the removal of the trees would still dominate the landscape. After final reclamation, long-term contrasts within the landscape would remain for as much as 30 or more years. While the proposed pipeline would change the characteristic landscape to more of a developed setting, it is allowed for in VRM Class IV objectives. A condition of approval (Appendix A, Number 11) identifies the paint color to be used on all pipeline surface facilities.

No Action Alternative:

Environmental Consequences: Since the buried pipeline system would not be installed, impacts to visual resources would not occur.

Wildlife, Aquatic (includes an analysis of Public Land Health Standard 3)

Affected Environment: Proposed activities would occur within a 13,872-acre unnamed sub-watershed located southeast of the Town of DeBeque. The primary drainage in this area is the ephemeral Smith Gulch, which is tributary to the Colorado River. This deeply incised drainage would be crossed by the proposed buried pipeline at two locations located on the boundary of Sections 28 and 29 (see Figure 1).

According to the *Stream Classifications and Water Quality Standards* (CDPHE, Water Quality Control Commission, Regulation No. 37), Smith Gulch is within the Lower Colorado River Basin segment 13a. Waters within this segment are classified aquatic life warm 2, which means that they are not capable of sustaining a wide variety of cold or warmwater biota due to poor habitat, insufficient flows, or uncorrectable water quality conditions.

Proposed Action:

Environmental Consequences: Proposed activities would increase site-specific erosion and sedimentation due to soil exposure. This increase would persist until such time as adequate vegetation establishment is attained on reclaimed portions of disturbed areas.

The small amount of sediment that ultimately reaches the Colorado River should have minimal impact on fisheries, because sediment levels are projected to be well within the background levels for the Colorado River. However, as similar natural gas activity continues within the Colorado River basin from roughly New Castle, Colorado to the west, the cumulative increase in sediment may have a greater impact on sediment intolerant aquatic species. To minimize impacts to downstream fishes and aquatic insects, the mitigation measures presented in Appendix A (Numbers 6 and 7) are recommended.

No Action Alternative:

Environmental Consequences: Under the no action alternative, upgrading of the existing surface pipeline system and the potential to impact aquatic wildlife would not occur.

Analysis on the Public Land Health Standard 3 for Plant and Animal Communities (partial, see also **Vegetation and Wildlife, Terrestrial**): The proposed action and no action alternative should result in minimal impacts to aquatic wildlife and would have little bearing on the ability to maintain or meet Standard 3 for aquatic wildlife.

Wildlife, Terrestrial (includes an analysis of Public Land Health Standard 3)

Affected Environment: Most of the pipeline corridor would traverse juniper woodlands and small sagebrush parks. Greasewood is the principal shrub along the southern portion of the route. Although degraded by cheatgrass, the area provides cover, forage, and nesting habitat for a variety of big game and small game, as well as nongame mammals, birds, and reptiles. The pipeline location would be within mule deer winter range and severe winter range and within a winter concentration area for elk (CDOW 2006).

Proposed Action:

Environmental Consequences: Impacts of the proposed action would include displacement into less suitable habitat, increased stress, and habitat loss. These impacts are more important during critical seasons, such as winter or during reproduction.

The proposed action would result in the direct loss of approximately 26.6 acres of terrestrial wildlife habitat, while a larger area would be affected as a result of increased human activity during project implementation. Animals may be displaced or alter their habitat use patterns.

The pipeline passes through a number of leases, both with and without a big game timing limitation stipulation. Pipeline construction would be prohibited from December 1 to April 30 on approximately one-half of the total pipeline distance. Construction occurring during the wintering period in areas without timing limitations could temporarily disturb wintering wildlife. Therefore, a COA prohibiting construction activities from January 1 to February 28 will be imposed for those sections of the pipeline that are not subject to the stipulation (Appendix A, Number 10). With these timing limitations in place, construction activity would be expected to have only a minor, transitory effect on big game.

No Action Alternative:

Environmental Consequences: Since natural gas development would not occur, no impacts to terrestrial wildlife are anticipated.

Analysis on the Public Land Health Standard for plant and animal communities (partial, see also **Vegetation and Wildlife, Aquatic**): Of the 35 upland sites visited for the Battlement Mesa Land Health Assessment, 18 were found to be meeting Standard 3, 14 were functioning-at-risk, and three were considered not functional (BLM 2000). The sites that were at risk or not functional were concentrated in the northwest corner of the landscape in the bottomlands and more xeric sites. These sites have less resilience to grazing pressure. Sites not achieving the standard are found in pinyon-juniper, sagebrush, and shadscale communities.

Few native herbaceous plants occur under the sagebrush or pinyon-juniper canopies. Cheatgrass is dominant on the sagebrush-saltbush range sites and some pinyon-juniper woodland sites. The dominance by cheatgrass and lack of native perennial plants result in little forage production during the summer. In addition, most of the sagebrush sites are in a late seral stage with poor productivity and little evidence of reproduction.

The proposed action would result in additional fragmentation of habitat, but because the majority of the pipeline route is adjacent to roads, effects would be minimal. Therefore, it is unlikely that the proposed action would further trend the watershed away from meeting Standard 3 for terrestrial wildlife species.

The no action alternative would have no bearing on Standard 3 for terrestrial wildlife species.

CUMULATIVE IMPACTS SUMMARY:

The Draft and Final Roan Plateau Resource Management Plan Amendment & Environmental Impact Statements (BLM 2004, 2006) collectively analyzed six alternatives for oil and gas development in the Roan Plateau planning area. These alternatives assessed impacts, including cumulative impacts, for oil and gas development scenarios ranging upward to 1,582 new wells on public lands within the planning area and 3,019 new wells on both public and private lands. These numbers are in addition to comparable levels of oil and gas development within western Garfield County but outside the Roan Plateau area. Pipeline development was assessed in the alternative analysis.

Although none of the cumulative impacts described in the Final Roan Plateau RMP Amendment and EIS was characterized as significant, and while new technologies have reduced the amount of direct habitat loss required per given number of new wells, it nonetheless is clear that past, present, and reasonably foreseeable future oil and gas development has had and would continue to adversely affect various elements of the human environment. The anticipated impact levels for existing and future development range from negligible to locally major, and primarily negative, for specific resources. The primary reasons for this assessment are twofold: (1) the past, present, and future rate of oil and gas development in the Roan Plateau area has far exceeded the rate of abandonment and reclamation, resulting in an accumulation of individually nominal effects; and (2) most oil and gas development in the area has occurred, and is likely to continue to occur, on private holdings where leases stipulations, mitigation measures applied as conditions of approval, and development scenarios designed to protect and conserve resources are not in effect.

The proposed action is anticipated to contribute negligibly to the collective impact, due to the small scale of the project and the mitigation measures represented by the conditions of approval identified in Appendix A.

PERSONS AND AGENCIES CONSULTED:

Susan Nall, US Army Corps of Engineers
Brenda Linster Herndon, EnCana Oil & Gas (USA) Inc.
Renata Busch, EnCana Oil & Gas (USA) Inc.
Bob Anderson, EnCana Oil & Gas (USA) Inc.

INTERDISCIPLINARY REVIEW:

<i>Name</i>	<i>Title</i>	<i>Responsibility</i>
Jim Byers	Natural Resource Specialist	Team Leader
Mark Ennes	Environmental and Planning Coordinator	NEPA Compliance
Cheryl Harrison	Archaeologist	Cultural Resources, Native American Religious Concerns
Kay Hopkins	Outdoor Recreation Planner	Visual Resources, ACECs, WSRs
Jeff O'Connell	Hydrologist	Soil, Air, Water, Geology, Paleontology
Beth Brenneman	Ecologist	Vegetation, Special Status Plants, Invasive Non-native Species
Jeff Cook	Wildlife Biologist	Terrestrial and Aquatic Wildlife, Special Status Fish and Wildlife, Migratory Birds

Isaac Pitman	Rangeland Specialist	Range Management
Marty O'Mara	Petroleum Engineer	Downhole Conditions of Approval

REFERENCES:

Bureau of Land Management (BLM)

- 1984. *Glenwood Springs Resource Management Plan*. Glenwood Springs Field Office.
- 1991. *Record of Decision, Oil and Gas Plan Amendment to the Glenwood Springs Resource Management Plan*. Glenwood Springs Field Office.
- 1999a. *Oil and Gas Leasing and Development – Record of Decision and Resource Management Plan Amendment*. Glenwood Springs Field Office.
- 1999b. *Oil and Gas Leasing and Development – Final Supplemental Environmental Impact Statement*. Glenwood Springs Resource Area. Glenwood Spring Field Office.
- 2000. *Battlement Mesa Land Health Assessment*. Glenwood Springs Field Office.
- 2004. *Draft Roan Plateau Planning Area Resource Management Plan Amendment and Environmental Impact Statement*. Glenwood Springs Field Office.
- 2006. *Final Roan Plateau Planning Area Resource Management Plan Amendment and Environmental Impact Statement*. Glenwood Springs Field Office.

Colorado Division of Wildlife (CDOW)

- 2006. Elk and mule deer GIS data.

U.S. Department of Agriculture (USDA)

- 2001. *Soil Survey of Douglas Plateau Area, Colorado*. Natural Resources Conservation Service.

FONSI
CO140-2007-076 EA

**Installation of West Orchard Trunk Buried Pipeline System
replacing existing 3½" diameter surface natural gas pipeline
within Orchard Federal Unit**

The environmental assessment analyzing the environmental effects of the proposed action has been reviewed. The approved mitigation measures 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 RECORD

DECISION: It is my decision to approve the Sundry Notice authorizing the installation of 21,075 feet of buried gas and water pipeline as described in the proposed action subject to the Conditions of Approval presented in Appendix A. This decision will provide for the orderly, economical and environmentally sound exploration and development of oil and gas resources on valid oil and gas leases.

RATIONALE:

1. Approval of the proposed action is validating the rights granted with the Federal oil and gas leases to develop the leasehold to provide commercial commodities of oil and gas.
2. The environmental impacts have been mitigated with measures included in the attached Conditions of Approval.

MITIGATION MEASURES: Mitigation measures presented in Appendix A will be incorporated as Conditions of Approval for the surface operations of this project.

NAME OF PREPARER: Jim Byers, Natural Resource Specialist

SIGNATURE OF PLANNING AND ENVIRONMENTAL COORDINATOR:



Planning and Environmental Coordinator

4/13/07

Date

SIGNATURE OF AUTHORIZED OFFICIAL:



Authorized Officer

4-13-07

Date

APPENDIX A

SURFACE USE CONDITIONS OF APPROVAL

SURFACE USE CONDITIONS OF APPROVAL CO-140-2007-076 EA

1. Air Quality -- Dust Abatement. The operator is responsible for applying dust abatement measures as needed or directed by the Authorized Officer to reduce the emissions of fugitive dust from access roads. The level and type of treatment (watering or application of various dust agents, surfactants and road surfacing material) may be changed in intensity and must be approved by the Authorized Officer. Dust control is needed to prevent heavy plumes of dust from road use that create safety problems and disperses heavy amounts of particulate matter on adjacent vegetation.

2. Cultural Resources.

a. Education/Discovery. All persons in the area who are associated with this project must be informed that if anyone is found disturbing historic, archaeological, or scientific resources, including collecting artifacts, the person or persons will be subject to prosecution.

Pursuant to 43CFR10.4(g), the BLM authorized officer must be notified, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43CFR10.4 (c) and (d), activities must stop in the vicinity of the discovery and the discovery must be protected for 30 days or until notified to proceed by the authorized officer.

If in connection with operations under this contract the project proponent, his contractors, subcontractors, or the employees of any of them, discovers, encounters or becomes aware of any objects or sites of cultural or paleontological value or scientific interest such as historic or prehistoric ruins, graves or grave markers, fossils, or artifacts, the proponent shall immediately suspend all operations in the vicinity of the cultural or paleontological resource and shall notify the BLM authorized officer of the findings (16 U.S.C. 470h-3, 36CFR800.112). Operations may resume at the discovery site upon receipt of written instructions and authorization by the authorized officer. Approval to proceed will be based upon evaluation of the resource. Evaluation shall be by a qualified professional selected by the authorized officer from a Federal agency insofar as practicable. When not practicable, the holder shall bear the cost of the services of a non-Federal professional.

Within five working days the authorized officer will inform the holder as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the holder will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the authorized officer to complete an expedited review under 36 CFR 800.11, or any agreements in lieu thereof, to confirm through the State Historic Preservation Officer that the findings of the authorized officer are correct and the mitigation is appropriate.

The proponent may relocate activities to avoid the expense of mitigation and/or the delays associated with this process, as long as the new area has been appropriately cleared of resources and the exposed materials are recorded and stabilized. Otherwise, the proponent will be responsible for mitigation costs. The authorized officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the authorized officer that the required mitigation has been completed, the proponent will then be allowed to resume construction.

Antiquities, historic, prehistoric ruins, or objects of scientific interest that are outside of the authorization boundaries but directly associated with the impacted resource will also be included in this evaluation and/or mitigation.

Antiquities, historic, prehistoric ruins, or objects of scientific interest, identified or unidentified, that are outside of the authorization and not associated with the resource within the authorization will also be protected. Impacts that occur to such resources, which are related to the authorizations activities, will be mitigated at the proponent's cost including Native American consultation cost.

b. Colorado State Statutes CRS 24-80-1301 for Historic, Prehistoric, and Archaeological Resources, and for Unmarked Human Graves.

PART 13 -UNMARKED HUMAN GRAVES OFFICE OF ARCHAEOLOGY & HISTORIC PRESERVATION

24-80-1301. Definitions.

As used in this part 13, unless the context otherwise requires:

- (1) "Commission" means the commission of Indian affairs.
- (2) "Disturb" means to move, open, expose, dig up, disinter, excavate, remove, carry away, damage, injure, deface, desecrate, loot, vandalize, mutilate, or destroy.
- (3) "Human remains" means any part of the body of a deceased human being in any stage of decomposition.
- (4) "Land" means all lands, including submerged lands, located within the state of Colorado which are owned by the state or its political subdivisions, agencies, or instrumentality's or by any private person.
- (5) "Person" means an individual, limited liability company, corporation, unincorporated association, partnership, proprietorship, or governmental entity.
- (6) "Unmarked human burial" means any interment of human remains for which there exists no grave marker or any other historical documentation providing information as to the identity of the deceased.

24-80-1302. Discovery of human remains.

- (1) Except as provided in section 24-80-1303 with regard to anthropological investigations, any person who discovers on any land suspected human skeletal remains or who knowingly disturbs such remains shall immediately notify the coroner of the county wherein the remains are located and the sheriff, police chief, or land managing agency official.
- (2) The coroner shall conduct an onsite inquiry within hours of such notification to attempt to determine whether such skeletal remains are human remains and to determine their forensic value. If the coroner is unable to make such determinations, the police chief, the sheriff, the coroner, or the land managing agency official shall request the forensic anthropologist of the Colorado bureau of investigation to assist in making such determinations. If it is confirmed that the remains are human remains but of no forensic value, the coroner shall notify the state archaeologist of the discovery. The state archaeologist shall recommend security measures for the site.
- (3) Prior to further disturbance, the state archaeologist shall cause the human remains to be examined by a qualified archaeologist to determine whether the remains are more than one hundred years old and to evaluate the integrity of their archaeological context. Complete documentation of the archaeological context of the human remains shall be accomplished in a timely manner.
- (4) (a) If the on-site inquiry discloses that the human remains are native American, the state archaeologist shall notify the commission.

(b) The remains shall be disinterred unless the landowner, the state archaeologist, and the chairman of the commission or his designee unanimously agree to leave the remains in situ.

(c) Disinterment shall be conducted carefully, respectfully, and in accordance with proper archaeological methods and by an archaeologist who holds a permit issued under sections 24-80-405 and 24-80-406. In the event the remains are left in situ, they shall be covered over.

(d) Without the landowner's express consent for an extension of time, disinterment shall be accomplished no later than ten consecutive days after the state archaeologist has received notification from the coroner pursuant to subsection (2) of this section.

(e) The archaeologist who conducts the disinterment will assume temporary custody of the human remains, for a period not to exceed one year from the date of disinterment, for the purpose of study and analysis. In the event that a period in excess of one year is required to complete such study and analysis, the commission shall hold a hearing and may, based upon its findings, grant an extension. During the period that the human remains are in the temporary custody of the archaeologist who conducted the disinterment, an archaeological analysis and report shall be prepared. At the same time, a physical anthropological study shall be conducted to include, but not be limited to, osteometric measurement, pathological analysis, and age, sex, and cause of death determinations. The cost of the disinterment, archaeological analysis, and physical anthropological study shall be borne by the state archaeologist except when the human remains are recovered from private lands. In the latter case, if no party can be identified who will bear the cost of such scientific study; the state archaeologist shall bear such costs.

(f) Upon completion of the studies pursuant to paragraph (e) of this subsection (4), the state archaeologist shall consult with the commission regarding reinterment.

(5) Those remains which are verifiably nonnative American and are otherwise unclaimed will be delivered to the county coroner for further conveyance to the Colorado state anatomical board.

24-80-1303. Discovery of human remains during an anthropological investigation.

(1) Prior to the commencement of an anthropological investigation in which it is probable that skeletal remains will be discovered, the anthropologists conducting such an investigation shall apply to the state archaeologist for an excavation permit issued under the authority of section 24-80-405 (1)(g). Upon receipt of said permit by a qualified applicant, he shall notify the coroner and sheriff of the county in which the investigation shall be conducted.

(2) When skeletal remains are discovered during such an investigation, the anthropologists shall determine whether such skeletal remains are human remains, and, if such remains are determined to be human remains, the anthropologists shall determine, whenever possible, the age and cultural affiliation of the individual. Based on such determinations, the anthropologists shall proceed as follows:

(a) If it is determined that the human remains are of an individual who has been dead less than one hundred years, the anthropologists shall notify the coroner of the discovery and shall offer an opinion as to the forensic significance of the human remains. The coroner shall respond to such notification within 24 hours, during which time all activity which could disturb such human remains shall cease. If, on the basis of the anthropologist's opinion or on an independent onsite inquiry, the coroner determines that the human remains are of no forensic significance, the anthropologists shall notify either the state archaeologist, if the human remains are those of a native American, or the Colorado

state anatomical board, if the human remains are those of a human being who was not a native American.

(b) If it is determined that the skeletal remains are human remains but of an individual who has been dead for more than one hundred years, notwithstanding the provisions of section 30-10-606 (1.2), C.R.S., the anthropologists need not notify the coroner but shall notify either the state archaeologist, if the human remains are those of a Native American, or the Colorado state anatomical board, if the remains are of a nonnative American.

(3) Upon notification by the anthropologists of the discovery of the human remains of a native American, the state archaeologist shall notify the commission and shall thereafter proceed in accordance with the provisions of section 24-80-1302 (4).

24-80-1305. Violation and penalty

(1) Any person who knowingly disturbs an unmarked human burial in violation of this part 13 commits a class 1 misdemeanor and shall be punished as provided in section 18-1-106 C.R.S.

(2) Any person who has knowledge that an unmarked human burial is being unlawfully disturbed and fails to notify the local law enforcement agency with jurisdiction in the area where the unmarked human burial is located commits a class 2 misdemeanor and shall be punished as provided in section 18-1-106, C.R.S.

c. Cultural Resource Monitoring. An archaeological monitor conducted by a archaeological firm qualified and permitted to do this type of archaeological work within the Glenwood Springs Field Office area is required during all phases of construction of the pipeline in Section 8, T8S R96W from the intersection with County Road V½ south and ending approximately 250 feet into Section 17, T8S R96W (Stations 0+00 to 50+30); from pipeline Station 122+00 to 130+00 - if pipeline boring is not used during construction phase; and for approximately 1300 feet of the proposed alignment in the NW¼NW¼ of Section 29, T8S R96W.

- No ground-disturbing construction activities (topsoiling, grading, ditching, etc.) will begin prior to the archaeologist's arrival. EnCana is responsible for notifying the archaeological firm at least 72 hours in advance of any proposed ground disturbance in the specified areas. EnCana is responsible for any and all construction delays and/or damage to cultural manifestations due to insufficient notification of the Archaeological Contractor, and or noncompliance with the procedures.
- Archaeological monitoring will involve on-the-ground visual inspection of all construction for the road/pipeline within the above specified areas. The archaeologists will follow all the ground disturbing equipment at a cautionary distance, allowing time for the construction dust to settle and for visible detection of buried cultural features to occur. If cultural resources are discovered, all ground disturbing activities in the vicinity of identified feature(s) will be halted and a buffer area at least 100 ft from the identified feature(s) will be protected from any additional disturbance until which time as the feature(s) is mitigated via data recovery. Appropriate samples for analysis to determine cultural/temporal affiliation, and subsistence will be collected and analyzed as appropriate. At least one stratigraphic profile will be made for each feature identified, and samples for paleoenvironmental reconstructions will be taken as appropriate. Periodic reporting to the BLM archaeologist of progress and findings will be completed on a weekly or more frequent schedule as deemed necessary by the BLM authorized officer.

d. **Protection of Known Resource Values. All work and equipment movement will be restricted to the approved project boundary throughout the entire project alignment.** No trees are to be cut, uprooted or removed along the Road Trenching segment (STA 34+27 thru 50+30).

3. **Weed Control**. The Operator shall regularly monitor and promptly control noxious weeds or other undesirable plants species as set forth in the Glenwood Springs Energy Office *Noxious and Invasive Weed Management Plan for Oil and Gas Operators*, dated March 2007. A Pesticide Use Proposal (PUP) must be approved by BLM prior to the use of herbicides.

4. **Raptors**. To protect nesting raptors, additional raptor surveys shall be required if two years have lapsed between initial surveys and the commencement of new development activities or if changes to the location of planned infrastructure were made after initial surveys and the new location occurs outside the original survey area. All potential nesting habitat within 0.25 mile of these developments shall be surveyed and the results documented and submitted to the BLM Glenwood Springs Energy Office wildlife biologist. If an active raptor nest is located within 0.25 mile of the proposed activity, a 60-day timing limitation during the critical nesting period and/or relocation of the well pad/road/pipeline up to 200 meters may be required. In the event of an active raptor nest within 0.25 mile of developments, the operator is advised to ensure compliance with the Migratory Bird Treaty Act by contacting Creed Clayton, U.S. Fish and Wildlife Service (USFWS), Glenwood Springs Energy Office at 970-947-5219 or at john_c_clayton@blm.gov and Jeff Cook, BLM, Glenwood Springs Energy Office at 970-947-5231 or at jeffrey_cook@blm.gov.

5. **Staging Area Use**. Use of any staging areas to stockpile pipe and assemble the pipeline will be limited to areas within the flagged pipeline work corridor. Prior to using any staging area, these sites will be approved by the authorized officer.

6. **Preconstruction Meeting and Work Parameters**. Prior to initiating any surface disturbance related to this project, pre-work meeting will be conducted at project site with BLM, EnCana representative and appropriate pipeline construction personnel. Physical extent of proposed right-of-way will be surveyed and staked in field prior to pre-work construction meeting. Construction work is not allowed outside the surveyed project area limits unless otherwise approved by the authorized officer. Trees disturbed during the laying of the pipeline will be broken down with dozer and placed to provide barrier to any motorized equipment or vehicle or re-placed on project area during reclamation. Any pinyon pine trees disturbed or destroyed during construction of the pipeline will be chipped, buried, or cut and removed from the site to avoid any complications from pinyon *Ips* beetle outbreak.

Rock would be placed within intermittent drainage to stabilize this crossing after pipeline installation is completed. Grubbed juniper trees would be placed back across the project area to inhibit motorized travel and provide micro-sites for site rehabilitation.

Since the Sundry Notices submitted for this project identify installation of natural gas and water distribution pipelines, both types of lines (gas and water) will be installed during the same construction period – preferably within the same trench – unless otherwise approved by the Authorized Officer.

Standard Conditions of Approval outlined in Appendix B of the Orchard Unit GAP will apply and remain in full force and effect.

7. **Reclamation**. Refer to Appendix I (Surface Reclamation) of the 1998 Draft Supplemental EIS (DSEIS) for specific reclamation goals, objectives, timelines, measures, and monitoring methods. The measures described below shall be followed in completing the reclamation of disturbed surfaces on well pads, access roads, and pipelines.

- a. Seedbed Preparation. All slopes will be reshaped prior to seedbed preparation. Initial seedbed preparation shall consist of backfilling, leveling, and ripping all areas to be seeded to a minimum depth of 18 inches with a furrow spacing of 2 feet, followed by recontouring the surface and then spreading the stockpiled topsoil evenly. Prior to seeding, the seedbed shall be scarified and left with a rough surface. No depressions shall be left that would trap water and form ponds. Final seedbed preparation shall consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding.
- b. Seed Application. Seeding shall be conducted no more than 24 hours following completion of final seedbed preparation. A certified weed-free seed mix designed by BLM to meet interim reclamation standards is recommended on all disturbed BLM surfaces. Revegetating the area will help prevent erosion and establishment of weeds and provide food and cover for wildlife. The following seed mix is the revised seed mix from the Orchard Unit GAP and shall be used on all disturbed BLM surfaces within the project area:

<i>Common Name</i>	<i>Variety</i>	<i>Percent</i>	<i>PLS lbs/acre</i>
Wyoming big sagebrush		6	0.05
Shadscale saltbush		7	2.1
Fourwing saltbush	Rincon	7	3.7
Western wheatgrass	Arriba	18	3.0
Galleta	Viva florets	17	2.0
Bottlebrush squirreltail		19	2.0
Indian ricegrass	Paloma, Rimrock or Nezpar	16	1.8
Scarlet globemallow		10	0.4
Total		100	15.05

The application rate shown in the table is based on 46 pure live seeds (PLS) per square foot, drill-seeded to a depth of 0.25 to 0.5 inch, which is the method that shall be used where feasible. In areas that cannot be drill-seeded, the mix shall be broadcast-seeded at twice the application rate shown in the table and covered 0.25 to 0.5 inch deep with a harrow or drag bar. If the seeding is unsuccessful, the operator shall make subsequent seedings until the reclamation objectives identified in Appendix I (Surface Reclamation) of the 1998 DSEIS are met.

The seed shall be certified free of noxious weeds. All seed to be applied to public land must have a valid seed test, within one year of the acceptance date, from a seed analysis lab by a registered seed analyst (Association of Official Seed Analysts). The seed lab shall show no more than 0.5 percent by weight of “other weed” seeds; and the seed lot shall contain no “noxious, prohibited, or restricted weed” seeds according to the All States Noxious Test. Seed may contain up to 2.0 percent of “other crop” seed by weight which includes the seed of other agronomic crops and native plants; however, a lower percent of other crop seed is recommended. Seed tags or other official documentation shall be supplied to the Glenwood Springs BLM Energy Office Ecologist at least 14 days prior to the date of proposed seeding for acceptance. Seed which does not meet the above criteria shall not be applied to public lands.

- c. Erosion Control. Cut-and-fill slopes shall be protected against erosion with the use of water bars, lateral furrows, or other measures approved by the Authorized Officer. Weed-free straw bales, straw “wattles,” straw matting, or a well-anchored fabric silt fence shall be used on cuts and fill

slopes and along drainages to protect against soil erosion. Additional BMPs shall be employed as necessary to ensure reduced offsite erosion and to protect drainages from sediment.

- d. Monitoring. The operator shall conduct annual monitoring surveys of reclaimed areas and shall submit an annual monitoring report to the Authorized Officer by December 31 of each year. The monitoring program shall use the four Reclamation Categories defined in Appendix I of the 1998 DSEIS to assess progress toward reclamation objectives. The annual report shall document whether attainment of reclamation objectives appears likely. If one or more objectives appear unlikely to be achieved, the report shall identify appropriate corrective actions. Upon review and approval of the report by BLM, the operator shall be responsible for implementing the corrective actions or other measures specified by the Authorized Officer.

8. Wetlands and Waters of the U.S. The operator shall obtain appropriate permits from the U.S. Army Corps of Engineers (contact Sue Nall at 970-243-1199 x16 or susan.nall@usace.army.mil) prior to discharging fill material into waters of the U.S. in accordance with Section 404 of the Clean Water Act. Waters of the U.S. are defined in 33 CFR Section 328.3 and may include perennial, intermittent, and ephemeral streams.

9. Paleontological Resource Education/Discovery. All persons associated with operations under this authorization must be informed that any objects or sites of paleontological or scientific value, such as vertebrate or scientifically important invertebrate fossils, shall not be damaged, destroyed, removed, moved or disturbed. If in connection with operations under this authorization any of the above resources are encountered the proponent shall immediately suspend all activities in the immediate vicinity of the discovery that might further disturb such materials and notify the BLM authorized officer of the findings. The discovery must be protected until notified to proceed by the authorized officer.

As feasible, the proponent shall suspend ground-disturbing activities at the discovery site and immediately notify the BLM authorized officer of any finds. The BLM authorized officer will, as soon as feasible, have a BLM-permitted paleontologist check out the find and record and collect it if warranted. If ground-disturbing activities cannot be immediately suspended, the proponent shall work around or set the discovery aside in a safe place to be accessed by the BLM-permitted paleontologist.

10. Big Game Winter Timing Limitation. No construction activities will be allowed from January 1 to February 28 on those pipeline segments routed across Federal leases (COC-55198, COC-58674, COC-58676, and COC-64191) for which a timing limitation stipulation does not apply.

11. Visual Resources. Any risers or pig launchers/catchers installed to serve the pipeline will be painted Shale Green (Munsell 5Y 4/2).