

**U.S. Department of the Interior
Bureau of Land Management
Colorado River Valley Field Office
2300 River Frontage Road
Silt, Colorado 81652**

ENVIRONMENTAL ASSESSMENT

NEPA NUMBER

DOI-BLM-CO-N040-2012-0066-EA

CASEFILE NUMBER

BLM Right-of-Way COC75504

PROJECT NAME

Proposal to install an 8-inch buried welded steel natural gas pipeline on BLM and private land in the South Grass Mesa Area South of Rifle, Garfield County, Colorado.

PIPELINE LOCATION

Township 7 South (T7S), Range 93 West (R93W); Section 9 W½SW¼, Section 16 SW¼SW¼ and E½SW¼, Garfield County, Colorado, Sixth Principal Meridian.

APPLICANT

Grand River Gathering, LLC (Summit Midstream). Contact: Renata Busch, 2128 Railroad Avenue, Suite 106, Rifle, Colorado 81650.

PURPOSE AND NEED FOR THE ACTION

The purpose of the 8-inch natural gas pipeline is for Grand River Gathering, LLC (Summit Midstream), hereinafter referred to as “GRG,” to gather gas from the M16W well pad operated by Encana Oil and Gas (USA) Inc. (“Encana”). Drilling activity is expected to increase, resulting in greater volumes of gas and necessitating this additional gas gathering pipeline.

BACKGROUND

The proposed GRG 8-inch natural gas pipeline would begin at the Encana’s M16W pad on BLM land, cross approximately 8,567-feet of BLM-administered Federal land in sections 9 and 16, T7S, R93W, and terminate at a tie-in to an existing GRG pipeline located on private land. Figure 1 is the project vicinity map for the Proposed Action. Figure 2 shows three different segments of the proposed pipeline alignment, each highlighted with a different color: (1) a middle segment (blue) originally analyzed as an Encana 12-inch-diameter steel produced water pipeline (Environmental Assessment DOI-BLM-CO-N040-2011-0072-EA)(BLM 2011) and authorized by ROW grant COC74858 but never constructed; (2) a southern segment (orange) extending from Encana’s M16W well pad to the middle segment; and (3) a northern segment (green) extending from the middle segment to an existing pipeline.

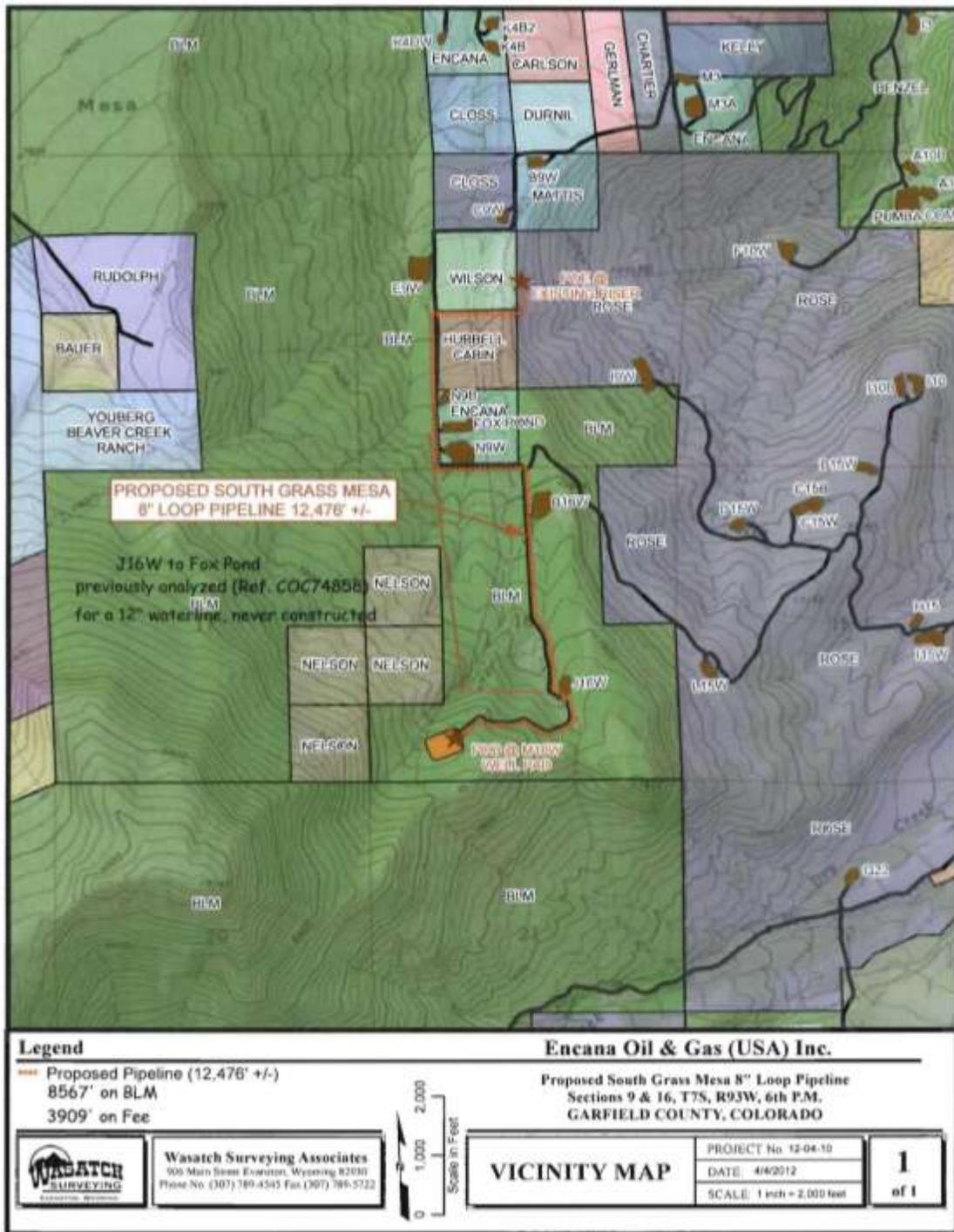


Figure 1. Project Vicinity of Proposed Action

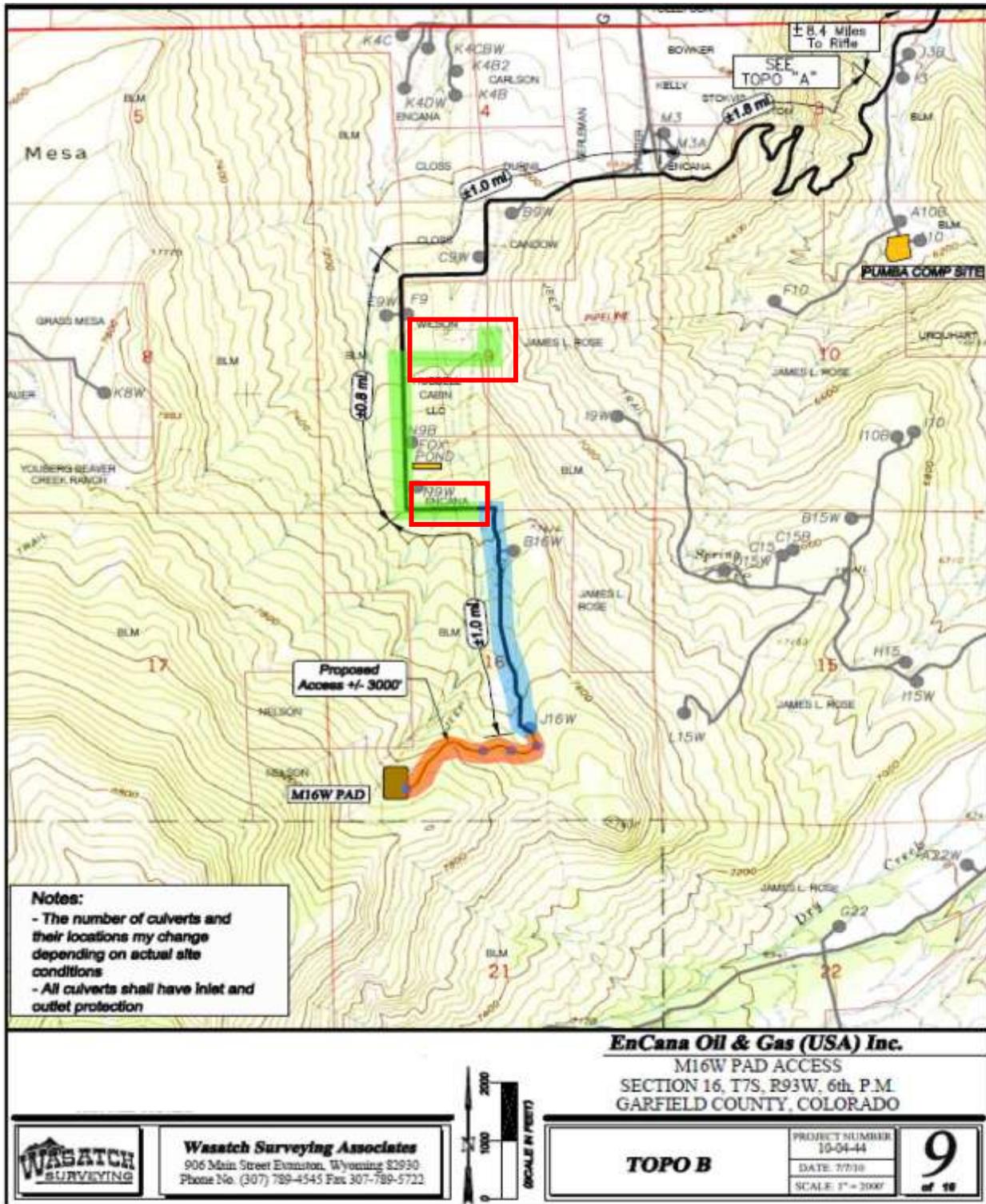


Figure 2. Proposed GRG 8-inch Natural Gas Pipeline Route (see text for description)

Note in Figure 2 that the portions of the northern (green) segment are highlighted in red boxes, indicating portions of the northern segment to be located on private land. The intervening segment is on BLM land but located along the boundary between BLM and private land (see Figure 1 for surface ownership).

ALTERNATIVES

Proposed Action

Encana and GRG propose to install a buried 8-inch-diameter, welded steel natural gas pipeline on BLM and private land approximately 5 air miles south of Rifle, Garfield County, Colorado (Figure 1). The pipeline would begin at the M16W pad on BLM land and terminate at a tie-in to an existing GRG natural gas pipeline located on private land (owned by James Rose) to the north. If approved, this work would be completed during early summer 2012.

Installation and operation of the proposed pipeline would require issuance to GRG by the BLM of a right-of-way (ROW) grant for the portion on Federal surface (approximately 8,567 linear feet or 1.6 miles). The portion on private surface would add 3,909 feet (0.7 mile) for a total length of approximately 12,476 feet (2.3 miles). In its application, GRG requested a 30-foot-wide permanent ROW and a 45-foot-wide temporary construction workspace for a total ROW width of 75 feet. Portions of the work area would be located within a previously disturbed pipeline corridor. A 10-foot offset would be maintained where existing pipelines are encountered during installation of the new line. Associated above-ground facilities would include a block valve and launcher to be located within the ROW. The pipeline would be used year-round to transport natural gas. Acres of surface disturbance for the project are listed in Table 1.

<i>Land Ownership</i>	<i>30-Foot Permanent Right-of-Way</i>	<i>45-Foot Temporary Use Area</i>	<i>Total Area</i>
BLM (8,567 feet)	5.9 acres	8.8 acres	14.7 acres
Private (3,909 feet)	2.7 acres	4.0 acres	6.7 acres
Total (12,476 feet)	8.6 acres	12.8 acres	21.4 acres

Elements of the Proposed Action are described below.

Engineering Surveys

The construction ROW would be marked prior to construction with laths and/or flagging. Wooden laths and flagging would be maintained throughout construction and would not be removed until reclamation activities have been completed.

Clearing and Grading

Clearing, top soiling, and grading would be limited to the minimum area required for safe and efficient construction. Available topsoil up to 6 inches deep would be segregated from the trench line only. Where grading is required, topsoil would be stripped from the entire portion of the ROW. Topsoil would

be removed and stockpiled and the ROW would be graded only to the extent necessary to create safe and efficient pipeline installation conditions.

Trenching

The ditch would be excavated and sloped in accordance with OSHA specifications. The cover from top of pipe to ground level would be a minimum of 48 inches. Where rock is encountered, tractor-mounted mechanical rippers or rock trenching equipment would be used to facilitate excavation. The bottom of the trench line would remain free of rocks and debris to allow for a solid surface to install the pipe. The trench would be excavated and subsoil material stockpiled at the edge of the workspace. Gaps would be made in subsoil stockpiles to avoid ponding or excessive diversion of natural runoff during storm events.

Pipe Installation

Pipe installation would include string, bending for horizontal or vertical angles in the alignment, welding the pipeline segments together, coating the bare areas of each joint of pipe at the welds to prevent corrosion, and then lowering-in and padding. Pipe would be hauled by truck to the pipeline ROW. Each joint of pipe would be unloaded and placed parallel to the ditch. Each section of pipe would be stacked on timber skids to stabilize the pipe until welding is complete and to minimize handling of the pipe and to prevent damage to the pipe coating.

After the joints of pipe are strung along the ditch, individual joints of pipe would be bent to accommodate horizontal and vertical changes in directions. Field bends would be made utilizing a hydraulically operated bending machine. After the pipe joints are bent, the pipe would be welded together in conformance with welding standards. Welds would be visually inspected by a qualified inspector.

The pipe would be coated with fusion bonded epoxy coating prior to delivery to prevent corrosion. After welding, joints would be coated with fusion bond epoxy coating, tape and primer, or shrink sleeves. Before the pipeline is lowered into the trench, the pipeline coating would be visually inspected and tested with an electronic detector. The pipe would be lowered into the ditch one section at a time. Padding or placement of sand bag “pillows” every few feet along the bottom of the trench line would be installed before the pipe section is lowered-in to the ditch.

Backfilling

Backfilling would begin after a section of the pipe has been successfully placed in the ditch and final inspection has been completed. Backfilling would be conducted using a bulldozer, rotary auger backfill, padding machine or other suitable equipment. Subsoil previously excavated from the trench would be used and would be graded and compacted where necessary.

Pressure Testing

The natural gas pipeline would be strength-tested to prove its integrity and substantiate the Maximum Allowable Operating Pressure (MAOP) in accordance with 49 CFR 192, “Regulations for the Transportation of Natural Gas and other Gas by Pipeline: Minimum Federal Safety Standard.” Water would be used as the medium to perform the strength and leak tests. The hydrostatic test would require approximately 36,538 gallons of fresh water. The water would come from water rights that Encana holds on the Colorado River. The water would be discharged into either the Benzel or Hunter Mesa Water Treatment Facility.

Cleanup and Reclamation

Cleanup activities would be initiated as soon as practicable after backfilling activities have been completed. All construction-related debris would be removed and disposed of at an approved disposal area. The ROW would be graded as near as possible to the pre-construction contours and natural runoff and drainage patterns would be restored. The ROW would be left in a roughened condition to provide microclimates for plant development and collection of stormwater runoff. After completion of reclamation of activities, aboveground pipeline markers would be installed over the center of each pipeline.

Operations and Maintenance

Summit would maintain the ROW for the life of the project. Maintenance would include repairing soil erosion and reseeded as necessary. The ROW would be considered satisfactorily reclaimed by the Garfield County Vegetation Management personnel when soil erosion has been stabilized and a vegetative cover of at least equal to that present prior to disturbance and a plant species composition at least as desirable as that present to the disturbance is established. Company personnel would monitor and control the gathering system 24/7 to detect any abnormal conditions of the system. Disposal of any liquid or solid waste generated during maintenance and operation would be done at an approved facility in an environmentally sound and approved manner.

No Action Alternative

The No Action Alternative would deny the ROW application for use of Federally administered lands, and therefore construction of the GRG 8-inch natural gas pipeline would not occur on BLM. From reviewing land status patterns in the vicinity of the project area, it does not appear that GRG could feasibly construct a connecting gas pipeline between the beginning and ending points without crossing Federal land. The No Action Alternative constitutes denial of the Federal ROW grant needed for GRG to complete the desired gas pipeline connections. Consequently, none of the planned development activities outlined in the Proposed Action would occur.

In accordance with Council on Environmental Quality (CEQ) regulations, the impacts of this alternative are evaluated in this EA to provide a baseline to compare impacts associated with the Proposed Action. Aside from the obvious socio-economic and field development impacts that would occur should the pipeline fail to be implemented, all other resources would not be affected under the No Action Alternative – since the project would not be authorized or implemented.

PLAN CONFORMANCE REVIEW

The Proposed Action and No Action Alternative are subject to and have been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: The current land use plan is the *Glenwood Springs Resource Management Plan (RMP)*, approved in 1984 and revised in 1988 (BLM 1984). Relevant amendments include the *Oil and Gas Plan Amendment to the Glenwood Springs Resource Management Plan* (BLM 1991) and the *Oil & Gas Leasing & Development Record of Decision and Resource Management Plan Amendment* (BLM 1999a).

Decision Language: The 1991 Oil and Gas Plan Amendment (BLM 1991) included the following at page 3: “697,720 acres of BLM-administered 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”

(BLM 1991, page 3). This decision was carried forward unchanged in the 1999 ROD and RMP amendment at page 15 (BLM 1999b): “In areas being actively developed, the operator must submit a Geographic Area Proposal (GAP) [currently referred to as a Master Development Plan, MDP] that describes a minimum of 2 to 3 years of activity for operator controlled leases within a reasonable geographic area.”

Discussion: The Proposed Action is in conformance with the 1991 and 1999 RMP amendments cited above because the Federal mineral estate proposed for development is open to oil and gas leasing and development. The 1999 RMP amendment requires multi-year development plans known at that time as Geographic Area Plans (GAPs) for lease development over a large geographic area. However, the 1999 RMP amendment also provides exceptions to that requirement for individual or small groups of exploratory wells drilled in relatively undrilled areas outside known high production areas. The Proposed Action is therefore in conformance with the exception to the requirement to require operators to submit GAPs/MDPs.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Evaluation of the Proposed Action by BLM resource specialists in the Colorado River Valley Field Office (CRVFO) included site visits, review of updated geographic information system (GIS) data, and review of recent resource surveys conducted by Encana contractors. Based on that evaluation, the BLM has determined that the currently proposed project warranted analysis of potentially significant impacts to the 18 elements of the human and natural environment:

Access and Transportation	Riparian and Wetland Areas
Air Quality	Socioeconomics
Cultural Resources	Soils
Fossil Resources	Special Status Species
Invasive Non-Native Plants	Vegetation
Migratory Birds	Visual Resources
Native American Religious Concerns	Wastes, Hazardous or Solid
Noise	Water Quality, Surface
Realty Authorizations	Wildlife, Terrestrial and Aquatic

These resources and resources uses, and potential impacts and associated mitigation, are described in the following subsections.

Access and Transportation

Affected Environment

Access to the project area is through privately owned lands with no legal public access. The South Grass Mesa area is accessed by vehicles serving oil and gas development, including traffic related to construction, drilling, completion and well production. The existing BLM Grass Mesa Road and the Rose Ranch Road would be used to access the project location. Residents of the Grass Mesa subdivision use the Grass Mesa Homeowners Road; oil and gas traffic is not allowed on this road as per COGCC ruling.

Environmental Consequences

The Proposed Action would result in a substantial temporary increase in truck traffic. An estimated 415 truck trips over a 6-week period would be required to support the construction of the GRG 8-inch natural

gas pipeline (Table 2). GRG would use previously permitted locations throughout the pipeline alignment for equipment staging areas.

Table 2. Anticipated Traffic Increases to Implement Project		
<i>Type of Traffic</i>	<i>Trips per Day <u>1/</u></i>	<i>Total Trips</i>
Phase 1 – Clearing and Trenching (1.5 weeks)		
Construction Personnel	4	40
Inspection	2	10
Light Truck Traffic	2	30
Heavy Truck Traffic	3	10
Subtotal		90
Phase 2 – Pipe Delivery (.5 weeks)		
Construction Personnel	4	40
Inspection	2	10
Light Truck Traffic	2	30
Heavy Truck Traffic	3	30
Subtotal		110
Phase 3 – Crimped Fitted Pipe Connections and Pipe Inspection (1.5 weeks)		
Construction Personnel	4	30
Inspection	2	10
Subtotal		75
Phase 4 – Pressure Testing Pipeline (0.5 weeks)		
Construction Personnel	4	20
Inspection	2	10
Light Truck Traffic	2	10
Heavy Truck Traffic	1	10
Subtotal		50
Phase 5 – Recontouring and Reseeding (1.5weeks)		
Construction Personnel	4	40
Inspection	2	20
Light Truck Traffic	2	20
Heavy Truck Traffic	2	10
Subtotal		90
Total		415
<u>1/</u> Trips per day equal one round-trip to and from the work site		

Under the No Action alternative, the right-of-way grant would be denied, and no additional truck traffic beyond production and maintenance traffic servicing the existing J16W pad and M16 pads.

Air Quality

Affected Environment

State of Colorado and Federal air quality regulations are enforced by the Colorado Department of Public Health and Environment (CDPHE). Colorado Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS) are health-based criteria for the maximum acceptable concentrations of air pollutants in areas of public use.

Although specific air quality monitoring has not been conducted within the project area, regional air quality monitoring has been conducted in Rifle and elsewhere in Garfield County. Air pollutants measured in the region for which ambient air quality standards exist include carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), ozone (O₃), particulate matter less than 10 microns (μ) in diameter (PM₁₀), and particulate matter less than 2.5 μ in diameter (PM_{2.5}).

The project area lies within Garfield County, which has been described as an attainment area under CAAQS and NAAQS. An attainment area is an area where ambient air pollution quantities are below (i.e., better than) NAAQS standards. Regional background values are well below established standards, and all areas within the cumulative study area are designated as attainment for all criteria pollutants.

Federal air quality regulations adopted and enforced by CDPHE limit incremental emissions increases to specific levels defined by the classification of air quality in an area. The Prevention of Significant Deterioration (PSD) program is designed to limit incremental increases for specific air pollutant concentrations above a legally defined baseline level, as defined by an area's air quality classification. Incremental increases in PSD Class I areas are strictly limited, while increases allowed in Class II areas are less strict. The project area and surrounding vicinity are classified as PSD Class II. The closest PSD Class I areas are the Flat Tops Wilderness (approximately 30 miles north), Maroon Bells-Snowmass Wilderness (approximately 29 miles south), West Elk Wilderness (approximately 50 miles southeast), Black Canyon of the Gunnison National Monument (approximately 50 miles south), and Eagles Nest Wilderness (approximately 65 miles east). Dinosaur National Monument (approximately 80 miles northwest) is listed as a PSD Class II.

Environmental Consequences

The CDPHE, under delegated authority from the U.S. Environmental Protection Agency (EPA) and in conformance with Colorado's State Implementation Plan (SIP), is the agency with primary responsibility for air quality regulation and enforcement in conjunction with industrial developments and other air pollution sources in Colorado. Unlike the conceptual "reasonable but conservative" engineering designs used in NEPA analyses, any CDPHE air quality preconstruction permitting is based on site-specific, detailed engineering values, which are assessed in CDPHE's review of the permit application. CDPHE requires an Air Pollutant Emission Notice (APEN) and construction permit for land development activities which disturb greater than 25 contiguous acres.

The Proposed Action includes constructing and installing 2.3 miles of pipeline within a 75-foot-wide working area. The air quality would decrease during construction of the pipeline resulting in 21.4 acres of surface disturbance. The Proposed Action would result in localized short-term increases in emissions during brush clearing of the ROW, topsoil stockpiling, trenching, pipe delivery, pipeline installation,

backfilling, and reclamation. Pollutants generated during construction activities would include emissions from vehicles and heavy equipment and fugitive dust (PM₁₀ and PM_{2.5}) associated with soil disturbance and travel on unpaved roadways. Once construction activities are complete, air quality impacts associated with these activities would diminish dramatically and decrease to near zero over current levels as revegetation progresses to a sufficient, self-sustaining perennial plant cover.

The width of pipeline ROW clearing would be kept to a practical minimum to avoid undue disturbance to existing vegetation. Where topsoil removal and storage is not necessary, brush clearing will be limited to removal of above ground vegetation to avoid disturbance of root systems, which will help reduce fugitive dust. In addition BLM would require water or dust suppressant be applied during construction.

Under the No Action Alternative, the portion of the pipeline on BLM-administered public lands would be denied, resulting in cancellation or redesign of the project by GRG. Therefore, no project-related impacts significantly affecting air quality would be anticipated.

Cultural Resources

Affected Environment

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take in to account the effects their actions will have on cultural resources. As a general policy, an agency must consider effects to cultural resources for any undertaking that involves federal monies, federal permitting/authorization, or federal lands.

No cultural resource inventories were conducted specifically for this project, as numerous previous inventories have adequately covered the proposed pipeline route. The six previous Class III cultural resource inventories (CRVFO# 5404-16, 5404-15, 5403-5, 5403-5A, 14503-1 and 5402-17) conducted over the project area are all pipeline or oil & gas related, and were performed within the last ten years. The inventories and pre-field file searches of the Colorado SHPO database and BLM Colorado River Valley Field Office cultural records did not identify any eligible cultural sites or isolated finds within the project corridor. An “eligible” determination means that a cultural site has characteristics that may make it eligible for inclusion on the NRHP. Isolated finds are by definition not eligible for the NRHP. Eligible or potentially eligible sites are referred to in Section 106 of the National Historic Preservation Act as “historic properties”. Much of the project area is within an existing road and/or pipeline corridor and has been previously disturbed by the road and pipeline routes.

Environmental Consequences

The Proposed Action has been designed to avoid impacts to cultural resources. Therefore, the BLM has made a determination of “**No Historic Properties Affected.**” This determination was made in accordance with the 2001 revised regulations [36CFR 800.4(d)(1)] for Section 106 of the National Historic Preservation Act (16U.S.C 470f), the BLM/State Historic Preservation Officer (SHPO) Programmatic Agreement and Colorado Protocol]. Because the Proposed Action would have no direct impacts to known “historic properties,” no formal consultation was initiated with the SHPO.

A standard Education/Discovery COA for cultural resource protection would be attached to the ROW as a stipulation to the grant (Appendix A). This COA stresses to the operator and its contractors the importance of protecting and reporting any cultural resources encountered during construction operations. Nonetheless, indirect long-term cumulative impacts from increased access and the presence of project personnel could result in a range of impacts to known and undiscovered cultural resources in the vicinity

of the project location. These impacts could range from accidental damage or vandalism to illegal collection and excavation.

The No Action Alternative would deny the ROW applications for the use of Federally administered land, eliminating the potential on these lands for exposure of buried cultural resources and for indirect effects from illicit collection or vandalism on private property.

Fossil Resources

Affected Environment

The current classification system utilized by the BLM for assessing impacts to fossil resources is the Potential Fossil Yield Classification System (PFYC). This system classifies geologic units based on the relative abundance of vertebrate fossils or scientifically important invertebrate and plant fossils and their sensitivity to adverse impacts. This classification is applied to a geologic formation, member, or other distinguishable unit. This classification system recognizes that although significant fossil localities may occasionally occur in a geologic unit, a few widely spaced localities do not necessarily indicate a higher class. The primary purpose of the PFYC is to assess the possible impacts from surface disturbing activities and help determine the need for pre-disturbance surveys and monitoring during construction.

The project area is situated in the Wasatch Formation (including the Shire Member) of the Piceance Creek Basin. This formation is ranked under the PFYC system as class 3b/4b formations. In Class 3b, units exhibit geologic features and preservational conditions that suggest significant fossils could be present, but little information about the paleontological resources of the unit or the area is known. Class 4b units have high potential of occurrences, but have lowered risks of disturbance due to moderating circumstances such as a protective layer of soil or alluvial material; or outcrop areas are smaller than two contiguous acres. In Class 3 units, fossil content varies in significance, abundance, and predictable occurrence. In Class 4 units, vertebrate fossils or scientifically significant invertebrate or plant fossils are known to occur, but may vary in occurrence and predictability.

Paleontological field visits and review of U.S. Geological Survey (USGS) geologic and topographic quadrangle maps revealed that the Wasatch Formation in the project area is overlain by land flow and pediment deposits. Additionally, examination of the BLM paleontology database indicates no known fossil deposits in this area.

Environmental Consequences

The Proposed Action has the potential to adversely affect scientifically important fossils. Both surface and subsurface fossils could be damaged or destroyed. The greatest potential for impacts is associated with excavation of surficial materials and shallow bedrock. The standard paleontological COA would apply and is included in Appendix A.

Under the No Action Alternative, the portion of the pipeline on BLM-administered public lands would be denied, resulting in cancellation or redesign of the project by GRG. Therefore, no project-related impacts significantly affecting fossil resources would be anticipated.

Invasive Non-Native Plants

Affected Environment

Noxious weeds occurring within the project area include seven Colorado B List noxious weed species: Russian knapweed (*Acroptilon repens*), plumeless thistle (*Carduus acanthoides*), bull thistle (*Cirsium vulgare*), musk thistle (*Carduus nutans*), Canada thistle (*Cirsium arvense*), hound's-tongue (*Cynoglossum officinale*), and scentless chamomile (*Matricaria perforata*). One Colorado C List noxious weed, common mullein (*Verbascum thapsus*), has also been documented in the project vicinity.

Environmental Consequences

Ground disturbance resulting from pipeline construction would provide habitat for noxious weeds and other non-native invasive plant species. Equipment used for construction would provide a potential vector for invasive plant seeds. Weed surveys are planned for May 2012, and noxious weeds discovered during surveys would be treated prior to initiation of construction. COAs for weed management and reclamation would mitigate the risk of weed introduction and spread by requiring treatment of weeds, and seeding of disturbed areas with native plant species.

Under the No Action alternative, the right-of-way grant would be denied, resulting in no change in the current situation relative to noxious weeds and other invasive non-native plants.

Migratory Birds

Affected Environment

The Migratory Bird Treaty Act (MBTA) provides protections to native birds, with the exception of certain upland fowl managed by state wildlife agencies for hunting. Within the context of the MBTA, "migratory" birds include non-migratory "resident" species as well as true migrants. For most migrant and resident species, breeding habitat is of special importance because it is critical for supporting reproduction in terms of both nest sites and food. In addition, because birds are generally territorial during the nesting season, their ability to access and utilize sufficient food is limited by the quality of the territory occupied. During non-breeding seasons, birds are generally non-territorial and able to feed across larger areas and wider ranges of habitat.

A variety of migratory bird species occupy, or have the potential to occupy, the Grass Mesa geographic area. Migratory bird species that are Federally listed under the Endangered Species Act of 1973, as amended, or classified by the BLM as sensitive species, are addressed under the section on Special Status Wildlife and Fish Species. The current section addresses migratory birds that may inhabit the proposed project area. Emphasizing the need to conserve declining species, the U.S. Fish and Wildlife Service (USFWS) has published a list of Birds of Conservation Concern (BCC) that warrant conservation attention to stabilize or increase populations or secure threatened habitats. This section also addresses species within the Grass Mesa area that are listed as BCC species (USFWS 2008). This analysis focuses on BCC species, on non-BCC species that are Neotropical (long-distance) migrants, and raptors—three groups highly vulnerable to habitat loss or modification on their breeding grounds.

Species on the BCC list that are potentially present in the South Grass Mesa project area, based on habitat preferences and known geographic ranges, include the flammulated owl (*Otus flammeolus*), Lewis's woodpecker (*Melanerpes lewis*), pinyon jay (*Gymnorhinus cyanocephalus*), juniper titmouse (*Baeolophus griseus*), Brewer's sparrow (*Spizella breweri*), and Cassin's finch (*Carpodacus cassinii*). The

flamulated owl and Brewer's sparrow are also listed as BLM sensitive species and addressed in the section on Special Status Wildlife. The potential for occurrence of Lewis's woodpecker is low due to its close association with riparian cottonwood woodlands and to pinyon-juniper habitats with a component of ponderosa pine—neither of which is a major habitat type within the project vicinity.

Among the other BCC species listed above, the pinyon jay and juniper titmouse are almost totally associated with extensive stands of pinyon-juniper woodland, not prevalent in the project area but extensive in the project vicinity. Cassin's finch nests at higher elevations in montane and subalpine coniferous forests but often disperses to lower elevations following the breeding season and may remain there until the following spring. Mixed mountain shrub habitats containing large, tree-like oakbrush are among the vegetation types sometimes supporting winter use by Cassin's finch.

Non-BCC species likely to occur in the project area or vicinity include several Neotropical migrants associated with mixed mountain shrub habitats. These include the common nighthawk (*Chordeiles minor*) (not a raptor), common poorwill (*Phalaenoptilus nuttallii*), broad-tailed hummingbird (*Selasphorus platycercus*), dusky flycatcher (*Empidonax oberholseri*), western scrub-jay (*Aphelocoma californica*), Virginia's warbler (*Oreothlypis virginiae*), orange-crowned warbler (*O. celata*), MacGillivray's warbler (*Oporornis tolmiei*), lazuli bunting (*Passerina amoena*), lesser goldfinch (*Spinus psaltria*), black-headed grosbeak (*Pheucticus melanocephalus*), and spotted towhee (*Pipilo maculata*). The western wood-pewee (*Contopus sordidulus*), cordilleran flycatcher (*Empidonax difficilis*), warbling vireo (*Vireo gilvus*), Bullock's oriole (*Icterus bullockii*), and blue grosbeak (*Passerina caerulea*) are associated primarily with trees but may occur in mixed mountain shrub habitats containing tree-form Gambel's oaks or species protruding above shrub layer.

Non-BCC species likely to occur in the minor pinyon-juniper within the project area or venturing into the area from more extensive habitats nearby include Neotropical migrants such as the black-chinned hummingbird (*Archilochus alexandri*), western kingbird (*Tyrannus verticalis*), Say's phoebe (*Sayornis saya*), mountain bluebird (*Sialis currucoides*), western bluebird (*S. mexicana*), plumbeous vireo (*V. plumbeus*), black-throated gray warbler (*Dendroica nigrescens*), and chipping sparrow (*Spizella passerina*). Two other Neotropical migrants, the ash-throated flycatcher (*Myiarchus cinerascens*) and gray flycatcher (*Empidonax wrightii*) are potentially present, although the project area is at the eastern edge of their range.

Raptors use the Grass Mesa area for nesting and hunting. Nesting habitat is found primarily in the pinyon-juniper woodlands or tall oakbrush within the project vicinity. Species most likely to nest within or near the project areas include the American kestrel (*Falco sparverius*), sharp-shinned hawk (*Accipiter striata*), Cooper's hawk (*A. cooperi*), red-tailed hawk (*Buteo jamaicensis*), great horned owl (*Bubo virginiana*), long-eared owl (*Asio otus*), and northern pygmy-owl (*Glaucidium gnoma*). Two raptor nest structures were found within the 0.25-mile buffer south of the proposed M16W pad location, and four were found along the proposed pipeline alignment during project-specific surveys conducted in May 2012. All nests were located in large oaks and were of suitable size and structure to support use by sharp-shinned hawks, long-eared owl, and American crow (*Corvus brachyrhynchos*). None showed evidence of occupancy in 2012 (Wildlife Specialties 2012).

Environmental Consequences

Direct impacts of the Proposed Action on migratory birds would include direct loss or fragmentation of foraging/hunting and nesting habitat. Removal of sagebrush and mixed mountain shrub species would result in a loss of existing and potential nesting sites. If construction, drilling, or completion activities occur during the nesting season, equipment operations and noise near active nests could result in indirect

habitat loss and fragmentation by causing birds to avoid otherwise suitable areas or, potentially, in nest failure by causing one or both adults of a mated pair to abandon an active nest (one in the process of being constructed or renovated or containing eggs or young). Construction activities during the nesting season could also result in the physical destruction of active nests, eggs, and young.

Loss of habitat and impacts on populations would be more severe for high-priority species such as BCC species, other Neotropical migrants, and raptors. While the Proposed Action may affect individual birds, it is not expected to adversely impact a species as a whole.

Throughout the project life, GRG would remain subject to the MBTA, administered by the USFWS, which precludes the “take” of any raptor or most other native species. The MBTA prohibits the “take” of a protected species. Under the 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. The USFWS interprets “harm” and “kill” to include loss of eggs or nestlings due to abandonment or reduced attentiveness by one or both adults as a result of disturbance by human activity, as well as physical destruction of an occupied nest.

Based on results of the raptor survey, a timing limitation (TL) would normally be applied as a COA to prohibit construction activities during the period February 15 to July 15 (Appendix A). However, since none of the nearby nests was documented as active in the 2012 nesting season, the TL would not apply to work conducted in 2012. A separate COA for the protection non-raptor BCC species would be applied as a COA during the period May 15 to July 15 to prohibit vegetation removal in habitats capable of supporting these species (Appendix A). Appendix A provides details of these COAs and describes potential bases for granting of exceptions to these TLs.

The No Action Alternative would deny the ROW applications for the use of Federally administered land, and construction of the pipeline would not occur on BLM land. Therefore, no new impacts to migratory birds would result from this project.

Native American Religious Concerns

Affected Environment

The project area is located within an area identified by the Ute Tribes as part of their ancestral homeland. A number of Class III cultural resource inventories (see section on **Cultural Resources**) were conducted in the Proposed Action’s vicinity to determine if any areas were known to be culturally sensitive to Native Americans. No sensitive areas were identified or are currently known in the proposed project area.

At present, no Native American concerns are known within the project area, and none were identified during inventories in the project vicinity. The Ute Tribe of the Uintah and Ouray Bands, Southern Ute, and Ute Mountain Ute Tribes were consulted for several of the previous projects in the vicinity and no concerns or issues were identified at that time in the current project area. If new data are disclosed, new terms and conditions may have to be negotiated to accommodate their concerns. Although the Proposed Action would have no direct impacts, increased access and personnel in the vicinity of the proposed project could indirectly impact unknown Native American resources ranging from illegal collection to vandalism.

Environmental Consequences

The National Historic Preservation Act (NHPA) requires that if newly discovered cultural resources are identified during project implementation, work in that area must stop and the agency Authorized Officer

notified immediately (36 CFR 800.13). The Native American Graves Protection and Repatriation Act (NAGPRA), requires that if inadvertent discovery of Native American Remains or Objects occurs, activity must cease in the area of discovery, a reasonable effort made to protect the item(s) discovered, and immediate notice made to the agency Authorized Officer, as well as the appropriate Native American group(s) (IV.C.2). Notice may be followed by a 30-day delay (NAGPRA Section 3(d)). Further actions also require compliance under the provisions of NHPA and the Archaeological Resource Protection Act.

GRG would be required to notify its staff and contractors of the requirement under the NHPA that work must cease if cultural resources are found during project operations. This is specified in a standard Education/Discovery COA for the protection of Native American values to be attached to the ROW grant (Appendix A). The importance of protecting and reporting any cultural resources encountered would be stressed to GRG and its contractors through the COA. GRG and its contractors would also be made aware of requirements under the NAGPRA.

The No Action Alternative would deny the ROW applications for the use of Federally administered land, eliminating the potential on these lands for exposure of buried cultural resources and for indirect effects from illicit collection or vandalism on private property.

Noise

Affected Environment

Noise is generally described as unwanted sound. Weighted noise intensity (or loudness) is measured as sound pressure in decibels (dBA). Each 20-unit increase in the decibel scale increases the sound loudness by a factor of 10. Sound levels have been calculated for areas that exhibit typical land uses and population densities. In rural recreational and agricultural lands, ambient sound levels are expected to be approximately 30 to 40 dBA (EPA 1974, Harris 1991). These typical noise levels result primarily from equipment operations during ranching and farming activities and vehicular traffic on rural roads. In comparison, the noise level during normal conversation of two people 5 feet apart is approximately 60 dBA.

Oil and gas activities are subject to noise abatement procedures as defined in the COGCC Rules and Regulations (Aesthetic & Noise Control Regulations). Operations involving installation or maintenance of pipelines or gas facilities are subject to the maximum permissible noise levels for industrial zones, set at 70 dBA from 7:00 a.m. to 7:00 p.m. and 65 dBA from 7:00 p.m. to 7:00 a.m. The permissible noise levels are as measured at a distance of 350 feet from the source. Periodically, noise levels may increase by up to 10 dBA above levels for no more than 15 minutes in a 1-hour period.

Environmental Consequences

Construction and traffic noise would be elevated as a consequence of the Proposed Action. The greatest increase would be along access roads, operation of equipment at material staging areas, and the pipeline alignment during trenching, pipe placement, backfilling/recontouring, and seedbed preparation. Based on the data summarized in Table 3, approximately 60 to 69 dBA at 500 feet and 54 to 63 dBA at 1,000 feet would be created by the project. These levels approximate those at active commercial areas (EPA 1974).

Although the project would have a total duration of approximately 6 months, the work would gradually shift along the 2.3 -mile length of the corridor. Main access roads used for travel to/from the construction areas would receive the most protracted increases in noise levels. The Hubbell cabin, a seasonally occupied structure is located on private land approximately 900 feet from the existing N9B pad where the

pipeline would terminate. If the structure is occupied during the construction of the pipeline, additional sound mitigation may be necessary to reduce the noise impacts at 350 feet to the residential standard of 55 dBA during the 7AM to 7PM.

<i>Equipment</i>	<i>Noise Level (dBA)</i>		
	<i>50 feet</i>	<i>500 feet</i>	<i>1,000 feet</i>
Air Compressor, Concrete Pump	82	62	56
Backhoe	85	65	59
Bulldozer	89	69	63
Crane	88	68	62
Front End Loader	83	63	57
Heavy Truck	88	68	62
Motor Grader	88	65	59
Road Scraper	87	67	61
Tractor, Vibrator/Roller	80	60	54

Sources: BLM (1999a), La Plata County (2002)

Under the No Action Alternative, the portion of the pipeline on BLM-administered public lands would be denied, resulting in cancellation of the project. Therefore, no project-related impacts significantly affecting noise levels would occur.

Realty Authorizations

The Proposed Action would require a realty authorization by the BLM. Construction of the middle segment of the 8-inch natural gas pipeline from the J16W pad northward toward the N9W pad would be authorized with existing ROW grant COC74858 issued to Encana. The new ROW grant for which GRG has applied (COC75504) would authorize construction of the new segments located south and north of the middle segments. In addition, because Encana is transferring all of its gas gathering pipelines to GRG, the new ROW grant, if approved based on this EA, would also incorporate the existing middle segment when it is conveyed from Encana to GRG. No other realty authorizations would be affected by the project.

The No Action Alternative would deny the ROW application for the use of Federally administered land, and construction of the pipeline would not occur on BLM land. Therefore, no realty actions would be required.

Soils

Affected Environment

The Proposed Action would be implemented on South Grass Mesa and surrounding slopes that are generally north- and northwest-facing, at elevations between 7,300 and 8,100 feet, and with gradients ranging from less than 5% to greater than 30%. The proposed project area is covered by the *Soil Survey of Rifle Area, Colorado* (NRCS 2010, USDA1985). According to this survey, the project area contains the soil types in Table 4.

Table 4. Soil Types and Characteristics Affected by the Proposed Action

<i>Soil Type</i>	<i>Description</i>	<i>Erosion Hazard</i>	<i>Pipeline Segment</i>
Bucklon-Inchau Loams (2-50% slopes)	Well-drained soils on ridges and mountainsides from 7,000 to 9,500 feet. Surface layer is loam 3 to 5 inches thick; upper subsoil, where present, is brown clay loam about 15 inches thick. Permeability is slow to moderate, surface runoff is medium.	Severe	M16W to N9W
Torriothents-Camborthids-Rock Outcrop Complex (15-70% slopes)	Broadly defined unit of sandstone, shale, stones and soils. Camborthids occur on the lower toe slopes on foothills and mountainsides and Torriothents occur on foothills and mountainsides below the Rock outcrop. The Torriothents are shallow to moderately deep, and clayey to loamy with gravel, cobbles, and stones. The Camborthids are shallow to deep and clayey to loamy. Rock outcrop primarily consists of Mesaverde sandstones and Wasatch shales.	Moderate to Severe	N16W to N9W
Morval-Tridell Complex (6-25% slopes)	Deep, well-drained soils on alluvial fans and mesa sides from 6,500 to 8,000 feet. Surface layer is loam or stony loam up to 10 inches thick; upper subsoil is clay loam to very stony loam about 12 inches thick. Permeability is moderate to moderately rapid, surface runoff is medium.	Moderate	J16W to N9B
Cimarron Loam (2-12% slopes)	Deep, well-drained, nearly level soils on narrow valleys and drainage ways from 7,500 to 9,000 feet. Soils derived from basalt. Permeability is slow and surface runoff is medium.	Moderate	J16W connection
Villa Grove-Zoltay Loams (15-30% slopes)	Deep, well-drained soils on mountainsides and alluvial fans from 7,500 to 7,600 feet. Surface layer is loam 4 to 20 inches thick; upper subsoil is clay loam to cobbly clay 11 to 35 inches thick. Permeability is slow to moderately slow, runoff is slow to medium.	Slight to Moderate	J16W to N9B

Environmental Consequences

The Proposed Action would involve surface disturbance for the pipeline resulting in approximately 21.4 acres of vegetation loss and soil compaction and displacement. In general, the area that would be affected by the Proposed Action contains adequate vegetation buffers and low to moderate slopes that would reduce the potential for sediment transport to Ramsey and Dry Creeks and eventually the Colorado River.

The current CRVFO land use plan (BLM 1999b) includes a requirement that surface-disturbing activities include special design or mitigation measures to minimize adverse impacts associated with construction on highly erodible soils on slopes steeper than 30%. Erosion and soil transport in all areas would be protected by proper BMPs incorporated as protective stipulations (see Appendix A).

Construction activities would cause mixing of soil horizons, slight to moderate increases in local soil loss, loss of soil productivity, and increased sediment available for transport to surface waters. Infestations of noxious weeds resulting from soil disturbance would also affect soil productivity. The potential for soil transport to surface waters would increase as a function of slope, proximity to streams, and type of disturbance.

Throughout the affected area, the potential would exist for accidental spills or leaks of petroleum products and hazardous materials during construction. These events would cause soil contamination. Long-term soil productivity could be achieved by continued maintenance to reduce erosion, remediation of soil

contamination, and reduction in the pad footprint through interim reclamation. Such impacts could be adequately mitigated by the standard and site-specific COAs listed in Appendix A. Following interim and final reclamation, it would be the responsibility of the operator to continue revegetation efforts until self-sustaining communities of desirable vegetation has been established. Appropriate revegetation is important to mitigate soil erosion and weed infestations.

Under the No Action Alternative, the portion of the pipeline on BLM-administered public lands would be denied, resulting in cancellation of the project. Therefore, no project-related impacts significantly affecting soil resources would occur.

Special Status Species

Federally Listed, Proposed, or Candidate Species

Affected Environment

Four species of Federally listed, proposed, or candidate threatened or endangered plants and eight species of vertebrates occur within Garfield County or may be affected by projects within Garfield County. Descriptions of these species and their status, distribution, and habitat associations are described below:

Colorado Hookless Cactus (*Sclerocactus glaucus*). Federally listed as threatened. Colorado hookless cactus occurs on rocky hills, mesa slopes, and alluvial benches in salt desert shrub communities, at elevations ranging from 4,500 to 6,000 feet. Common co-occurring plant species include shadscale (*Atriplex confertifolia*), black sagebrush (*Artemisia nova*), galleta grass (*Pleuraphis jamesii*), and Indian ricegrass (*Achnatherum hymenoides*), grading upward into big sagebrush (*Artemisia tridentata* ssp. *tridentata*), Utah juniper (*Juniperus osteosperma*), and pinyon pine (*Pinus edulis*). It is often associated with well-formed microbial crusts, but can also occur in dense cheatgrass (*Anisantha tectorum*). Colorado hookless cactus is known along the Colorado and Gunnison Rivers and their tributaries. Occurrences of this species are known on BLM lands west of Parachute, Colorado. Because no known occurrences or potential habitat for this species occur within or near the project area, no further analysis is considered in this document.

DeBeque Phacelia (*Phacelia submutica*). Federally listed as threatened. DeBeque phacelia occurs on sparsely vegetated, steep slopes in chocolate-brown, gray, or red clay soils on Atwell Gulch and Shire Members of the Wasatch Formation, at elevations between 4,700 and 6,200 feet. These soils often have large cracks because of the high shrink-swell potential of the clays. These habitats are found within desert shrubland, and associated plant species include four wing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), greasewood (*Sarcobatus vermiculata*), broom snakeweed (*Gutierrezia sarothrae*), bottlebrush squirreltail (*Elymus elymoides*), and Indian ricegrass (*Achnatherum hymenoides*), grading upward into scattered Utah junipers (*Juniperus osteosperma*). DeBeque phacelia is known to occur on BLM lands west of Parachute, Colorado. Because no known occurrences or potential habitat for this species occur within or near the project area, no further analysis is considered in this document.

Parachute Penstemon (*Penstemon debilis*). Federally listed as threatened. Parachute penstemon occurs on sparsely vegetated, south-facing, steep, white shale talus of the Parachute Creek Member of the Green River Formation, at elevations of 8,000 to 9,000 feet. Common co-occurring species include other oil shale endemic species, such as Roan Cliffs blazing star (*Mentzelia rhizomata*), Cathedral Bluff's meadow rue (*Thalictrum heliophilum*), dragon milkvetch (*Astragalus lutosus*), Piceance bladderpod (*Lesquerella parviflora*), and oil shale fescue (*Festuca dasyclada*). It is known to occur on BLM lands west of

Parachute, Colorado. Because no known occurrences or potential habitat for this species occur within or near the project area, no further analysis is considered in this document.

Ute Ladies'-Tresses Orchid (*Spiranthes diluvialis*). Federally listed as threatened. Ute ladies'-tresses occurs in sub-irrigated alluvial soils along streams, and in open meadows in floodplains, at elevations of 4,500 to 6,800 feet. Common associated species include box elder (*Acer negundo*), cottonwoods (*Populus* sp.), willows (*Salix* sp.), scouring rushes (*Equisetum* sp.), and riparian grasses, sedges, and forbs. Ute ladies'-tresses is known to occur on USFS lands along the Roaring Fork River south of Glenwood Springs, Colorado. Because no known occurrences or potential habitat for this species occur within or near the project area, no further analysis is considered in this document.

Razorback Sucker (*Xyrauchen texanus*), Colorado Pikeminnow (*Ptychocheilus lucius*), Humpback Chub (*Gila cypha*), and Bonytail (*G. elegans*). Federally listed as endangered. These four species of Federally listed big-river fishes occur within the Colorado River drainage basin near or downstream from the project area. Designated Critical Habitat for the razorback sucker and Colorado pikeminnow includes the Colorado River and its 100-year floodplain west (downstream) from the town of Rifle. This portion of the Colorado River lies a few miles north of the project area. The nearest known habitat for the humpback chub and bonytail is within the Colorado River approximately 70 miles downstream from the project area. Occasionally, the bonytail is in Colorado west of Grand Junction, but its range does not extend east from that point. Only one population of humpback chub, at Black Rocks west of Grand Junction, is known to exist in Colorado.

Greenback Cutthroat Trout (*Oncorhynchus clarki stomias*). Federally listed as threatened. The greenback cutthroat trout was not identified on the USFWS list for Garfield County; however, recent surveys have identified a population in Cache Creek, located several drainages east of the project area. The greenback is the subspecies of cutthroat trout native to the Platte River drainage on the Eastern Slope of Colorado, while the Colorado River cutthroat trout (*O. c. pleuriticus*) is the subspecies native to Garfield County and throughout the Western Slope of Colorado. Although the occurrence of greenbacks in Cache Creek and potentially elsewhere in the CRVFO and WRNF areas is apparently the result of human intervention (e.g., sanctioned or *ad hoc* transplantation of fish from the Eastern Slope), its status as threatened applies to Western Slope populations. However, because drainages within the project area do not support this species, it is not considered further.

Mexican Spotted Owl (*Strix occidentalis*). Federally listed as threatened. This large owl nests, roosts, and hunts in mature coniferous forests in canyons and foothills. The only extant populations in Colorado are in the Pikes Peak and Wet Mountain areas of south-central Colorado and the Mesa Verde area of southwestern Colorado. Because no known occurrences or suitable habitats are present in the project vicinity, this species is not considered further.

Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*). Candidate for Federal listing. This secretive species occurs in mature riparian forests of cottonwoods and other large deciduous trees with a well-developed understory of tall riparian shrubs. Riparian areas in the project area do not provide suitable habitat for this species. It also is not known to occur in the cottonwood corridor along the Colorado River a few miles north of the project area; occurrence there is unlikely due to the patchy nature of the stands and the general lack of a tall-shrub understory. Because no known occurrences or suitable habitats are present in the project vicinity, this species is not considered further.

Canada Lynx (*Lynx canadensis*). Federally listed as threatened. Canada lynx occupy high-latitude or high-elevation coniferous forests characterized by cold, snowy winters and an adequate prey base. The preferred prey of Canada lynx throughout their range is the snowshoe hare (*Lepus americanus*). In the

western United States, lynx are associated with mesic forests of lodgepole pine, subalpine fir, Engelmann spruce, and quaking aspen in the upper montane and subalpine zones, generally between 8,000 and 12,000 feet in elevation. Although snowshoe hares are the preferred prey in Colorado, lynx in also feed on other species such as the rabbits, squirrels, and birds. The U.S. Forest Service (USFS) has mapped suitable denning, winter, and other habitat for lynx within the White River National Forest (WRNF), portions of which are adjacent to BLM lands within the CRVFO. The mapped suitable habitat in the WRNF comprises several areas known as Lynx Analysis Units (LAUs). Several LAUs border BLM lands along the I-70 corridor from east of Wolcott to west of DeBeque. While BLM lands within the CRVFO area are generally not suitable habitat, they may support movement by animals dispersing to a new area or, potentially, moving to lower elevations during severe winter weather in search of prey. The project area does not border the Battlement Creek LAU and therefore is not considered further in this document.

Environmental Consequences

Because no potential habitat for any Federally listed, proposed, or candidate plants occurs within the project vicinity, the Proposed Action would have “**No Effect**” on any of these species.

Among vertebrate species, the greenback cutthroat trout, Mexican spotted owl, western yellow-billed cuckoo, and Canada lynx are not expected to occur in the project vicinity based on habitat types present and documented occurrences. Therefore, the Proposed Action would also have “**No Effect**” on these species.

For the four Federally listed big-river fishes, BLM prepared a Programmatic Biological Assessment (PBA) in 2008 addressing water-depleting activities associated with BLM’s fluid minerals program in the Colorado River Basin in Colorado. In response to this PBA, the USFWS issued a Programmatic Biological Opinion (PBO) (ES/GJ-6-CO-08-F-0006) on December 19, 2008. Because construction of the Proposed Action would include the use of fresh water from the Colorado River Basin for pressure-testing the pipeline following construction, with the tested water then disposed at a treatment facility, this aspect of the project would represent a minor depletion, resulting in an effects determination pursuant to the PBO of “**May Affect, Likely to Adversely Affect**” the Colorado pikeminnow, bonytail chub, humpback chub, and razorback sucker. To offset the impacts, the BLM has set up a Recovery Agreement, which includes a one-time Fee per well to use for site-specific mitigation projects. These funds are used to contribute to the recovery of endangered fish through the restoration of habitat, propagation, and genetics management, instream flow identification and protection, program management, non-native fish management, research and monitoring, and public education.

Under the No Action Alternative, the ROW grant for construction of the additional pipeline segments would be denied, resulting in “**No Effect**” on any Federally listed, proposed, or candidate plant or animal species, assuming that a variant of the pipeline involving only private land is not built.

BLM Sensitive Plant and Animal Species

Only one BLM sensitive plant species, Harrington’s penstemon (*Penstemon harringtonii*), has habitat and/or occurrence records within the project area and its vicinity. Harrington’s penstemon occurs in open sagebrush habitats, and in sagebrush sites with encroaching pinyon/juniper, at elevations of 6,200 to 9,200 feet. Soils are typically rocky loams and rocky clay loams derived from coarse calcareous parent materials (basalt). Previous botany surveys for nearby projects have documented Harrington’s penstemon occurring in scattered patches around the project vicinity. Addition surveys for this species within the proposed pipeline area were completed during the June 2012 blooming period, and several new

occurrences were found adjacent to the proposed pipeline. Approximately 300 Harrington’s penstemon plant were found within 100 feet of the pipeline corridor on BLM lands, and approximately 160 plants were found within 100 feet of the pipeline corridor on private lands.

BLM sensitive animal species with habitat and/or occurrence records in the portion of the CRVFO that includes the project area and vicinity are listed in Table 5.

Table 5. Special Status Animal Species Present or Potentially Present in the Project Area		
<i>Common Name</i>	<i>Habitat</i>	<i>Potential for Occurrence</i>
Flannelmouth sucker, bluehead sucker, and roundtail chub	Flannelmouth sucker and roundtail chub generally restricted to rivers and major tributaries. Bluehead sucker also in smaller streams. No habitat for these species within the project vicinity.	Present in Colorado River
Colorado River cutthroat trout	Restricted to small headwaters streams isolated from introductions or colonization by non-native trouts.	Not present
Great Basin spadefoot	Habitat includes pinyon-juniper woodlands, sagebrush, and semi-desert shrublands	No suitable habitat
Northern leopard frog	Wet meadows and the shallows of marshes, glacial kettles, beaver ponds, lakes, reservoirs, streams, and irrigation ditches.	No suitable habitat
Midget faded rattlesnake	High, cold desert dominated by sagebrush and with an abundance of rock outcrops and exposed canyon walls.	No suitable habitat
Northern goshawk	Predominantly uses spruce/fir forests but also use Douglas-fir, various pines, and aspens.	Possible – Winter Visitor
Bald eagle	Nests and roosts in mature cottonwood forests along rivers, large streams, and lakes.	Present along Colorado River
Brewer’s sparrow	Sagebrush shrublands, mountain parks; may be found in alpine willow stands.	Possible – Habitat Marginal
Fringed myotis, Townsend’s big-eared bat	Breed and roost in caves, trees, mines, and buildings; hunt over pinyon-juniper, montane conifers, and semi-desert shrubs.	Possible

Environmental Consequences

Potential impacts of the Proposed Action on plant and animal species listed by BLM as sensitive species and potentially affected by the project, as indicated in Table 5. None of these impacts would result from selection of the No Action Alternative, because the project as proposed would not be built.

Harrington’s Penstemon – Direct mortality would be expected for any Harrington’s penstemon plants growing within the pipeline construction corridor. For the approximately 460 plants growing within 100 feet of the pipeline disturbance area, indirect impacts could result from dust deposition, increased risk for noxious weeds and other invasive non-native plants, and from disturbance to pollinators. Direct impacts would be mitigated by implementation of a construction COA requiring stovepiping of the disturbance area where it passes through Harrington’s penstemon occurrences. The potential for noxious weeds and non-native invasive plants would be mitigated by the COAs requiring revegetation with native species, and treatment of noxious weeds. Additional COAs specific to Harrington’s penstemon habitat areas would require a special reclamation seed mix consisting of species with which Harrington’s penstemon is

most likely to re-establish following disturbance. These COAs would also provide restrictions on herbicide use within the vicinity of Harrington's penstemon plants. Implementation of these COAs would reduce the potential for negative impacts resulting from the pipeline construction.

Flannelmouth Sucker (*Catostomus latipinnis*) and Roundtail Chub (*Gila robusta*) – As with the ecologically similar Colorado River endangered fishes described above, the flannelmouth sucker and roundtail chub are adapted to naturally high sediment loads and therefore would not be affected by increased sediment transport to the Colorado River, in the unlikely event that this were to occur as a result of the project. Although not typically affected adversely by high sediment loads, inflow of chemical pollutants from the project area could result in direct impacts. The stormwater controls enforced by the CDPHE and protective COAs for water quality would minimize this potential (Appendix A).

These species are also, like the endangered Colorado River big-river fishes, vulnerable to alterations in flow regimes (including evaporative losses from dams and depletions from withdrawal of water for irrigation or municipal water supplies) that affect the presence of sandbars and seasonally flooded overbank areas needed for reproduction. The small amount of water consumption associated with the Proposed Action would not cause discernible impacts to the Colorado River flow regime.

Bluehead Sucker (*Catostomus discobolus*) – This species is found throughout the middle and upper Colorado River Basin, in a variety of areas from headwater streams to large rivers (Woodling 1985). The bluehead sucker prefers areas with a rock substrate and mid to fast flowing waters. Because no perennial streams are present in the vicinity, the bluehead sucker would not be affected by the Proposed Action.

Northern Leopard Frog (*Rana pipiens*) – The northern leopard frog is limited to perennial waters, including ponds and slow-flowing perennial streams or persistent portions of intermittent streams. This species requires streams with good water quality and abundant aquatic or shoreline vegetation. Suitable habitat occurs along some streams in the general vicinity of the project area. However, the project would not involve new habitat disturbance, and no are expected.

Northern Goshawk (*Accipiter gentilis*) – Nests in montane and, especially, subalpine coniferous forests, including interspersed stands of quaking aspen, and feeds primarily on birds and small diurnal mammals that it catches while swooping through the forest. The project area does not contain suitable nesting habitat due to its lower elevation. However, goshawks commonly move to lower elevation pinyon-juniper habitats in winter, where prey may be more abundant and temperatures are less extreme. Because this type of winter use by goshawks is typically transitory and dispersed across large areas, the project would not be expected to adversely affect this species.

Bald Eagle (*Haliaeetus leucocephalus*) – Formerly listed as endangered, downlisted to threatened, and more recently removed from the list of threatened or endangered species, the bald eagle remains protected by the MBTA and the Bald and Golden Eagle Protection Act (BGEPA). Although the project area lies relatively near occupied habitat along the Colorado River, habitats present within the project area and vicinity are unlikely to attract use by the species, minimizing the potential for adverse impacts.

Brewer's Sparrow (*Spizella breweri*) – This project vicinity contains limited and marginal habitat for the Brewer's sparrow, which generally is restricted to extensive, uniform stands of sagebrush, primarily sagebrush steppe. If the species were to occur, oil and gas activities occurring within the home range of a nesting pair could cause individuals to shift their feeding patterns and to locate their nests to avoid the disturbance (noise, dust, human activity). However, this impact would be limited to the nesting season and would not be an issue for long-term production and maintenance operations.

Vegetation

Affected Environment

The site is located within a mountain shrubland habitat type, at elevations ranging from approximately 7,100 feet to 7,900 feet. The vegetation consists primarily of patches of Gambel's oak (*Quercus gambelii*), Saskatoon serviceberry (*Amelanchier alnifolia*), roundleaf snowberry (*Symphoricarpos rotundifolius*), and mountain-mahogany (*Cercocarpus montanus*) interspersed with areas of Wyoming sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), black sagebrush (*Artemisia nova*), and various native perennial bunchgrasses and forbs. Common grass species include bluebunch wheatgrass (*Pseudoroegneria spicata*), Indian ricegrass (*Achnatherum hymenoides*), Junegrass (*Koeleria macrantha*), needle and thread grass (*Hesperostipa comata*), and bottlebrush squirreltail grass (*Elymus elymoides*). Common forbs include Indian paintbrush (*Castilleja* sp.), lupine (*Lupinus caudatus*), puccoon (*Lithospermum ruderale*), phlox (*Phlox* sp.), sulphur-flower buckwheat (*Eriogonum umbellatum*), and tansy-aster (*Machaeranthera pinnatifida*).

Environmental Consequences

Under the Proposed Action, a total of approximately 21.4 acres of mountain shrubland vegetation would be removed for pipeline installation, of which 14.7 acres would occur on BLM lands and 6.7 acres would occur on private lands. This disturbance would increase the site's vulnerability to invasion and establishment of noxious weeds and other nonnative invasive plant species. Implementation of the COAs for revegetation would result in seeding with native grass species, which would assist in the reestablishment of the native plant community. Implementation of the weed management COAs would greatly reduce the risk of weed establishment within and adjacent to the disturbed area.

Under the No Action alternative, the right-of-way grant would be denied and there would be no alteration of the existing vegetation.

Visual Resources

Affected Environment

The Proposed Action would occur on private land and BLM land classified as Visual Resource Management (VRM) Class III and IV in the current CRVFO land use plan. The objective of VRM Class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may not 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. The objective of VRM Class IV is to provide for management activities which require major modification of the existing landscape character. The level of change to the characteristic landscape is high. Activities may attract attention, may dominate the view, but are still mitigated.

Environmental Consequences

Short-term visual impacts due to pipeline installation activities would occur within the project area. The existing landscape would be changed by the introduction of contrasting elements within the landscape in the form of new lines, colors, forms, and textures. There would also be an increase in the presence of heavy equipment (e.g., dozers, graders, etc.), and vehicular traffic with an associated increase in dust.

The pipeline would be constructed on generally flat to sloping terrain and would not be visible from any of the KOPs identified in the South Grass Mesa EA (EA # CO140-2011-72) and would only be visible within the immediate pipeline corridor vicinity. The pipeline would also be constructed within an existing (reclaimed), previously disturbed corridor. Although the pipeline would not be visible outside the immediate vicinity, mitigation would be required to deter off-road travel, additional surface disturbance, expansion of the corridor and visual impacts. See Appendix A.

Under the No Action Alternative, no ROW grant would be issued. Consequently, no new impacts to visual resources would occur.

Water Quality, Surface

Affected Environment

The Proposed Activities would occur within the Ramsey Gulch and the Dry Creek USGS 6th-code hydrologic units, both of which empty directly into the Colorado River approximately 13 miles south of the project. According to the *Stream Classifications and Water Quality Standards* (CDPHE, Water Quality Control Commission [WQCC] Regulation No. 37) (CDPHE 2007), unnamed ephemeral drainages that drain the project sections in the Ramsey Gulch are within segment 4a, which includes tributaries to the Colorado River from its confluence with the Roaring Fork River to a point immediately below its confluence with Parachute Creek. Following is a brief description of segments 4a.

- Segment 4a – This segment has been classified aquatic life cold 2, recreation N, water supply, and agriculture. Aquatic life cold 2 indicates that this water course is not capable of sustaining a wide variety of cold or warm water biota due to habitat, flows, or uncorrectable water quality conditions. Recreation class N refers to waters that are not suitable or intended to become suitable for primary contact recreation. This segment is, however, suitable or intended to become suitable for potable water supplies and agricultural purposes that include irrigation and livestock use.

Dry Creek, flowing within 1 mile from the Rose Ranch Road and pipeline area, is within WQCC segment 4e, which includes the main stems of Dry Creek including all tributaries and wetlands from the source to its confluence with the Colorado River. Following is a brief description of segment 4e.

- Segment 4e – This segment has been classified as aquatic life cold 2, recreation N, and agriculture. Aquatic life cold 2 indicates that this water course is not capable of sustaining a wide variety of cold or warm water biota due to habitat, flows, or uncorrectable water quality conditions. Recreation class N refers to waters that are not suitable or intended to become suitable for primary contact recreation. This segment is suitable for agricultural purposes that include irrigation and livestock use.

All streams within segment 4a are on the State of Colorado's *303(d) List of Impaired Waters and Monitoring and Evaluation List* (CDPHE, WQCC Regulation No. 93) (CDPHE 2010) for naturally high levels of selenium; no streams within segment 4e are on this list. *Colorado's Monitoring and Evaluation List* identifies water bodies where there is reason to suspect water quality problems, but uncertainty also exists regarding one or more factors. No stream segments within the project area are on the State of Colorado *Monitoring and Evaluation List* (CDPHE 2010).

The USGS has collected limited surface water flow and quality data at sites along Dry Creek near the project area (USGS 2007b). Data were also collected from the Colorado River below the project area near Rulison in 1977 and 1978 (Table 6).

Table 6. Selected Water Quality Data for Two Sampling Locations near the Project Area		
Parameter	Dry Creek near Parachute, CO, USGS Site #392530108042301 8/8/1979	Colorado River below Rulison CO, USGS Site #09092570 4/8/1977
Instantaneous discharge (cfs)	0.1	1,560
Temperature, water (°C)	22	11
Field pH (standard units)	8.3	8.1
Specific conductance (µS/cm/cm at 25°C)	1,300	1,200
Total Dissolved Solids (mg/L)	1,020	733
Hardness as CaCO ₃ (mg/L)	540	250
Chloride (mg/L)	21	230
Selenium (µg/L)	NA	1
Dissolved oxygen (mg/L)	NA	10
Note: NA = data not available Source: USGS 2007.		

No sediment measuring stations are present on the Colorado River or its tributaries near the pad location. The closest downstream station on the Colorado River is near DeBeque, Colorado. A summary of USGS data collected at this station indicates that the mean sediment load was 1,817 tons per day during the period of 1974 to 1976. The maximum and minimum for this location during the same period was 41,300 and 8 tons/day respectively (USGS 2007).

Environmental Consequences

The Proposed Action would result in the most acres of surface disturbance and compaction. In the short term there would be approximately 21.4 acres of short term surface disturbance in the pipeline corridor. Reclamation plans would be implemented and monitored following the proposed construction activities. Potential impacts to surface waters could occur from surface-disturbing activities, traffic, and waste management. Surface-disturbing activities associated with the pipeline can cause loss of vegetation cover, increased soil compaction, temporarily increased availability of sediments for runoff events, increased volume and velocity of runoff, and increase sedimentation to surface waters.

The proposed pipeline route has the potential to impact ephemeral drainages that are tributary to the Colorado River. Other substances associated with construction-related activities, including petroleum-based hydrocarbons, could also be carried by runoff into surface waters. Initially, impacts would be minimized by proper stormwater management and timely installation of BMPs, including control of erosion, stockpiling of topsoils, and timely rehabilitation of disturbed surfaces. Inspection and monitoring of construction activities to identify possible spill events and ensure required clean-up would also reduce these potential impacts.

Pipelines associated with the transport of liquids would be pressure-tested to detect leakage prior to use. Implementation of the standard and site-specific COAs for mitigating impacts to surface waters (Appendix A) would minimize risks of adverse impacts associated with construction and ongoing production activities.

Under this alternative, the portion of the pipeline on BLM-administered public lands would be denied, resulting in cancellation of the project. Therefore, no project-related increases in potential impacts from hazardous or solid wastes would be expected.

Wildlife, Aquatic and Terrestrial

Affected Environment

Fish

Aquatic habitat is severely limited in the South Grass Mesa area given the intermittent nature of project area streams. No fish occur in Ramsey Gulch or Dry Creek due to their small size and limited water flow.

Reptiles and Amphibians

The project area is above the elevational range of most reptile species known to occur in Garfield County. Species most likely to occur include the western fence lizard (*Sceloporus undulatus*) and gopher snake (bullsnake) (*Pituophis catenifer*) in xeric shrublands or grassy clearings and the western terrestrial garter snake (*Thamnophis elegans*) in mesic sites. Other snakes in the project vicinity are mostly associated with riparian habitats, and especially at lower elevations. For the same reason, amphibians are not expected to occur within or near the project area. However, one species—the western chorus frog (*Pseudacris triseriata*)—is potentially present because of its ability to use small, seasonal surface waters and wetlands, including roadside cattail stands.

Birds

Raptors potentially nesting in the large Gambel's oaks throughout the project vicinity include two small resident hawks (Cooper's hawk, sharp-shinned hawk) and, where taller conifers are present for nesting or perching, two larger resident raptors (red-tailed hawk and great horned owl). Other birds of prey potentially present include three small owls: the migratory flammulated owl and the resident northern pygmy owl and northern saw-whet owl, the latter two primarily where tall conifers or tall deciduous trees are present among the shrubs. Other residents or short-distance migrants in the project vicinity include the northern flicker (*Colaptes auratus*), common raven (*Corvus corax*), black-billed magpie (*Pica hudsonia*), western scrub-jay (*Aphelocoma californica*), mountain and black-capped chickadees (*Poecile gambeli*, *P. atricapillus*), American robin (*Turdus migratorius*), Townsend's solitaire (*Myadestes townsendi*), blue-gray gnatcatcher (*Poliophtila caerulea*), and house finch (*Carpodacus mexicanus*). See the sections on Migratory Birds and Special Status Species for discussions of other birds in the area.

One upland gamebird species occurs in the project vicinity, the wild turkey (*Meleagris gallopavo*). Although the area is not mapped by CDOW as a turkey concentration area, the abundant acorns and berries that attract black bears are likely to also attract turkeys, particularly in fall, but also in other seasons when they can forage for other plant and invertebrate food items in the dense leaf litter.

Mammals

The site is located within winter range and severe winter range for both mule deer (*Odocoileus hemionus*) and Rocky Mountain elk (*Cervus elaphus nelsoni*) as mapped by CDOW (2008). Winter range is the portion of the overall range of a species in which 90% of the individuals are located during the average five winters out of ten from the first heavy snowfall to spring green-up, or during a site-specific period of winter as defined for each data analysis unit (DAU) (CDOW 2008). Severe winter range is that part of

the range of a species where 90 percent of the individuals are located when the annual snowpack is at its maximum and/or temperatures are at a minimum in the two worst winters out of ten (CDOW 2006). Field surveys indicate that the project area is occupied winter range for elk and that mule deer occupy on a year-round basis.

Large carnivores present in the project vicinity include the mountain lion (*Puma concolor*) and black bear (*Ursus americanus*). CDOW (2008) has mapped all of the analysis area as black bear (*Ursus americanus*) overall range. In addition, the southeastern portions of the analysis area are at the periphery of a black bear fall concentration area (CDOW 2008), reflecting the abundance of calorie-rich acorns and berries provided by the oaks and rosaceous shrubs (serviceberry, chokecherry). Mountain lions move seasonally to generally follow migrations of their preferred prey, mule deer. Two medium-sized carnivores, the coyote (*Canis latrans*) and bobcat (*Lynx rufus*), are also present throughout the region in open habitats and broken or wooded terrain, respectively, where they hunt for small mammals, reptiles, and ground-dwelling birds. Smaller carnivores in habitats similar to those near the project site include the ringtail (*Bassariscus astutus*) and spotted skunk (*Spilogale gracilis*).

Small mammals present within the planning area include rodents such as the rock squirrel (*Spermophilus variegatus*), golden-mantled ground squirrels (*S. lateralis*), least chipmunk (*Tamias minimus*), and packrat (bushy-tailed woodrat) (*Neotoma cinerea*), as well as the mountain cottontail (*Sylvilagus nuttallii*). Rodents and, to a lesser extent rabbits, are the primary prey base for a variety of predators.

Environmental Consequences

Because no perennial streams suitable for sustaining fish would be affected by the project, the Proposed Action would result in no impacts to these species. Similarly, no permanent or seasonal surface waters capable of supporting breeding by amphibians are expected to be impacted. Impacts to reptiles could result from vegetation removal and from direct mortality along routes driven by project-related vehicles.

The Proposed Action would result in the loss and fragmentation of 21.4 acres of wildlife habitat. In areas where shrubs and trees would be disturbed, impacts to terrestrial wildlife from loss of breeding, feeding, and hiding habitat would last for as much as 20 to 30+ years following reestablishment of herbaceous species. Indirect impacts on wildlife, especially big game and raptors, would include disruption of behaviors due to increased human activity, equipment operation, vehicle traffic, and harassment by any dogs brought to the site by contractors. Most species of wildlife are relatively secretive and distance themselves from these types of disturbance or move to different areas screened by vegetation screening or topographic features. This avoidance, referred to as displacement, results in underuse of habitat near the disturbance. Avoidance of forage and cover resources adjacent to disturbance reduces habitat utility and the capacity of the affected acreage to support wildlife populations. However, this impact would be limited to the relatively brief period of construction, further reduced in severity because construction would progress along the route relatively quickly, with only a few days of intensive construction at a given spot.

Construction activities, soil disturbance, and traffic could potentially spur the introduction and spread of weed species within the Grass Mesa geographic area. Weed invasion and establishment has become an increasingly important concern associated with surface disturbing activities in the West. Weeds often out-compete native plant species, rendering an area less productive as a source of forage for wildlife. However, implementation of the suggested mitigation measures for the control of invasive non-native species (Appendix A) would minimize the potential for invasion and establishment of the Grass Mesa geographic area by undesirable plants.

The No Action Alternative would deny the ROW applications for the use of Federally-administered land, and construction of the pipeline would not occur on BLM land. Therefore, no additional impacts to terrestrial wildlife species would occur.

SUMMARY OF CUMULATIVE IMPACTS

Historically, habitat loss or modification in the CRVFO areas was characteristic of agricultural, ranching lands, rural residential, with localized industrial impacts associated with the railroad and I-70 corridors and the small communities. More recently, the growth of residential and commercial uses, utility corridors, oil and gas developments, and other rural industrial uses (e.g., gravel mining along the Colorado River) has accelerated the accumulation of impacts in the area. Cumulative impacts have included (1) direct habitat loss, habitat fragmentation, and decreased habitat effectiveness; (2) increased potential for runoff, erosion, and sedimentation; (3) expansion of noxious weeds and other invasive species; (4) increased fugitive dust from construction of oil and gas pads, roads, and pipelines and associated truck travel; (5) increased noise, especially along access and haul roads; (6) increased potential for spills and other releases of chemical pollutants; and (7) decreased scenic quality.

Although none of the cumulative impacts was described in the 1999 FSEIS (BLM 1999a) or EA #CO140-2011-72 as significant, and while new technologies and regulatory requirements have reduced the impacts of some land uses, it is clear that past, present, and reasonably foreseeable future actions have had and would continue to have adverse effects on various elements of the human environment. Anticipated impacts for existing and future actions range from negligible to locally major, and primarily negative, for specific resources.

The primary bases for this assessment are twofold: First, the rate of development, particularly oil and gas development has generally been increasing in the area, resulting in an accelerated accumulation of individually nominal effects. Second, residential and commercial expansion, as well as most of the oil and gas development, has occurred on private lands where mitigation measures designed to protect and conserve resources may not be applied to the same extent as on BLM lands. Recent COGCC regulations have closed considerably the gap between the potential environmental impacts associated with development of private versus Federal fluid mineral resources.

The Proposed Action would contribute to the collective adverse impact for some resources. Although the contribution would be minor, the Proposed Action would contribute incrementally to the collective impact to air quality, vegetation, migratory birds, terrestrial wildlife, and other resources. These cumulative impacts would be in addition to those associated with a nearby pipeline project for Bargath, LLC (“Bargath”) and Encana Oil & Gas (USA) Inc. (“Encana”). The Bargath Kokopelli II 16-inch natural gas pipeline would be approximately 22.3 miles in length and would be completed no earlier than spring-summer-fall 2013 and perhaps later (BLM 2012a). The Encana Pumba 30-inch natural gas pipeline would be approximately 11.2 miles in length and would be completed no earlier than summer-fall 2012 and perhaps later (BLM 2012b).

PERSONS AND AGENCIES CONSULTED

Encana Oil & Gas (USA) Inc.: Bob Anderson, Construction Coordinator Representative for GRG (Summit Midstream).

GRG (Summit Midstream) Encana Oil & Gas (USA) Inc.: Renata Busch, Permitting/South Rockies Construction during the Encana/Summit Transition Period.

INTERDISCIPLINARY REVIEW

BLM staff who participated in the preparation of this EA are listed in , including review of survey results submitted by the operator’s consultants, evaluation of impacts likely to occur from implementation of the Proposed Action, and identification of appropriate COAs to be attached and enforced by BLM, are listed in Table 7.

Table 7. BLM Interdisciplinary Team Authors and Reviewers		
<i>Name</i>	<i>Title</i>	<i>Areas of Participation</i>
D. J. Beaupeurt	Realty Specialist	Lands and Realty
John Brogan	Archaeologist	Cultural Resources, Native American Religious Concerns
Allen Crockett.	Supervisory Natural Resource Specialist	Technical Review, NEPA Review
Shauna Kocman	Hydrologist, Environmental Engineer	Air Quality, Noise, Soils, Surface Water
Julie McGrew	Natural Resource Specialist	Project Lead, Access and Transportation, Socioeconomics, Visual Resources
Judy Perkins	Botanist	Invasive Non-Native Species, Special Status Plants, Vegetation
Sylvia Ringer	Wildlife Biologist	Migratory Birds, Special Status Animals, Aquatic and Terrestrial Wildlife
Todd Sieber	Geologist	Fossil Resources, Geology and Minerals, Groundwater

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APPENDIX A

**Surface-Use Conditions of Approval
and
General Terms and Conditions of the Right-of-Way Grant**

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**SURFACE-USE CONDITIONS OF APPROVAL
DOI-BLM-CO-N040-2012-0066-EA**

The following standard surface-use COAs are in addition to all stipulations attached to the respective Federal leases and to any site-specific COAs for individual pads. Wording and numbering of these COAs may differ from those included in the South Grass Mesa EA (EA #CO140-2011-0072-EA). Any variation in the stipulations included in this exhibit shall supersede those in the original EA.

1. Administrative Notification. The operator shall notify the BLM representative at least 48 hours prior to initiation of construction. If requested by the BLM representative, the operator shall schedule a pre-construction meeting, including key operator and contractor personnel, to ensure that any unresolved issues are fully addressed prior to initiation of surface-disturbing activities or placement of production facilities.
2. Pipeline Construction and Maintenance. Construction methods, techniques and procedures described in the Encana Plan of Development shall be implemented (GRG 2011). The disturbance limits of the pipelines shall be staked and/or flagged prior to any commencement of operations. All trees and brush within the disturbance corridor shall be hydro-axed or chipped prior to beginning excavation work. Topsoil stripping shall not be allowed where topsoil windrowing or stockpiling is to occur along the pipeline corridor to retain the root mass of the brush species and enhance the recovery of the hydro-axed vegetation. No equipment or vehicle use shall be allowed outside the staked disturbance corridor of the pipeline ROW.
3. Dust Abatement. The operator shall implement dust abatement measures as needed to prevent fugitive dust from vehicular traffic, equipment operations, or wind events. The BLM may direct the operator to change the level and type of treatment (watering or application of various dust agents, surfactants, and road surfacing material) if dust abatement measures are observed to be insufficient to prevent fugitive dust.
4. Drainage Crossings and Culverts. Construction activities at perennial, intermittent, and ephemeral drainage crossings (e.g. burying pipelines, installing culverts) shall be timed to avoid high flow conditions. Construction that disturbs any flowing stream shall utilize either a piped stream diversion or a cofferdam and pump to divert flow around the disturbed area.

Culverts at drainage crossings shall be designed and installed to pass a 25-year or greater storm event. On perennial and intermittent streams, culverts shall be designed to allow for passage of aquatic biota. The minimum culvert diameter in any installation for a drainage crossing or road drainage shall be 24 inches. Crossings of drainages deemed to be jurisdictional waters of the U.S. pursuant to Section 404 of the Clean Water Act may require additional culvert design capacity. Due to the flashy nature of area drainages and anticipated culvert maintenance, the U.S. Army Corps of Engineers (USACE) recommends designing drainage crossings for the 100-year event. Contact the USACE Colorado West Regulatory Branch at 970-243-1199 ext. 17 (Travis Morse).

Pipelines installed beneath stream crossings shall be buried at a minimum depth of 4 feet below the channel substrate to avoid exposure by channel scour and degradation. Following burial, the channel grade and substrate composition shall be returned to pre-construction conditions.

5. Jurisdictional Waters of the U.S. The operator shall obtain appropriate permits from the U.S. Army Corps of Engineers (USACE) 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 wetlands as well as perennial, intermittent, and ephemeral streams. Permanent impacts to waters of the U.S. may require mitigation. Contact the USACE Colorado West Regulatory Branch at 970-243-1199 ext. 17 (Travis Morse). Copies of any printed or emailed approved USACE permits or verification letters shall be forwarded to the BLM.

6. Wetlands and Riparian Zones. The operator shall restore temporarily disturbed wetlands or riparian areas. The operator shall consult with the BLM Colorado River Valley Field Office to determine appropriate mitigation, including verification of native plant species to be used in restoration.
7. Reclamation. The goals, objectives, timelines, measures, and monitoring methods for final reclamation of oil and gas disturbances are described in Appendix I (Surface Reclamation) of the 1998 Draft Supplemental EIS (DSEIS). Specific measures to follow during interim and temporary (pre-interim) reclamation are described below.
 - a. Reclamation Plans. In areas that have low reclamation potential or are especially challenging to restore, reclamation plans will be required prior to APD approval. The plan shall contain the following components: detailed reclamation plans, which include contours and indicate irregular rather than smooth contours as appropriate for visual and ecological benefit; timeline for drilling completion, interim reclamation earthwork, and seeding; soil test results and/or a soil profile description; amendments to be used; soil treatment techniques such as roughening, pocking, and terracing; erosion control techniques such as hydromulch, blankets/matting, and wattles; and visual mitigations if in a sensitive VRM area.
 - b. Deadline for Interim Reclamation Earthwork and Seeding. Interim reclamation to reduce a pad to the maximum size needed for production, including earthwork and seeding of the interim reclaimed areas, shall be completed within 6 months following completion of the last well planned to be drilled on that pad as part of a continuous operation. If a period of greater than one year is expected to occur between drilling episodes, BLM may require implementation of all or part of the interim reclamation program.

Reclamation, including seeding, of temporarily disturbed areas along roads and pipelines, and of topsoil piles and berms, shall be completed within 30 days following completion of construction. Any such area on which construction is completed prior to December 1 shall be seeded during the remainder of the early winter season instead of during the following spring, unless BLM approves otherwise based on weather. If road or pipeline construction occurs discontinuously (e.g., new segments installed as new pads are built) or continuously but with a total duration greater than 30 days, reclamation, including seeding, shall be phased such that no portion of the temporarily disturbed area remains in an unreclaimed condition for longer than 30 days. BLM may authorize deviation from this requirement based on the season and the amount of work remaining on the entirety of the road or pipeline when the 30-day period has expired.

If requested by the project lead NRS for a specific pad or group of pads, the operator shall contact the NRS by telephone or email approximately 72 hours before reclamation and reseeding begin. This will allow the NRS to schedule a pre-reclamation field visit if needed to ensure that all parties are in agreement and provide time for adjustments to the plan before work is initiated.

The deadlines for seeding described above are subject to extension upon approval of the BLM based on season, timing limitations, or other constraints on a case-by-case basis. If the BLM approves an extension for seeding, the operator may be required to stabilize the reclaimed surfaces using hydromulch, erosion matting, or other method until seeding is implemented.

- c. Topsoil Stripping, Storage, and Replacement. All topsoil shall be stripped following removal of vegetation during construction of pads, pipelines, roads, or other surface facilities. In areas of thin soil, a minimum of the upper 6 inches of surficial material shall be stripped. The BLM may specify a stripping depth during the onsite visit or based on subsequent information regarding soil thickness and suitability. The stripped topsoil shall be stored separately from subsoil or other excavated material and replaced prior to final seedbed preparation.
- d. Seedbed Preparation. For cut-and-fill slopes, initial seedbed preparation shall consist of backfilling and recontouring to achieve the configuration specified in the reclamation plan. For compacted areas, initial seedbed preparation shall include ripping to a minimum depth of 18 inches, with a maximum furrow spacing of 2 feet. Where practicable, ripping shall be conducted in two passes at perpendicular directions. Following final contouring, the backfilled or ripped surfaces shall be covered evenly with topsoil.

Final seedbed preparation shall consist of scarifying (raking or harrowing) the spread topsoil prior to seeding. If more than one season has elapsed between final seedbed preparation and seeding, and if the area is to be broadcast-seeded or hydroseeded, this step shall be repeated no more than 1 day prior to seeding to break up any crust that has formed.

If directed by the BLM, the operator shall implement measures following seedbed preparation (when broadcast-seeding or hydroseeding is to be used) to create small depressions to enhance capture of moisture and establishment of seeded species. Depressions shall be no deeper than 1 to 2 inches and shall not result in piles or mounds of displaced soil. Excavated depressions shall not be used unless approved by the BLM for the purpose of erosion control on slopes. Where excavated depressions are approved by the BLM, the excavated soil shall be placed only on the downslope side of the depression.

If directed by the BLM, the operator shall conduct soil testing prior to reseeding to identify if and what type of soil amendments may be required to enhance revegetation success. At a minimum, the soil tests shall include texture, pH, organic matter, sodium adsorption ratio (SAR), cation exchange capacity (CEC), alkalinity/salinity, and basic nutrients (nitrogen, phosphorus, potassium [NPK]). Depending on the outcome of the soil testing, the BLM may require the operator to submit a plan for soil amendment. Any requests to use soil amendments not directed by the BLM shall be submitted to the CRVFO for approval.

Seedbed preparation is not required for topsoil storage piles or other areas of temporary seeding.

- e. Seed Mixes. A seed mix consistent with BLM standards in terms of species and seeding rate for the specific habitat type shall be used on all BLM lands affected by the project (**Attachment 1 of the letter provided to operators dated April 6, 2012**). Note that temporary seeding no longer allows the use of sterile hybrid non-native species.

For private surfaces, the menu-based seed mixes are recommended, but the surface landowner has ultimate authority over the seed mix to be used in reclamation. The seed shall contain no noxious, prohibited, or restricted weed seeds and shall contain no more than 0.5 percent by weight of other weed seeds. Seed may contain up to 2.0 percent of “other crop” seed by weight, including the seed of other agronomic crops and native plants; however, a lower percentage of other crop seed is recommended. Seed tags or other official documentation shall be submitted to BLM at least 14 days before the date of proposed seeding for acceptance. Seed that does not meet the above criteria shall not be applied to public lands.

- f. Seeding Procedures. Seeding shall be conducted no more than 24 hours following completion of final seedbed preparation.

Where practicable, seed shall be installed by drill-seeding to a depth of 0.25 to 0.5 inch. Where drill-seeding is impracticable, seed may be installed by broadcast-seeding at twice the drill-seeding rate, followed by raking or harrowing to provide 0.25 to 0.5 inch of soil cover or by hydroseeding and hydromulching. If hydroseeding and hydromulching are used, these shall be conducted as separate steps to ensure adequate contact of seeds with the soil and adequate coverage by the mulch.

If interim revegetation is unsuccessful, the operator shall implement subsequent reseeding until interim reclamation standards are met.

- g. Mulch. Mulch shall be applied within 24 hours following completion of seeding. Mulch may consist of either hydromulch or of certified weed-free straw, certified weed-free native grass hay, or wood straw crimped into the soil.

NOTE: Mulch is not required in areas where erosion potential mandates use of a biodegradable erosion-control blanket (straw matting).

- h. 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 BLM. Cut-and-fill slopes along drainages or in areas with high erosion potential shall also be protected from erosion using hydromulch designed specifically for erosion control or biodegradable blankets/matting, bales, or wattles of weed-free straw or weed-free native grass hay. A well-anchored fabric silt fence shall also be placed at the toe of cut-and-fill slopes along drainages or to protect other sensitive areas from deposition of soils eroded off the slopes. Additional BMPs shall be employed as necessary to reduce soil erosion and offsite transport of sediments.
- i. Site Protection. The pad shall be fenced to BLM standards to exclude livestock grazing for the first two growing seasons or until seeded species are firmly established, whichever comes later. The seeded species will be considered firmly established when at least 50 percent of the new plants are producing seed. The BLM will approve the type of fencing.
- j. Monitoring. The operator shall conduct annual monitoring surveys of all sites categorized as “operator reclamation in progress” and shall submit an annual monitoring report of these sites to the BLM 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 the BLM, the operator shall be responsible for implementing the corrective actions or other measures specified by the BLM.
8. Weed Control. The operator shall regularly monitor and promptly control noxious weeds or other undesirable plant species as set forth in the Glenwood Springs Field Office *Noxious and Invasive Weed Management Plan for Oil and Gas Operators*, dated March 2007. A Pesticide Use Proposal (PUP) must be approved by the BLM prior to the use of herbicides. Annual weed monitoring reports shall be submitted to BLM by **December 1**.

9. Big Game Winter Range Timing Limitation. To minimize impacts to wintering big game, no construction, drilling or completion activities shall occur during a Timing Limitation (TL) period from **December 1 to April 30 annually**.
10. Bald and Golden Eagles. It shall be the responsibility of the operator to comply with the Bald and Golden Eagle Protection Act (Eagle Act) with respect to “take” of either eagle species. Under the Eagle Act, “take” includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest and disturb. “Disturb” means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle; (2) a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior. Avoidance of eagle nest sites, particularly during the nesting season, is the primary and preferred method to avoid a take. Any oil or gas construction, drilling, or completion activities planned within 0.5 mile of a bald or golden eagle nest, or other associated activities greater than 0.5 miles from a nest that may disturb eagles, should be coordinated with the BLM project lead and BLM wildlife biologist and the USFWS representative to the BLM Field Office (970-876-9051).
11. Raptor Nesting. Raptor nest surveys in the project vicinity resulted in the location of one or more raptor nest structures within 0.25 mile of a pad or 0.125 mile of an access road, pipeline, or other surface facility. To protect nesting raptors, a Timing Limitation (TL) shall be applied to construction, drilling, or completion activities within the buffer widths specified above, if the activities would be initiated during the nesting period of **February 15 to July 15**. An exception to this TL may be granted for any year in which a subsequent survey determines one of the following: (a) the nest is in a severely dilapidated condition or has been destroyed due to natural causes, (b) the nest is not occupied during the normal nesting period for that species, (c) the nest was occupied but subsequently failed due to natural causes, or (d) the nest was occupied, but the nestlings have fledged and dispersed from the nest. If project-related activities are initiated within the specified buffer distance of any active nest, even if outside the TL period, the operator remains responsible for compliance with the MBTA with respect to a “take” of birds or of active nests (those containing eggs or young), including nest failure caused by human activity (see COA for Migratory Birds).
12. Migratory Birds. Not Applicable
13. Birds of Conservation Concern. Pursuant to BLM Instruction Memorandum 2008-050, all surface-disturbing activities of previously undisturbed lands providing suitable habitat for Birds of Conservation Concern (BCC) is prohibited from **May 15 to July 15**. An exception to this TL may be granted if nesting surveys conducted no more than one week prior to surface-disturbing activities indicate that no BCC species are nesting within 30 meters (100 feet) of the area to be disturbed. Nesting shall be deemed to be occurring if a territorial (singing) male is present within the distance specified above. Nesting surveys shall include an aural survey for diagnostic vocalizations in conjunction with a visual survey for adults and nests. Surveys shall be conducted by a qualified breeding bird surveyor between sunrise and 10:00 AM under favorable conditions for detecting and identifying a BCC species. This provision does not apply to ongoing construction, drilling, or completion activities that are initiated prior to May 1 and continue into the 60-day period at the same location.
14. Range Management. Range improvements (fences, gates, reservoirs, pipelines, etc.) shall be avoided during development of natural gas resources to the maximum extent possible. If range improvements are damaged during exploration and development, the operator will be responsible for repairing or replacing the damaged range improvements. If a new or improved access road bisects an existing

livestock fence, steel frame gate(s) or a cattleguard with associated bypass gate shall be installed across the roadway to control grazing livestock.

15. Ips Beetle. To avoid mortality of pinyon pines due to infestations of the *Ips* beetle, any pinyon trees damaged during road, pad, or pipeline construction shall be chipped after being severed from the stump or grubbed from the ground, buried in the toe of fill slopes (if feasible), or cut and removed from the site within 24 hours to a location approved by the Colorado State Forest Service.
16. Fossil Resources. All persons associated with operations under this authorization shall 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 operator shall immediately suspend all activities in the immediate vicinity of the discovery that might further disturb such materials and notify the BLM of the findings. The discovery must be protected until notified to proceed by the BLM. Where feasible, the operator shall suspend ground-disturbing activities at the discovery site and immediately notify the BLM of any finds. The BLM 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 operator shall work around or set the discovery aside in a safe place to be accessed by the BLM-permitted paleontologist.
17. Cultural Education/Discovery. All persons in the area who are associated with this project shall 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 43 CFR 10.4(g), the BLM shall 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 43 CFR 10.4 (c) and (d), activities shall stop in the vicinity of the discovery, and the discovery shall be protected for 30 days or until notified by the BLM to proceed.

If in connection with operations under this contract, the operator, its contractors, their subcontractors, or the employees of any of them discovers, encounters, or becomes aware of any objects or sites of cultural value or scientific interest such as historic ruins or prehistoric ruins, graves or grave markers, fossils, or artifacts, the operator shall immediately suspend all operations in the vicinity of the cultural resource and shall notify the BLM of the findings (16 USC 470h-3, 36 CFR 800.112). Operations may resume at the discovery site upon receipt of written instructions and authorization by the BLM. Approval to proceed will be based upon evaluation of the resource. Evaluation shall be by a qualified professional selected by the BLM from a Federal agency insofar as practicable. When not practicable, the operator shall bear the cost of the services of a non-Federal professional.

Within five working days, the BLM will inform the operator as to:

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

The operator may relocate activities to avoid the expense of mitigation and 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 operator shall be responsible for mitigation costs. The

BLM will provide technical and procedural guidelines for relocation and/or to conduct mitigation. Upon verification from the BLM that the required mitigation has been completed, the operator will be allowed to resume construction.

Antiquities, historic ruins, prehistoric ruins, and other cultural or paleontological objects of scientific interest that are outside the authorization boundaries but potentially affected, either directly or indirectly, by the Proposed Action shall also be included in this evaluation or mitigation. Impacts that occur to such resources as a result of the authorized activities shall be mitigated at the operator's cost, including the cost of consultation with Native American groups.

Any person who, without a permit, injures, destroys, excavates, appropriates or removes any historic or prehistoric ruin, artifact, object of antiquity, Native American remains, Native American cultural item, or archaeological resources on public lands is subject to arrest and penalty of law (16 USC 433, 16 USC 470, 18 USC 641, 18 USC 1170, and 18 USC 1361).

18. Visual Resources. To the extent practicable, existing vegetation shall be preserved when clearing and grading for the GRG 8-inch natural gas pipeline. The BLM may direct that cleared trees and rocks be salvaged and redistributed over reshaped cut-and-fill slopes or along linear features.

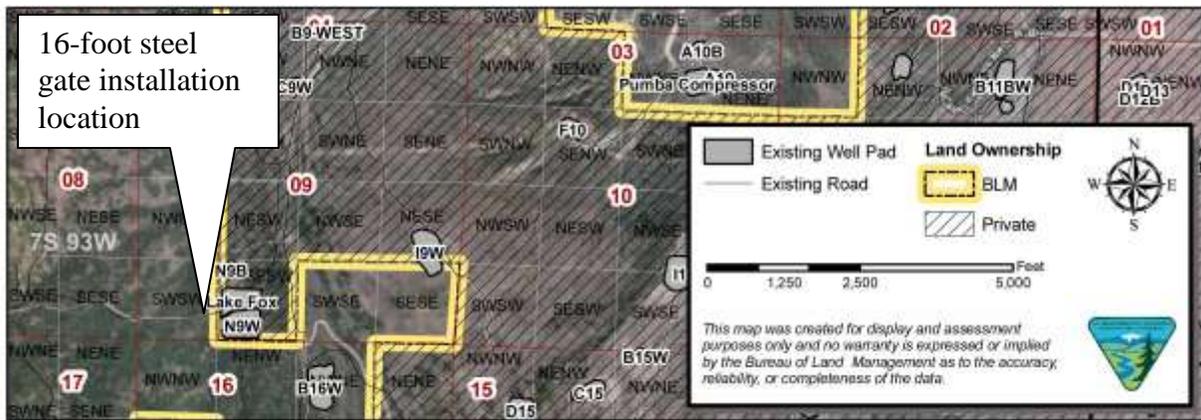
Rocks and woody debris shall be saved during the construction process; care should be taken to preserve the canopy of the woody material while storing and transporting. Rocks (white side down) and woody debris saved during construction shall be re-placed on the pipeline corridor to emulate the texture closer to that of the native landscape and to encourage vegetation growth. Placement of rocks and woody debris on the pipeline corridor will also deter off-road travel and prevent additional surface disturbance and visual impacts.

Above-ground facilities shall be painted with BLM Standard Environmental Color **Shadow Gray** to minimize contrast with adjacent vegetation or rock outcrops.

19. Windrowing of Topsoil. Topsoil shall also be windrowed, segregated, and stored along pipelines and roads for later spreading across the disturbed corridor during final reclamation. Topsoil berms shall be promptly seeded to maintain soil microbial activity, reduce erosion, and minimize weed establishment.
20. Soils. Cuts and fills shall be minimized when working on erosive soils and slopes in excess of 30 percent. Cut-and-fill slopes shall be stabilized through revegetation practices with an approved seed mix shortly following construction activities to minimize the potential for slope failures and excessive erosion. Fill slopes adjacent to drainages shall be protected with well-anchored silt fences, straw wattles, or other acceptable BMPs designed to minimize the potential for sediment transport. On slopes greater than 50 percent, BLM personnel may request a professional geotechnical analysis prior to construction.

SITE-SPECIFIC COAS APPLICABLE TO THE GRASS VALLEY 8-INCH PIPELINE ROW

1. BLM Cadastral Survey Markers. Corner markers shall be identified, clearly marked and protected from disturbance during construction.
2. A 16-foot steel gate with H braces on each side shall be installed by the operator at T7S, 93W, Section 9, SW¼SW¼ on BLM land (See Map Below).



Map showing 16-foot steel gate with H braces location.

3. Harrington's Penstemon. The Operator shall incorporate the following steps to avoid and minimize impacts to Harrington's penstemon:
 - a) Plant Surveys. Conduct pre-construction field surveys for Harrington's penstemon in late May/early June within the ROW. If Harrington's penstemon is discovered to occur within project disturbance area:
 - Higher density sites are assumed to roughly support six or more plants per 100 square feet.
 - GPS and map as well as stake higher density areas of Harrington's penstemon to facilitate discussions of potential avoidance with BLM and Summit.
 - No changes to ROW widths would occur in areas of low-density Harrington's penstemon plants.
 - Adjust ROW width and associated areas of surface disturbance as possible to avoid and minimize impacts to higher density areas of Harrington's penstemon
 - b) Weed Control. GRG shall pre-treat noxious weeds in the survey area where Harrington's penstemon presence is or confirmed prior to construction to minimize the threat to Harrington's penstemon in the area. The BLM Botanist shall be present to monitor the pre-treatment activities in survey areas where the presence of Harrington's penstemon is confirmed.
 - A Pesticide Use Permit (PUP) specific to Harrington's penstemon sites shall be submitted to the BLM. Herbicide treatment of noxious weeds shall not occur within Harrington's penstemon habitat until approval of the PUP by the CLM.
 - Noxious weed treatments within Harrington's penstemon habitat shall be limited to spot spraying or wicking. No broadcast spraying will be allowed in order to promote the reestablishment of Harrington's penstemon and other forbs and shrubs with which it co-occurs.
 - c) Sensitive Plant Mitigation. Within sections of the pipeline corridor occupied by Harrington's penstemon, the seed mix shown in **Table A-1** shall be used instead of CRVFO's standard menu-based seed mix.

A minimum of five grass, three forb, and one shrub species shall be included in the seed mix initially installed by drill-seeding or hydroseeding (**Table A-1**). Seeding shall be at the rate of 60

pure live seeds (PLS) per square foot if drill-seeded and 120 PLS per square foot if broadcast-seeded or hydroseeded where drill-seeding is impracticable. If hydroseeding is used, application of seeds shall be performed as a separate step from application of hydromulch.

In addition, seeds of mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) shall be collected from plants in the vicinity of the pipeline corridor and seeded within 6 months of collection. Sagebrush seeding shall occur prior to winter snowfall, or on top of snow. Sagebrush may be sown either by broadcast seeding, or, if not on snowpack, by placing the seed in the fluffy seed box of a seed drill, with the drop tube left open to allow seed to fall out on the ground surface.

Table A-1. Seed Mix for Initial Seeding of Harrington's Penstemon Sites.¹				
<i>Common Name</i>	<i>Scientific Name</i>	<i>Variety</i>	<i>Season</i>	<i>Form</i>
Choose Five Grasses (50% of Total PLS)				
Bottlebrush Squirreltail	<i>Elymus elymoides</i> , <i>Sitanion hystrix</i>	VNS	Cool	Bunchgrass
Bluebunch Wheatgrass	<i>Pseudoroegneria spicata</i> , <i>Agropyron spicatum</i>	Secar, P-7, Anatone, Goldar	Cool	Bunchgrass
Indian Ricegrass	<i>Achnatherum [Oryzopsis]</i> <i>hymenoides</i>	Paloma, Rimrock	Cool	Bunchgrass
Needle and Thread Grass	<i>Hesperostipa [Stipa]</i> <i>comata</i>	VNS	Cool	Bunchgrass
Junegrass	<i>Koeleria macrantha</i>	VNS	Cool	Bunchgrass
Columbia Needlegrass	<i>Achnatherum nelsonii</i> , <i>Stipa columbiana</i>	VNS	Cool	Bunchgrass
Muttongrass	<i>Poa fendleriana</i>	VNS	Cool	Weakly Rhizomatous
Choose Three Forbs (30% of Total PLS)				
Arrowleaf Balsamroot	<i>Balsamorhiza sagittata</i>	Rocky Mountain Beeplant	<i>Cleome serrulata</i>	
Silverleaf Lupine	<i>Lupinus argenteus</i>	Scarlet Globemallow	<i>Sphaeralcea coccinea</i>	
Fernleaf Biscuitroot	<i>Lomatium dissectum</i>	Sulphur Flower Buckwheat	<i>Eriogonum umbellatum</i>	
Use One Shrub (20% of Total PLS)				
Fourwing Saltbush	<i>Atriplex canescens</i>			
¹ If Harrington's penstemon is confirmed along the pipeline route: (a) it shall be broadcast seeded into formerly occupied areas using seeds from the Meeker Plant Materials Center when available; and (b) mountain big sagebrush (<i>Artemisia tridentata</i> ssp. <i>vaseyana</i>) shall be broadcast seeded into the reclaimed area prior to snowfall using seeds collected along corridor.				

ADDITIONAL COAS TO BE ATTACHED TO THE PIPELINE ROW GRANT

1. Brush Clearing for Pipeline Work. The pipeline brush/tree clearing work shall be accomplished with the use of a brush cutter machine (hydroaxe) across the entire planned disturbance corridor for the pipeline unless otherwise authorized by the BLM. Such clearing work shall be completed prior to start of any earthwork.

2. Pipeline Excavation Restrictions. Excavation work disturbing the topsoil and underlying root mass shall occur only above the planned pipeline trench area. Areas within the disturbance corridor that will serve as topsoil or trench spoil areas shall have topsoil and root mass remain in place with the excess materials windrowed on top of the mowed vegetation.

Pipelines installed beneath stream crossings shall be buried at a minimum depth of 4 feet below the channel substrate to avoid exposure by channel scour and degradation. Following burial, the channel grade and substrate composition shall be returned to pre-construction conditions.

3. Pipeline Installations. The steel gas pipeline (maximum 8-inch diameter) serving the M16W pad shall be buried within the M16W road disturbance corridor (maximum corridor width shall be 60 feet, including approximately 20 ft. of the road ROW). The buried water delivery “dump” line(s) flowing fluids from the M16W separators to the storage tanks staged on the J16W pad shall be buried concurrently in the same M16W gas line trench so the trench is only opened and disturbed one time. The gas and water pipelines shall be installed during the road pioneering phase so that road and pipeline reclamation would be accomplished together.

The J16W-N9W water delivery line (maximum 8-inch diameter) shall be buried within the existing reclaimed gas pipeline corridor along the east side of the J16W access road. The existing range fence that parallels the east edge of the pipeline corridor shall remain undisturbed and functional during the water line work. If damaged during the construction work, this fence shall be repaired within a 2-hour period of the occurring damage.

Should a temporary water line serve the water delivery needs for the J16W and M16W pad, that line shall be laid within the existing road-pipeline disturbance area and shall be decommissioned and removed prior to winter weather conditions (December 1) unless otherwise approved by the Authorized Officer.

4. Utilities Locations. All existing pipelines, surface valves, and other utilities shall be field located, clearly marked, and the appropriate Utility Notification Center (www.unc.org) shall be notified before any construction/surface work occurs. All publicly owned underground facilities shall be marked according to the APWA color code.
5. Private Landowners and Existing Rights-of-Way. The operator shall obtain agreements allowing construction with all existing authorized surface users of Federal pad locations prior to surface disturbance or construction of the location, staging areas, or access across or adjacent to any existing pad locations. In the case of privately owned surface, the operator shall certify and provide copies (minus any monetary information) to the AO showing that a Surface Use Agreement has been reached with the authorized surface user, prior to commencing construction.
6. Indemnification. The operator agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601 *et seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*) on the ROW (unless the release or threatened release is wholly unrelated to the operator’s activity in the ROW). This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.

7. Compliance with Federal Laws. The operator shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the operator shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601 *et seq.*) with regard to any toxic substances that are used, generated by, or stored on the ROW or on facilities authorized under this ROW grant (see 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), Section 102b. A copy of any report required or requested by any federal agency or state government as a result of a reportable release of spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved federal agency or state government.

This grant is issued subject to the operator's compliance with all applicable regulations contained in Title 43 Code of Federal Regulations parts 2800 and 2880.

8. Chemical Storage and Use. The operator shall not store hazardous materials, chemicals, fuels, lubricating oils, or perform concrete coating activities within 200 feet of any water body or dry drainage. Equipment or vehicles that are crossing or working within 200 feet of water bodies shall not be refueled unless the Environmental Inspector gives a specific exception. If any hazardous material must be temporarily stored or transferred within 200 feet of a water body (i.e. stationary pumps), then it must be placed within a secondary containment structure that is capable of containing 110 percent of the volume of the stored material.
9. Saturated Soil Conditions. When saturated soil conditions exist on or along the ROW any type of construction shall be halted until soil material dries out or is frozen sufficiently for construction to proceed without undue damage and erosion to soils.
10. Welding of Pipeline. A minimum of 10% of all welds shall be X-rayed. Visual inspections shall be performed on 100% of all pipeline welds. Any pipeline occurring within the Rifle Municipal Watershed Area and/or within 100 feet of any perennial or intermittent stream crossing shall have all welds X-rayed. Area All bored areas shall have 100% X-rays of all pipeline welds. (49 CFR 192.225 Welding procedures) All welders shall be appropriately certified. (49 CFR 192.227 Qualification of welders). NOTE: 49 CFR Subpart F—Joining of Materials other than by Welding (192.281 includes plastic pipe).
11. Pipeline Warning Signs. Pipeline warning signs shall be installed within five days of construction completion and prior to use of the pipeline for transportation of product. Pipeline warning signs are required at all road crossings. Signs shall be visible from sign to sign along the right-of-way. For safety purposes, each sign shall be permanently marked with the holder's name and shall clearly identify the owner (emergency contact) and purpose (product) of the pipeline. (49 CFR 192.707(a) Buried Pipelines).
12. Surface Pipelines. All surface pipelines shall be marked with surface signs denoting the type of pipeline, WARNING notations, CONTACT information.
13. Pipeline Testing and Notifications. The entire pipeline shall be tested in compliance with DOT regulations (49 CFR Part 192). Incremental segments of the pipeline shall be tested to the desired maximum pressure and held for the duration of the test (8 hours minimum). (49 CFR 192.503.c).

Notification to all nearby residents as well as the Garfield County Dispatch Center shall be made no less than 24 hours prior to the pressure test and blow down. All necessary and reasonable precautions shall be taken to ensure the safety of the employees and the general public, the lands, domestic animals and wildlife, etc. This may include, but not be limited to, restriction of access to the pipe being tested, temporary warning signs installed in appropriate locations, effective communication.

The operator and its contractors shall ensure that pressure testing operations are carried out in accordance with the following requirements of the U.S. Department of Transportation (USDOT) and U.S. Environmental Protection Agency (EPA). In addition, the operator and its contracts shall ensure that:

- Portable compressors for pressure testing are not stationed within 100 feet of any residence. All nearby residents, including the Garfield County Dispatch Center, shall be notified at least 24 hours in advance of beginning the pipeline loading process.
 - Water used in pressure-testing of the pipeline are disposed at a State-approved facility or reused.
14. Fire Suppression. Welding or other use of acetylene or other torch with open flame shall be operated in an area barren or cleared of all flammable materials at least 10 feet on all sides of equipment. Internal combustion engines shall be equipped with approved spark arrestors which meet either (a) the USDA Forest Service Standard 5100-1a or (b) Society of Automotive Engineers (SAE) recommended practices J335(b) and J350(a).
15. Visual Resources. Rocks saved during construction shall be replaced “white side down” on the pipeline corridor during interim reclamation to reduce the amount of color contrast with the surrounding landscape and to deter off-road travel. Rocks and woody debris shall be replaced on the pipeline corridor to emulate the texture closer to that of the native landscape and to encourage vegetation growth. Placement of rocks and woody debris on the pipeline corridor will also deter off-road travel, which will prevent additional surface disturbance, expansion of the corridor and visual impacts.
16. Removal of Existing Poly Pipeline. (COC75858) The new trench shall be excavated alongside an existing 6-inch diameter produced water poly pipeline. The pipeline shall be pulled out of the existing trench as the new trench is dug and shall be properly disposed at an appropriate facility site.

FONSI
DOI-BLM-CO-N040-2012-0066-EA

The Environmental Assessment (EA) analyzing the environmental effects of the Proposed Action has been reviewed. The project design and approved mitigation measures result in a Finding of No Significant Impact (FONSI) on the environmental elements analyzed in this EA, including an element analyzed previously in EA #DOI-BLM-CO-N040-2011-0072, approved on April 29, 2011. Therefore, an Environmental Impact Statement (EIS) is not necessary to analyze further the environmental effects of the Proposed Action.

DECISION RECORD

DECISION: It is my decision to approve the Proposed Action as described and analyzed in this EA. This decision will provide for the orderly, economical, and environmentally sound exploration and development of oil and gas resources on a valid Federal oil and gas lease.

RATIONALE: The bases for this decision are as follows:

1. This decision will provide for the orderly, economical, and environmentally sound gathering and conveyance of natural gas resources from valid Federal oil and gas leases.
2. Portions of the project alignment will follow existing pipeline corridors. Segments where new corridors will be constructed have been located and designed to minimize adverse environmental consequences.
3. This decision does not authorize the initiation of construction activities on BLM lands. Such activities will be authorized only upon issuance by BLM of a right-of-way (ROW) grant for portions of the pipeline on BLM lands.

MITIGATION: Environmental impacts will be avoided, minimized, or mitigated by the following:

- Construction of the pipeline along an existing pipeline corridor to the extent practicable.
- Reductions in habitat disturbance and implementation of specific mitigation and reclamation practices to minimize impact to Harrington's penstemon, a BLM sensitive plant species.
- A variety of additional restrictions applied as Conditions of Approval (COAs) attached as stipulations to the ROW grant (Appendix A).

Copies of the GRG 8-inch Natural Gas Pipeline EA are available for review at the BLM Colorado River Valley Field Office located at 2300 River Frontage Road in Silt, Colorado 81625.

NAME OF PREPARER: Julie McGrew, Natural Resource Specialist

SIGNATURE OF AUTHORIZED OFFICIAL:



Allen B. Crockett, Ph.D., J.D.
Supervisory Natural Resource Specialist

DATE: June 15, 2012