

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

## **ENVIRONMENTAL ASSESSMENT**

**NUMBER:** CO-140-2007-043

**CASEFILE NUMBER:** Federal Lease C-44963 (1987)

**PROJECT NAME:** Applications for Permit to Drill Natural Gas Wells, RPE 13-19-595 and RPE 14-19-595.

**LEGAL DESCRIPTION:** SW¼, Section 19, Township 5 South, Range 95 West, Sixth Principal Meridian.

**LOCATIONS:**

<b>Table 1. Surface and Bottomhole Locations of the Proposed Federal Wells.</b>		
<i>Proposed Wells</i>	<i>Surface Locations (Section 19, T.5S., R.95W)</i>	<i>Location of Proposed Production Zones (Section 19, T.5S., R.95W)</i>
RPE 13-19-595	2309'FSL x 587'FWL NWSW	2061'FSL x 909'FWL NWSW
RPE 14-19-595	2294'FSL x 583'FWL NWSW	1121'FSL x 1841'FWL NESW

**APPLICANT:** Williams Production RMT Company (“Williams”)

**DESCRIPTION OF THE PROPOSED ACTION AND NO ACTION ALTERNATIVE:**

**Proposed Action:** The proposed action is to drill and develop two Federal wells from one proposed location on EnCana surface approximately 10 miles north of Parachute, Colorado (Figures 1 and 2). These wells would be drilled from the private surface location using directional drilling equipment into underlying Federal mineral estate. A Surface Use Agreement (SUA) with EnCana is in place.

The pad would be approximately 411 feet x 250 feet and its construction would disturb approximately 4.4 acres. Maximum cut on the pad would be 31.3 feet and largest fill is 34 feet. Production equipment would be placed in a 125-foot x 50-foot area at the northern edge of the proposed pad. Preparation of this area would disturb approximately 0.14 acres.

The proposed action would include drilling and completion operations, production of natural gas, and intermediate and final reclamation measures.

To accommodate access to the proposed pad, two separate segments of road, each approximately 150 feet in length, are also proposed. The proposed segments would be constructed from the north and south ends of the proposed pad, thereby providing through access. The road segments would have running surfaces of 20 feet and would be constructed using standard equipment and techniques approved by the BLM. Construction of the road segments would disturb approximately 0.14 acres.



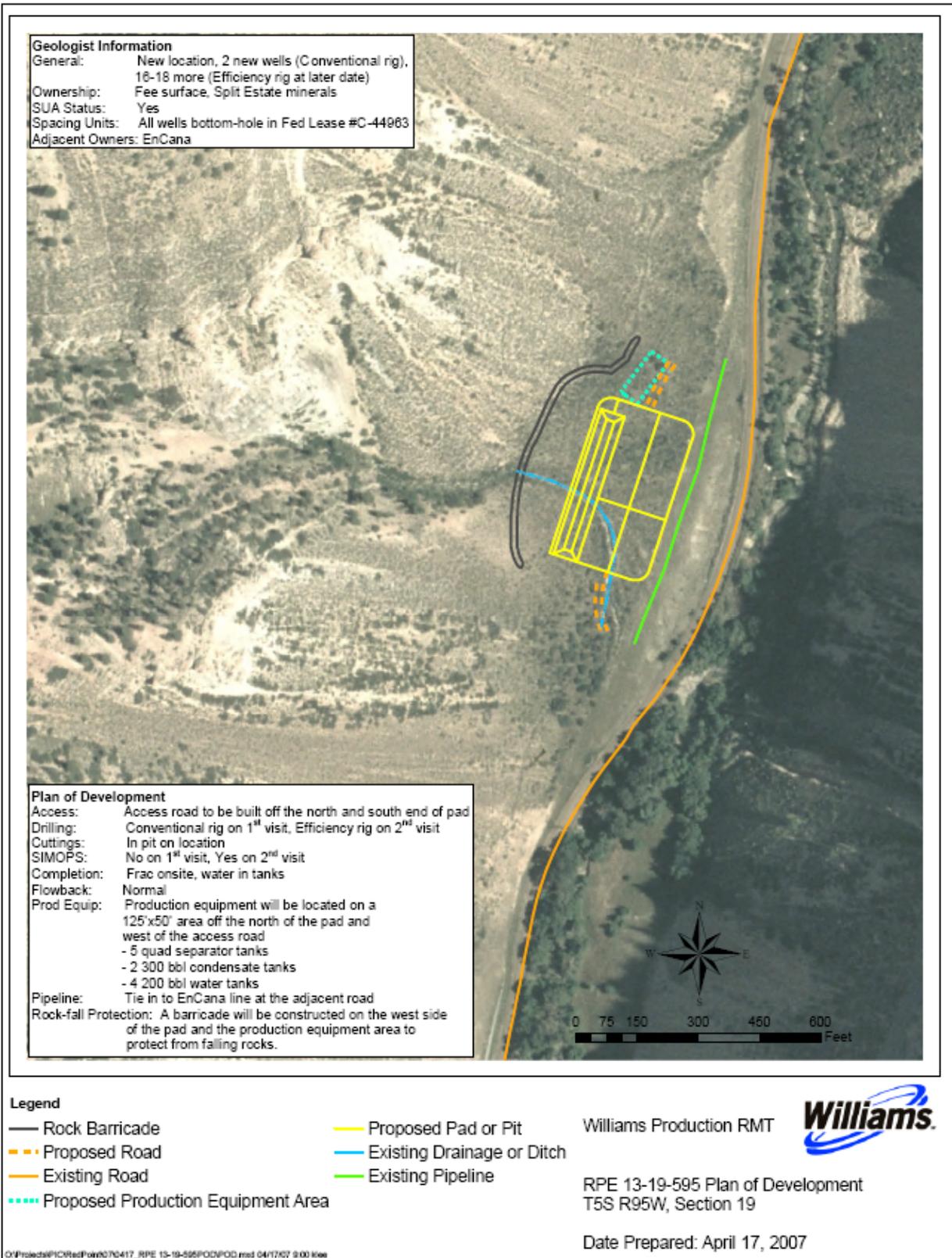


Figure 2. Details of the Proposed Action.

A new section of proposed pipeline, approximately 25 feet in length, would tie the pad into an existing EnCana pipeline located along an existing road.

The Williams Master Application for Permit to Drill (APD) would be applicable to all proposed Federal wells. The Master APD includes a drilling program and a multi-point surface use and operations plan that describe further details of well pad construction and interim reclamation.

The proposed action would be implemented consistent with Federal oil and gas lease C-44963, Federal regulations (43 CFR 3100), and the operational measures included in the APDs or attached to the APDs as Conditions of Approval (COAs). The COAs to be applied to this project are presented in Appendix A.

**No Action Alternative:** The proposed action involves Federal subsurface minerals that are encumbered with Federal oil and gas leases, which grants the lessee a right to explore and develop the lease. Although BLM cannot deny the right to drill and develop the leasehold, individual APD(s) can be denied to prevent unnecessary and undue degradation. The no action alternative constitutes denial of the APD(s) associated with the proposed action.

In accordance with Council on Environmental Quality (CEQ) regulations, the impacts of this alternative are evaluated to provide a base to compare impacts associated with the proposed action. For the purpose of the following comparative analysis, none of the development activities presented under the proposed action would occur.

**PURPOSE AND NEED FOR THE ACTION:** The purpose of the action is to develop oil and gas resources on Federal Lease C-44963 consistent with existing Federal lease rights. The action is needed to increase the development of oil and gas resources for commercial marketing to the public.

**SUMMARY OF LEASE STIPULATIONS:** Federal Lease C-44963, signed in 1987, carries the following stipulation:

To protect important seasonal wildlife habitat, exploration, drilling, and other development will be allowed only during the period from April 30 to January 15. This limitation does not apply to maintenance and operation of producing wells.

**STANDARDS FOR PUBLIC LAND HEALTH:** In January 1997, Colorado BLM approved the Standards for Public Land Health. The five standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. The environmental analysis must address whether the proposed action or alternatives being analyzed would result in impacts that would maintain, improve, or deteriorate land health conditions relative to these resources.

These analyses are conducted in relation to baseline conditions described in land health assessment (LHA) reports completed by the BLM. The proposed action would be located in an area that was included in the Roan Cliffs LHA (BLM 1999a). However, the current condition of the project area is more accurately described by the more recent Rifle-West Watershed LHA (BLM 2005) and that assessment will provide the baseline from which to describe the effects of the proposed action and no action alternative. These analyses are presented below.

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

Name of Plan: Glenwood Springs Resource Management Plan (BLM 1984).

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

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

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

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

## **AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

This section provides a description of the human and natural environmental resources that could be affected by the proposed action and no action alternative. In addition, the section presents comparative analyses of the direct and indirect consequences on the affected environment stemming from the implementation of the various actions.

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

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

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

\* Public Land Health Standard

## **Critical Elements**

### **Air Quality**

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

#### *Proposed Action:*

Environmental Consequences: The Roan Plateau RMPA and EIS describes potential effects from oil and gas development (BLM 2006:4-26 to 4-37). Analysis was completed with regard to greenhouse gas emissions, a near-field and far-field analysis for carbon monoxide, particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur dioxide, hazardous air pollutants including: benzene, ethylbenzene, formaldehyde, hydrogen sulfide, toluene, and xylenes. Sulfur and nitrogen deposition analysis, acid neutralizing capacity, and visibility screening-level analysis were also completed in the Roan Plateau RMPA and EIS. Findings indicate that no adverse long-term effects would result under that plan. Since the proposed action is within the scope of the reasonable foreseeable development (RFD) scenario analyzed in that document, it is anticipated that the proposed action would be unlikely to have adverse effects on air quality.

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

To mitigate dust generated by these activities, the operator would be required to implement dust abatement strategies as needed by watering the access road and construction areas and/or by applying a surfactant approved by the Authorized Officer (Appendix A, Number 2).

#### *No Action Alternative:*

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

### **Cultural Resources**

Affected Environment: Three Class III cultural resource inventories (GSFO# 1285A, 1100-7, and 1106-4) were conducted within or through the proposed project area. No historic properties were identified that are eligible for listing on the National Register of Historic Places. Therefore, no formal consultation with the Colorado State Historic Preservation Officer (SHPO) was needed and a determination of “**No Historic Properties Affected**” was made in accordance with the National Historic Preservation Act (16U.S.C 470f), National BLM/SHPO Programmatic Agreement (1997), and Colorado Protocol (1998).

#### *Proposed Action:*

Environmental Consequences: Although there would be no direct impacts from the proposed action, indirect long-term cumulative impacts from increased access and personnel could result in a range of impacts to known and undiscovered cultural resources in the vicinity of the location. These impacts could range from illegal collection and excavation to vandalism.

A standard Education/Discovery Condition of Approval (COA) for cultural resource protection would be attached to the APDs (Appendix A, Number 3). The importance of this COA should be stressed to Williams and its contractors, including informing them of their responsibilities to protect and report any cultural resources encountered on public land during drilling and development operations.

*No Action Alternative:*

Environmental Consequences: The no action alternative should not result in impacts to cultural resources because public access to this area would not be increased.

### **Invasive, Non-native Species**

Affected Environment: The proposed pad and access road lay within a mix of Basin big sagebrush (*Artemisia tridentata ssp. tridentata*) and mountain shrub species. Houndstongue (*Cynoglossum officinale*), cheatgrass (*Bromus tectorum*) and mullein (*Verbascum thapsus*) are present in the area of the proposed pad.

*Proposed Action:*

Environmental Consequences: Surface-disturbing activities create conditions favorable for the invasion and establishment of noxious weeds and other invasive non-native species, particularly when these species are already present in the surrounding area. Since cheatgrass, houndstongue and mullein are present in the vicinity of the proposed pad, the potential for weed invasion following construction is high. Mitigation measures designed to minimize the spread of invasive, non-native species are presented in Appendix A (Numbers 4 and 9).

*No Action Alternative:*

Environmental Consequences: Under the no action alternative, no surface disturbance would take place. Therefore, invasive, non-native species would not be affected.

### **Migratory Birds**

Affected Environment: The proposed well pad and access road would be located in sagebrush and adjacent to riparian woodland and cliff habitats as well as a stand of Douglas-fir. Given the mix of vegetation, the area provides foraging and nesting habitat for a variety of migratory bird species. Several species listed on the U.S. Fish and Wildlife Service's Birds of Conservation Concern list may be present (USFWS 2002). Within riparian woodlands, Lewis's woodpecker (*Melanerpes lewis*) may be present and within cliff habitat, golden eagles (*Aquila chrysaetos*), prairie falcons (*Falco mexicanus*), and peregrine falcons (*Falco peregrinus*) could occur.

Numerous raptor nests including those of golden eagles are located in the area, but are either greater than a mile from the pad or are screened by tall canyon walls. Many of the nests were first identified in the early to mid 1980's during an intensive survey of the area. In addition to the numerous nests, a variety of raptors likely perch, roost, and forage near the proposed pad and road locations. Federal Lease C-44963 contains no raptor timing limitation stipulation.

In March 2007, a raptor survey was conducted on lands within 0.25 mile of the proposed pad and a stick nest thought to be suitable for use by a variety of raptor species was found in a Douglas-fir tree approximately 200 meters away.

*Proposed Action:*

Environmental Consequences: The loss of additional sagebrush habitat would further fragment habitat and further reduce habitat patch size for migratory birds. If vegetation removal is conducted during the spring nesting season, it is possible that migratory bird nests and eggs could be destroyed. Although impacts to individual birds could result, impacts to species at the population level are not anticipated. Noise associated with construction and drilling and related traffic would likely temporarily displace birds from the area.

The construction of a reserve pit on the proposed pad may be expected to attract waterfowl and other migratory birds for purposes of resting, foraging, or as a source of free water. Effects to birds contacting this water could vary by species and range from no discernible effect to mortality. As such, management measures should be aimed at preventing bird contact with produced water and drilling and completion fluids that may pose a problem (e.g., acute or chronic toxicity, compromised insulation) (Appendix A, Number 5).

Raptors using the nest discovered during the March 2007 survey could be impacted by noise and human activity if construction, drilling, and completion activities occur during the nesting season. Impacts could include reduced fecundity, nest failure, or nest abandonment. Effects would be lessened through the implementation of a 60-day timing limitation during a critical portion of the nesting season (Appendix A, Number 6) and conducted additional surveys in the future (Appendix A, Number 7).

*No Action Alternative:*

Environmental Consequences: Impacts to migratory bird species would not be expected under this alternative because the developments described under the proposed action would not occur.

**Native American Religious Concerns**

Affected Environment: The Ute Tribes claim the area as part of their ancestral homeland. However, no Native American concerns are known within the project area, and none were identified during the inventories. If new data are disclosed by the Ute Tribes, new terms and conditions may have to be negotiated to accommodate their concerns

*Proposed Action:*

Environmental Consequences: Although there would be no direct impacts from the proposed action, indirect long-term cumulative impacts from increased access and personnel could result in a range of impacts to known and undiscovered resources of Native American concern in the vicinity of the location. These impacts could range from illegal collection and excavation to vandalism.

A standard Education/Discovery COA for the protection of Native American values would be attached to the APDs (Appendix A, Number 3). The importance of this COA should be stressed to Williams and its contractors, including informing them of their responsibilities to protect and report any cultural resources encountered on public land during drilling and development operations.

*No Action Alternative:*

Environmental Consequences: No impacts to resources of Native American concern should occur under this alternative because public access to the area would not be increased.

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

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

BLM sensitive plant and animal species with habitat and/or occurrence records in the area include adobe thistle (*Cirsium perplexans*), DeBeque milkvetch (*Astragalus debequaeus*), Naturita milkvetch (*Astragalus naturitensis*), Roan Cliffs blazing star (*Mentzelia rhizomata*), Piceance bladderpod (*Lesquerella parviflora*), Harrington's penstemon (*Penstemon harringtonii*), the milk snake (*Lampropeltis triangulum taylori*), midget faded rattlesnake (*Crotalus viridis concolor*), Great Basin spadefoot (*Spea intermontana*), and Colorado River cutthroat trout (*Oncorhynchus clarki pleuriticus*).

*Proposed Action:*

Environmental Consequences:

*Federally Listed, Proposed, or Candidate Plant Species*

The results of a recent biological survey indicate that there are no Federally listed, proposed or candidate plant species or suitable habitat for these species in the project area (WestWater Engineering 2007). Therefore, the proposed action would have “**No Effect**” on these species.

*Federally Listed, Proposed, or Candidate Animal Species*

No Federally listed, proposed, or candidate terrestrial animal or bird species or their habitat are known to occur within the project area. Therefore, no direct or indirect impacts are anticipated and the proposed action would have “**No Effect**” on these species.

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

*BLM Sensitive Plant Species*

The barren shale talus slope adjacent to the project area provides suitable habitat for two BLM sensitive plant species, Piceance bladderpod and Roan Cliffs blazing star (WestWater Engineering 2007). Despite the suitability of this location, no Piceance bladderpod was found in the area. The nearest known populations of this species are located 22 miles north of the project area and it has yet to be found on lands administered by the Glenwood Springs Field Office.

Three subpopulations of Roan cliffs blazing star were found on the talus slope. These populations consist of a total of approximately 30 individual plants located about 500 feet above the proposed pad. Because of this distance, there should be no direct impacts from the proposed activities.

However, impacts to both species could result from noxious weed invasion following the soil disturbing activities proposed for the project area. Noxious weeds are aggressive and develop dense stands that would likely prevent the potential spread of bladderpod onto the talus slope and outcompete the existing blazing star subpopulations. Mitigation measures to address this potential indirect impact are described in Appendix A (Numbers 4 and 9).

#### *BLM Sensitive Animal Species*

Direct effects to the BLM sensitive reptile and amphibian species could include injury or mortality as a result of construction, production, and maintenance activities. These effects would be most likely during the active season for these species, which are April to October for the milk snake, March to October for the midget faded rattlesnake, and May through September for the Great Basin spadefoot. Indirect effects to the milk snake and midget faded rattlesnake could include a greater susceptibility to predation if the road or pad is used to aid in temperature regulation. Overall, however, there is a low likelihood that these species would be substantially affected.

Well pad and road construction would disturb ground and remove vegetation, increasing the potential for erosion and increased sedimentation of Middle Fork Parachute Creek and Parachute Creek. Colorado River cutthroat trout are especially sensitive to increased sediment loads that can impair preferred spawning habitats by smothering eggs and reducing oxygen exchange and covering gravel substrates. Sediment also reduces aquatic insect productivity which impacts food resources for trout and other wildlife. Best Management practices (BMPs), and the COAs presented in Appendix A (Number 9) would be implemented to minimize sedimentation.

In addition to sediment concerns, natural gas development in close proximity to live streams increases the risks of water contamination that would have direct negative effects on cutthroat populations. However, the measures described in the surface use and drilling plans would minimize the risk.

#### *No Action Alternative:*

Environmental Consequences: Under the no action alternative, the proposed natural gas development would not occur and no impacts to special status plant or animal species are anticipated.

Analysis on the Public Land Health Standard for Special Status Species: According to a recent land health assessment, habitat conditions within this watershed appear suitable for special status animal and plant species known or likely to occur there (BLM 2005). However, large portions of the landscape are being fragmented due to extensive natural gas development. Continued habitat fragmentation is of concern, because large blocks of contiguous intact habitat are required by many species. Sustained development and the proliferation of roads, well pads, pipelines, compressor stations, tank farms, and other surface facilities would continue to reduce habitat patch size and affect both habitat quality and quantity. The potential to impact some species would increase as development continues. The proposed action in conjunction with similar activities throughout this watershed would increase fragmentation and could increase sediment loads. Although the contribution of the proposed action would be minimal, it may further trend the area away from meeting Standard 4 for special status plant and wildlife species. Under the no action alternative, no additional habitat fragmentation or increase in sediment loads associated with development activities would occur. Therefore, this alternative would not result in a failure of the area to achieve Standard 4 for special status plant and animal species.

## **Wastes, Hazardous or Solid**

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

### *Proposed Action:*

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

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

### *No Action Alternative:*

Environmental Consequences: Under the no action alternative, no development activities would occur and no potentially hazardous substances associated with development would be present in the area. Impacts of the no action alternative would be the same as the proposed action.

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

### Surface Water

Affected Environment: Proposed activities would occur north of the Town of Parachute within a 10,696 acre sub-watershed. The proposed wellpad would be located just west of the existing Garfield County Road 215 and approximately 375 feet west of the perennial Middle Fork of Parachute Creek. To the west of the proposed wellpad is an unnamed ephemeral drainage that enters the proposed wellpad location along its western margin and is then diverted to the south by a diversion ditch. The gradient of the drainage is steep.

According to the *Stream Classifications and Water Quality Standards* (CDPHE, Water Quality Control Commission, Regulation No. 37), the Middle Fork of Parachute Creek is within the Lower Colorado River Basin segment 11d that includes the mainstem of the Middle Fork of Parachute Creek from the confluence with the East Middle Fork of Parachute Creek to a point immediately above the confluence with the West Fork of Parachute Creek.

This segment has been classified aquatic life cold 1, recreation 2, and agriculture. These classifications indicate that this segment is capable of sustaining a wide variety of cold water biota, it is not suitable or intended for primary contact recreation, and is suitable or intended for irrigation and livestock use. Historically, the USGS has collected water quality data along Parachute Creek and its tributaries.

However, the most recent USGS water quality data in this area is approximately 21 years old and will not be included in this analysis.

The State of Colorado has developed a *303(d) List of Water Quality Limited Segments Requiring TMDLS* (CDPHE, Water Quality Control Commission, Regulation No. 93) that identifies stream segments that are not currently meeting water quality standards with technology based controls alone. The Middle Fork of Parachute Creek is within the Lower Colorado River Basin segment COLCLC04a that includes tributaries to the Colorado River from the Roaring Fork River to Parachute Creek. This segment is listed as impaired due to Selenium and has been given medium priority by the State of Colorado.

*Proposed Action:*

Environmental Consequences: Proposed activities would temporarily remove soil and vegetation resulting in an increase in erosion potential and offsite sedimentation. The potential for these increases is exacerbated by the steepness of the project area. With measures to control runoff water in place, reestablishment of vegetation, and proper engineering of roads, the potential for sediment transport to the nearby Middle Fork of Parachute Creek would be minimized.

*No Action Alternative:*

Environmental Consequences: There would no impacts to surface water because the developments described in the proposed action would not take place.

*Waters of the US*

Affected Environment: An evaluation of the hydrology of the project area indicates that no wetlands and waters of the U.S. are present. Under the protocol established by the BLM and U.S. Army Corps of Engineers (USACE), the absence of potentially jurisdictional waters means that no permit pursuant to Section 404 of the Clean Water Act is required

*Proposed Action:*

Environmental Consequences: There would be no impacts resulting from the proposed action because there are no Waters of the U.S. in the project area.

*No Action Alternative:*

Environmental Consequences: Impacts from the no action alternative would be similar to those from the proposed action.

Groundwater

Affected Environment: Shallow aquifers occur within the Wasatch Formation. According to the COGCC database, the nearest water well is approximately 3,500 feet north of the proposed wellpad. The surface casing would be set at approximately 2,500 feet (Total Vertical Distance or TVD) and all potentially useable water zones would be protected from downhole and drilling fluids (Williams RMT 2006). The top of cement in the production casing annular space would be 200 feet above the top of the Mesaverde Group.

*Proposed Action:*

Environmental Consequences: With the use of practices presented in the Master APD (Williams Production RMT 2006), no adverse impacts to groundwater aquifers are anticipated to result from the proposed activities. A geologic and engineering review was performed on the 10-point drilling plan to ensure that the cementing and casing programs adequately protect the downhole resources. The surface casing must have cement behind pipe from the surface casing shoe to the surface.

*No Action Alternative:*

Environmental Consequences: There would be no impacts to groundwater from this alternative because the developments described in the proposed action would not take place.

Analysis on the Public Land Health Standard for Water Quality: The proposed action and no action alternatives with associated mitigation would not likely prevent Standard 5 for water quality from being met.

**Other Affected Resources**

In addition to the critical elements, the resources presented in Table 3 were considered for impact analysis relative to the proposed action and no action alternative. Resources that would be affected by the proposed action and no action alternative are discussed below.

<b>Table 3. Other Resources Considered in the Analysis.</b>			
<i>Resource</i>	<i>NA or Not Present</i>	<i>Present and Not Affected</i>	<i>Present and Affected</i>
Access and Transportation			X
Cadastral Survey	X		
Fire/Fuels Management		X	
Forest Management	X		
Geology and Minerals			X
Law Enforcement	X		
Paleontology		X	
Noise			X
Realty Authorizations	X		X
Recreation			X
Socio-Economics			X
Soils			X
Vegetation			X
Visual Resources			X
Wildlife, Aquatic			X
Wildlife, Terrestrial			X

**Access and Transportation**

Affected Environment: Primary access to the proposed well pad would be from I-70 at the West Parachute exit. Garfield County Road 215 provides secondary access to the project area. Traffic in this area is heavy at present due to gas field-related construction and drilling activity.

*Proposed Action:*

Environmental Consequences: The proposed action would result in a future increase in truck traffic. The largest increase would be during rig-up, drilling, and completion activities. Data indicates that approximately 1,160 truck trips over a 30-day period would be required to support the drilling and completion of each well (Table 4). Extended across the development of two wells, approximately 2,320 trips, primary by pick-ups and 6-and 10-wheeled trucks, would be required over a 60-day period.

Vehicle Class	Number of trips per well	Percentage of total
16-wheel tractor trailers	88	7.6%
10-wheel trucks	216	18.6%
6-wheel trucks	452	39.0%
Pickup trucks	404	34.8%
Total	1,160	100.0%

BLM 2006  
Note: trips by different vehicle types are not necessarily distributed evenly during the drilling process. Drilling and completion period is approximately 30 days.

Once the wells are producing, the volume of traffic would increase dramatically. During the operations phase of the project, traffic would be limited to weekly visits to the well pad for inspection and maintenance. Each well may have to be recompleted once per year, requiring three to five truck trips per day for approximately seven days.

Slight increases in traffic volume would occur on I-70 and a large, but short-term, increase would occur on the Garfield County Road 215. Public access to the area would not be affected by these increases since the public has no legal access. Degradation of Garfield County Road 215 may occur due to heavy equipment travel and fugitive dust and noise would be created.

*No Action Alternative:*

Environmental Consequences: This alternative would not have an impact on access or transportation, because the development activities would not occur.

### **Geology and Minerals**

Affected Environment: The surface geology is Tertiary in age and includes members of the Green River Formation consisting primarily of shale, sandstone, and marlstone rocks. The proposed activities would be located on an alluvial fan at the mouth of a steep ephemeral drainage.

The proposed wells would penetrate the Wasatch Formation and members of the Mesaverde Group with lower Mesaverde members being the primary production targets. These wellbores would be approximately 9,435 feet deep with surface casing set at approximately 2,500 feet. The proposed casing and cementing programs are adequate to protect down-hole resources such as fresh water, coal seams and potentially productive hydrocarbon zones. Coals within the Cameo Member of the Williams Fork Formation would be encountered at approximately 8,665 feet. These coals are of low economic value.

*Proposed Action:*

Environmental Consequences: All coal seams and fresh water zones would be protected with casing and cement. Production casing cement must fill up the annular space to a depth of at least 200 feet above the

top of the Mesaverde Group. With the implementation of these protective measures, the proposed action is not likely to affect geologic and mineral resources.

*No Action Alternative:*

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

**Noise**

Affected Environment: The proposed wells would be located approximately 10 miles north of the town of Parachute, Colorado. Noise in this area is created by intense gas field activities. Drilling and completion activities, and road construction and building construction are ongoing. This activity occurs in an area surrounded by high, steep cliffs that promote echo and reverberation.

Noise levels reported for various elements of oil and gas development are between 50 dB(A) for the operation of typical compressor station to approximately 68 dB(A) for truck traffic and crane operation (Table 5). These levels are a function of distance; the closer to the source, the greater the noise.

<b>Table 5. Noise Levels Associated with Oil and Gas Production and Development.</b>	
<i>Source</i>	<i>Reported Noise Level</i>
Typical compressor station	50 dB(A) (375 feet from property boundary)
Pumping units	50 dB(A) (325 feet from well pad)
Fuel and water trucks	68 dB(A) (500 feet from source)
Crane for hoisting rigs	68 dB(A) (500 feet from source)
Concrete pump used during drilling	62 dB(A) (500 feet from source)
Average well construction site	65 dB(A) (500 feet from source)
La Plata County (2002)	

*Proposed Action:*

Environmental Consequences: Implementation of the proposed action would result in increased noise levels particularly during road and well pad construction, well drilling, and completion. Short-term (7 to 14 day) increases in noise levels would characterize road and well pad construction. Based on the Inverse Square Law of Noise Propagation (Harris 1991) and an average construction site noise level of 65 dB(A) at 500 feet, construction noise would equal approximately 59 dB(A) at 1,000 feet. At 1,000 feet, noise levels would approximately those of an active commercial area (EPA 1974).

Noise impacts from drilling and completion activities would occur 24-hours a day. Based on a measured noise level of 68 dB(A) at 500 feet, actions associated with drilling and completion would generate approximately 55 dB(A) at 1,000 feet. This level of noise approximates that associated with light industrial activities (EPA 1974).

Traffic noise levels would also be elevated as a consequence of the proposed action. The greatest increase would be along Garfield County Road 215 during the drilling and completion phases. Based on the La Plata County data presented in Table 5, approximately 68 dB(A) of noise (at 500 feet) would be created by each fuel and water truck that travels these roads. Less noise would be created by smaller trucks, such as pickups. Although the duration of increased noise from this source would be short (i.e., 60-days), it would occur repeatedly during the drilling and completion phases.

Noise impacts would decrease during the production phase. Pumping units and compressor noise levels

would be approximately 50 dB(A) at 325 to 375 feet and continued small truck traffic would generate somewhat less. These levels would be less than the construction phase, but greater than background noise levels. During maintenance and workovers, noise would increase above noise levels associated with routine well production.

Although noise would be much greater than background levels, especially during drilling and completion, the impact to the public would be minor because there are no residential, commercial, or ranching activities in the area.

*No Action Alternative:*

Environmental Consequences: Since there would no development under this alternative, noise levels would not increase.

## **Paleontology**

Affected Environment: The surface formation is the Green River Formation which is known or likely to produce abundant scientifically important fossils vulnerable to surface-disturbing activities. At the present time, there are no identified paleontological sites located near the project area.

*Proposed Action:*

Environmental Consequences: Proposed activities could result in the uncovering or destruction of paleontological resources. Since there are no known paleontological sites in the vicinity, a paleontological survey will not be required prior to BLM authorization of the APDs. However, if any fossils are noticed at anytime, the AO must be notified so the resource can be recorded, evaluated, stabilized, or mitigated (Appendix A, Number 8).

*No Action Alternative:*

Environmental Consequences: The no action alternative would have no impact on paleontological resources.

## **Soils (includes an analysis of Land Health Standard 1)**

Affected Environment: Proposed activities would be located on the soil map unit Rock outcrop-Torriorthents complex (USDA 1985). This soil map unit consists of bedrock and soils of variable depth occurring on slopes of 50 to 80 percent. The majority of the complex is rock outcrop which consists primarily of Green River shale. The remainder of the complex is Torriorthents which are shallow to moderately deep, clayey to loamy soils containing gravel, cobbles, and stones. Surface runoff is rapid to very rapid and erosion hazard is moderate to severe. This complex is used primarily for limited grazing.

*Proposed Action:*

Environmental Consequences: Due to the erosive nature of the soils, steepness of the terrain, and the proximity of the project area to the Middle Fork of Parachute Creek, some soil loss, loss of soil productivity, and an increase in sedimentation is likely. These impacts would be minimized through the use of Best Management Practices (BMPs) designed to minimize the potential for increased erosion and sediment transport. In addition, the reclamation practices presented in Appendix A, Number 9 would be implemented to stabilize soils.

*No Action Alternative:*

Environmental Consequences: The no action alternative would have no impact on soils because the developments described under the proposed action would not occur.

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

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

Affected Environment: The project area lies within a mix of Basin big sagebrush and mountain shrub species such as skunkbush sumac (*Rhus trilobata*), snowberry (*Symphoricarpos rotundifolius*), rabbitbrush (*Chrysothamnus sp.*) and fourwing saltbush (*Atriplex canescens*). Native grasses include bluebunch wheatgrass (*Pseudoroegneria spicata*), and Indian ricegrass (*Achnatherum hymenoides*).

*Proposed Action:*

Environmental Consequences: The proposed pad and road would result in the destruction of approximately 4.7 acres of native vegetation, all of which would occur on private land. With implementation of reclamation practices identified in Appendix A (Number 9), establishment of desirable herbaceous vegetation could be restored within 2 to 3 years. The establishment of mature shrubs could take from 5 to 25 years.

*No Action Alternative:*

Environmental Consequences: Under the no action alternative, no drilling activities or pad and access road construction would take place; therefore, there would be no impacts to vegetation.

Analysis on the Public Land Health Standard for Plant and Animal Communities (partial, see also **Wildlife, Aquatic and Wildlife, Terrestrial**): Problems related to plants in the Rifle-West watershed includes the widespread invasion of cheatgrass with a corresponding loss of other functional groups such as perennial native grasses and forbs (BLM 2005). In addition, sagebrush communities are dominated by old, decadent sagebrush with poor recruitment. The surface disturbance associated with the proposed action has the potential to encourage expansion and dominance of the site by cheatgrass. Appendix A includes provisions to revegetate the disturbances with native vegetation and to control noxious weeds.

### **Visual Resources**

Affected Environment: The proposed drill pad location lies immediately west of the Middle Fork of Parachute Creek and just above a wide, well-traveled road that accesses drilling activity along the upper reaches of Parachute Creek. The area is characterized by steep, narrow canyons and towering escarpments of variegated rock features flanked by slide rock and pockets of trees and shrubs. The surface is privately owned.

*Proposed Action:*

Environmental Consequences: The surface disturbance caused by pad construction would dominate the view from the road because of the size of the pad, the sharp change in elevation from the roadway to the top of the cutslope above the pad, and the narrowness of the canyon at this point.

Reshaping the cut-and fill-slopes during interim reclamation would reduce the dirt fill along the main access road and reopen the views of the escarpment above Parachute Creek. This would reduce the visual contrast of the developments.

*No Action Alternative:*

Environmental Consequences: Under the no action alternative, the natural gas development associated with the proposed action would not occur. Therefore, impacts to visual resource would not be expected.

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

Affected Environment: The proposed well pad and access road are all located in proximity to Middle Fork Parachute Creek, a tributary to Parachute Creek. Both of these streams contain aquatic wildlife including non-native brook trout, various native non-game fishes, and aquatic invertebrates. Parachute Creek also contains Colorado River cutthroat trout.

*Proposed Action:*

Environmental Consequences: Well pad and road construction activities would disturb soils and remove vegetation. A total of approximately 4.7 acres of upland habitat would be lost. This would increase the potential for erosion that could result in the sedimentation of resident streams. Trout are especially sensitive to increased sediment loads that can impair preferred spawning habitats by silting in substrates. This could result in the smothering of eggs, and/or the reduction of oxygen exchange. Sediment also reduces aquatic insect productivity which impacts food resources for trout and avian and terrestrial wildlife.

In addition to sediment concerns, natural gas development in close proximity to live streams increases the risks of water contamination that would have direct negative effects on cutthroat populations. However, the measures described in the surface use and drilling plans would minimize the risk.

*No Action Alternative:*

Environmental Consequences: Under the no action alternative, natural gas development described in the proposed action would not occur. Therefore, impacts to aquatic wildlife species would not be expected.

Analysis on the Public Land Health Standard for Plant and Animal Communities (partial, see also **Vegetation and Wildlife, Terrestrial**): Past and present natural gas development within Rifle-West watershed has made it increasingly difficult to maintain Standard 3 for aquatic wildlife as more roads, pipelines, and well pads result in increased risk of erosion of sediments in resident streams. The proposed action would contribute, albeit in a minor way, to the downward trend in land health condition relative to aquatic wildlife

The no action alternative would have no bearing on the area to meet or maintain Standard 3 because the developments described in the proposed action would not occur.

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

Affected Environment: The proposed well pad and access road would be located within sagebrush vegetation adjacent to riparian woodlands, tall cliffs, and Douglas-fir forest. Given the diversity of vegetation found nearby, a variety of wildlife species could be expected in the area. The area contains habitat for many species of big game, small game, and non-game mammals, birds, and reptiles. The proposed action is located in mapped big game winter range. Federal lease C-44963 contains a big game winter timing limitation stipulation that prohibits oil and gas development activity from January 15<sup>th</sup> to April 30<sup>th</sup>.

*Proposed Action:*

Environmental Consequences: The proposed action would result in the loss of approximately 4.7 acres of upland habitat. The action would further fragment habitats and reduce habitat connectivity and habitat patch size. Losses of forage and cover would result. Increased human use in the area would likely displace some animals away from preferred habitats. However, the existing lease stipulation prohibiting development-related activity, and mitigation measures presented in Appendix A (Numbers 9), would help to minimize impacts to wintering big game.

*No Action Alternative:*

Environmental Consequences: Under the no action alternative, natural gas development would not occur. Therefore, impacts to terrestrial wildlife species would not be expected.

Analysis on the Public Land Health Standard for plant and animal communities (partial, see also **Vegetation and Wildlife, Aquatic**): A recent study found that 38,373 acres of land within the Rifle-West watershed were not meeting Standard 3 for some wildlife species, most notably mule deer (BLM 2005). Of this acreage, 12,549 acres are located on BLM land. The main problem with the watershed is large-scale habitat fragmentation due primarily to natural gas exploration and development. This physical loss of habitat is a problem with regard to the loss of forage and cover, and is exacerbated when combined with increasing human uses of the area.

Other factors contributing to the failure to achieve Standard 3 for wildlife include: the encroachment of juniper into sagebrush habitats, a lack of forb production, poor condition of sagebrush, and poor understory conditions. Some individual sagebrush stands are hedged and some stands are decadent with poor age class diversity and limited regeneration or recruitment.

The proposed action would result in direct and indirect impacts to habitat, including further loss and fragmentation and increased human use of the area. Given the level of activity in the greater area, the proposed action may further trend the watershed away from meeting Standard 3 for some terrestrial wildlife species.

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

## **SUMMARY OF CUMULATIVE IMPACTS**

The Draft and Final Roan Plateau Resource Management Plan Amendment & Environmental Impact Statements (BLM 2004, 2006) collectively analyzed six alternatives for oil and gas development in the Roan Plateau planning area. The assessment included an analysis of impacts of past, present, and reasonable foreseeable future actions, including predicted future oil and gas development, on both public and private lands. Since the Final Roan Plateau RMP Amendment and EIS presents a recent analysis of cumulative impacts in an region adjacent to the RGAP area, it is incorporated by reference.

Until relatively recently, modifications of the region have been characteristic of agricultural and ranching lands, with localized industrial impacts associated with the railroad and I-70 highway corridors and the Anvil Points mine. More recently, these changes are cumulative to the growth of residential and commercial uses, utility corridors, oil and gas developments, and other rural industrial uses. These increasing activity levels have accelerated the accumulation of impacts in the area. These impacts have included: 1) direct habitat losses; 2) habitat fragmentation and losses in habitat effectiveness; 3) elevated potential for runoff, erosion, and sedimentation; 4) expansion of noxious weeds and other invasive

species; and 5) increased noise and traffic and reductions in the scenic quality of the area (BLM 2006: 4-1 to 4-129).

Although none of the cumulative impacts described in the Final Roan Plateau RMP Amendment and EIS were characterized as significant, and while new technologies and regulatory requirements have reduced the impacts of some land uses, it is nonetheless clear that past, present, and reasonably foreseeable future actions has had and would continue to have adverse affects on various elements of the human environment. The anticipated impact levels for existing and future actions range from negligible to locally major, and primarily negative, for specific resources. The primary reasons for this assessment are twofold: (1) the rate of development, particularly oil and gas development, is increasing in the area, resulting in an accelerated accumulation of individually nominal effects; and (2) the majority of residential and commercial expansion, as well as oil and gas development, have occurred, and is likely to continue to occur, on private holdings where mitigation measures designed to protect and conserve resources are not in effect.

It is clear that the proposed action would contribute to the collective impact. Additional ground disturbance would occur, additional habitat would be lost, noise and traffic would increase, and additional oil-and gas-related developments would be visible. Therefore, the impacts of the proposed action would move the cumulative impact incrementally closer to a threshold of significance for some resources. However, the contribution to the accumulated effects would be minor because the scale of the proposed development is relatively small, multiple wells would be developed from a single pad, and mitigation measures represented by the conditions of approval for resource protection are mandated for implementation (Appendix A).

**PERSONS AND AGENCIES CONSULTED:**

Williams Production RMT Company

**INTERDISCIPLINARY REVIEW:**

<u>Name</u>	<u>Title</u>	<u>Area of Responsibility</u>
Bill Barter	Natural Resource Specialist	Team Leader
Mark Ennes	Planning and Environmental Coordinator	NEPA compliance
John Brogan	Archaeologist	Cultural Resources, Native American Religious Concerns
Jeff Cook	Wildlife Biologist	Terrestrial Wildlife, Aquatic Wildlife, Migratory Birds, Special Status Species (birds)
Beth Brenneman	Ecologist	Special Status Species (plants), Vegetation, Invasive Non-native Species
Marty O’Mara	Petroleum Engineer	Downhole Conditions of Approval
Kay Hopkins	Outdoor Recreation Planner	Visual Resources, ACEC, WSR,
Jeff O’Connell	Hydrologist	Air, Water, Soils, Geology, Paleontology
Isaac Pittman	Rangeland Management Specialist	Range

**REFERENCES:**

Bureau of Land Management (BLM)

- 1984 *Glenwood Springs Resource Management Plan*. Glenwood Springs Field Office.
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- WestWater Engineering  
2007. Summary of Biological Studies for Williams RMT Company Proposed Natural Gas Development on Federal leases C-44963, COC-58672, and COC-60234 on EnCana Oil & Gas Inc.'s North Parachute Ranch. Unpublished letter report. WestWater Engineering, Grand Junction, CO.
- Williams Production RMT Company  
2006. Master APD – Standard Operating Procedures – Grand Valley Field Area B. Williams Production RMT Company, Garfield County, Colorado.

**FONSI**  
**CO140-2007- 043EA**

The environmental assessment analyzing the environmental effects of the proposed action has been reviewed. The approved mitigation measures result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

**DECISION RECORD**

DECISION: It is my decision to approve the Applications for Permit to Drill Federal wells RPE 13-19-595 and RPE 14-19-595. This decision will provide for the orderly, economical, and environmentally sound exploration and development of oil and gas resources on valid oil and gas leases.

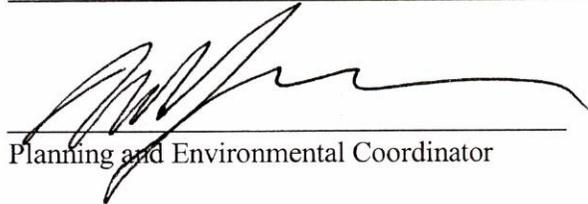
RATIONALE:

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

MITIGATION MEASURES: Mitigation measures presented in Appendices A and B will be incorporated as Conditions of Approval for both surface and drilling operations.

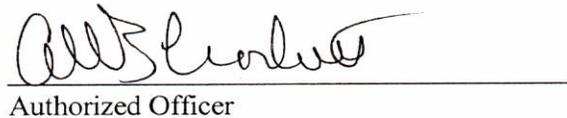
NAME OF PREPARER: Bill Barter, Natural Resource Specialist

SIGNATURE OF PLANNING AND ENVIRONMENTAL COORDINATOR:

  
\_\_\_\_\_  
Planning and Environmental Coordinator

4/19/07  
\_\_\_\_\_  
Date

SIGNATURE OF AUTHORIZED OFFICIAL:

  
\_\_\_\_\_  
Authorized Officer

4/19/07  
\_\_\_\_\_  
Date

**APPENDIX A**  
**SURFACE USE CONDITIONS OF APPROVAL**

**SURFACE USE CONDITIONS OF APPROVAL  
CO-140-2007-043EA**

1. Administrative Notification: At least 48 hours prior to construction, the operator shall notify the BLM representative of construction startup plans.
2. Dust Abatement. The operator shall implement dust abatement measures as needed or directed by the Authorized Officer. The level and type of treatment (watering or application of various dust agents, surfactants and road surfacing material) may be changed in intensity and must be approved by the Authorized Officer. Dust control is needed to prevent heavy plumes of dust from road use that create safety problems and disperses heavy amounts of particulate matter on adjacent vegetation.
3. Cultural Resource Education/Discovery. All persons in the area who are associated with this project must be informed that if anyone is found disturbing historic, archaeological, or scientific resources, including collecting artifacts, the person or persons will be subject to prosecution.

Pursuant to 43 CFR 10.4(g), the BLM authorized officer must be notified, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4 (c) and (d), activities must stop in the vicinity of the discovery and the discovery must be protected for 30 days or until notified to proceed by the authorized officer.

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

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

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

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

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

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

4. Weed Control. The operator shall regularly monitor and promptly control noxious weeds or other undesirable plants species as set forth in the Glenwood Springs Energy Office *Noxious and Invasive Weed Management Plan for Oil and Gas Operators*, dated March 2007. A Pesticide Use Proposal (PUP) must be approved by BLM prior to the use of herbicides.
5. Migratory Birds. It will be the responsibility of the operator to comply with the Migratory Bird Treaty Act with respect to “take” of migratory bird species. 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. As such, the operator is requested to prevent use by migratory birds of reserve pits, produced water pits, and evaporation pits, that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Several established methods to prevent bird access are known to work. Methods may include but are not limited to netting, the use of bird-balls, or other alternative methods that effectively prevent bird access/use. Regardless of the method used, it will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Natural Resource Specialist immediately upon their discovery.
6. Raptor Nest. To minimize impacts to raptors using the existing raptor nest located approximately 200 meters from the pad, a 60-day timing limitation shall prohibit construction, drilling, and completion activities between May 1 and June 29. Exception: During years when a nest site is unoccupied by May 15, the seasonal limitation may be suspended. It may also be suspended once the young have fledged and dispersed from the nest.
7. Raptor Survey. To protect nesting raptors, additional raptor surveys shall be required if two years have lapsed between initial surveys (March 2007) and the commencement of new development activities or if changes to the location of planned infrastructure were made after initial surveys and the new location occurs outside the original survey area. All potential nesting habitat within 0.25 mile of these developments shall be surveyed and the results documented and submitted to the BLM Glenwood Springs Energy Office wildlife biologist. If a raptor nest is located within 0.25 mile of the proposed activity, a 60-day timing limitation during the critical nesting period and/or relocation of the well pad/road/pipeline up to 200 meters may be required. In the event of an active raptor nest within 0.25 mile of developments, the operator is advised to ensure compliance with the Migratory Bird Treaty Act by contacting Creed Clayton, U.S. Fish and Wildlife Service (USFWS), Glenwood Springs Energy Office at 970-947-5219 or at [john\\_c\\_clayton@blm.gov](mailto:john_c_clayton@blm.gov) and Jeff Cook, BLM, Glenwood Springs Energy Office at 970-947-5231 or at [jeffrey\\_cook@blm.gov](mailto:jeffrey_cook@blm.gov).
8. Paleontological 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 Authorized Officer of the findings. The discovery must be protected until notified to proceed by the Authorized Officer.

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

9. Reclamation. Refer to Appendix I (Surface Reclamation) of the 1998 Draft Supplemental EIS (DSEIS) for specific reclamation goals, objectives, timelines, measures, and monitoring methods. These guidelines should be followed in completing the reclamation of disturbed surfaces on well pads, access roads, and pipelines. The four Reclamation Categories defined in Appendix I of the 1998 DSEIS should be used to assess the progress of reclamation monitoring.

a. Seedbed Preparation. All slopes will be reshaped prior to seedbed preparation. Initial seedbed preparation shall consist of backfilling, leveling, and ripping all areas to be seeded to a minimum depth of 18 inches with a furrow spacing of 2 feet, followed by recontouring the surface and then spreading the stockpiled topsoil evenly. Prior to seeding, the seedbed shall be scarified and left with a rough surface. No depressions shall be left that would trap water and form ponds. Final seedbed preparation shall consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding.

b. Seed Application. Seeding shall be conducted no more than 24 hours following completion of final seedbed preparation. A certified weed-free seed mix designed by BLM to meet interim reclamation standards is recommended; however, because the well pad and road would be located on private surface, the private landowner would ultimately determine the seed mix to be used for reclamation. Revegetating the area will help prevent erosion and establishment of weeds and provide food and cover for wildlife. The following seed mix is recommended for use on all disturbed surfaces within the project area:

<i>Common Name</i>	<i>Scientific Name</i>	<i>Variety</i>	<i>Percent</i>	<i>PLS lbs/acre</i>
Four-wing saltbush	<i>Atriplex canescens</i>	Rincon	10	3.7
Shadscale saltbush	<i>Atriplex confertifolia</i>		7	2.0
Wyoming sagebrush	<i>Artemisia tridentata</i> subsp. <i>wyomingensis</i>	Hobble Creek	7	0.05
Western wheatgrass	<i>Pascopyrum smithii</i>	Arriba	17	3.0
Sandberg bluegrass	<i>Poa secunda</i>		17	0.4
Galleta	<i>Hilaria jamesii</i>	Viva florets	17	1.8
Alkali sacaton	<i>Sporobolus airoides</i>	Salado	14	0.2
Sainfoin	<i>Onobrychis viciaefolia</i>	Eski	11	7.3
<b>Total</b>			<b>100</b>	<b>18.45</b>

The application rate shown in the table is based on 45 pure live seeds (PLS) per square foot, drill-seeded to a depth of 0.25 to 0.5 inch, which is the method that shall be used where feasible. In areas that cannot be drill-seeded, the mix shall be broadcast-seeded at twice the application rate shown in the table and covered 0.25 to 0.5 inch deep with a harrow or drag bar. The seed should be certified free of noxious weeds. If the seeding is unsuccessful, the operator shall make subsequent seedings until the reclamation objectives identified in Appendix I (Surface Reclamation) of the 1998 DSEIS are met.

c. Erosion Control. Cut-and-fill slopes shall be protected against erosion with the use of water bars, lateral furrows, or other measures approved by the Authorized Officer. Weed-free straw bales,

straw “wattles,” straw matting, or a well-anchored fabric silt fence shall be used on cuts and fill slopes and along drainages to protect against soil erosion. Additional BMPs shall be employed as necessary to ensure reduced offsite erosion and to protect drainages from sediment.

- d. Site Protection. The pad shall be fenced to BLM standards to exclude livestock grazing for the first two growing seasons or until seeded species become 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 Authorized Officer will approve the type of fencing.
- e. Monitoring. The operator shall conduct annual monitoring surveys of reclaimed areas and shall submit an annual monitoring report to the Authorized Officer by December 31 of each year. The monitoring program shall use the four Reclamation Categories defined in Appendix I of the 1998 DSEIS to assess progress toward reclamation objectives. The annual report shall document whether attainment of reclamation objectives appears likely. If one or more objectives appear unlikely to be achieved, the report shall identify appropriate corrective actions. Upon review and approval of the report by BLM, the operator shall be responsible for implementing the corrective actions or other measures specified by the Authorized Officer.

**APPENDIX B**

**DOWNHOLE CONDITIONS OF APPROVAL**

CONDITIONS OF APPROVAL  
APPLICATION FOR PERMIT TO DRILL

Company/Operator: **Williams Production RMT Company.**

Surface Location: **NWSW Sec. 19, T05S, R96W**

<u>Well Name</u>	<u>Well No.</u>	<u>BH Location</u>	<u>Lease</u>
<b>RPE</b>	<b>13-19-595</b>	<b>NWSW Sec 19, T05S, R95W</b>	<b>C-44963</b>
<b>RPE</b>	<b>14-19-595</b>	<b>NWSW Sec 19, T05S, R95W</b>	<b>C-44963</b>

Those Conditions of Approval identified in the Williams Production RMT Company Master APD (Version April 27, 2006) for the Grand Valley Field Area B will apply.

Surface casing shall be cemented back to the surface either during the primary cement job or by remedial cementing.

Please contact Steve Ficklin (970) 947-5213 or Jennifer Gallegos (970) 947-5220, of the Glenwood Springs Energy office at least 24 hours:

- 1) pre- and post – spud
- 2) prior to running the surface and production casing
- 3) conducting the BOP test

