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: CO140-2007-009 EA

CASEFILE NUMBER: Federal Leases COC 23794 and COC 27743

PROJECT NAME: Applications for Permit to Drill 17 Federal natural gas wells on 3 existing fee surface locations along Parachute Creek.

LEGAL DESCRIPTION:

Sections 20, 27, and 29, Township 6 South, Range 96 West, Sixth Principal Meridian

APPLICANT: Williams Production RMT Company ("Williams")

DESCRIPTION OF THE PROPOSED ACTION AND NO ACTION ALTERNATIVE:

Proposed Action: The proposed action is to directionally drill 17 Federal natural gas wells on three existing fee surface locations in the Starkey/Wheeler Gulch areas along Parachute Creek (Figure 1). These wells would be drilled directionally using conventional drilling equipment to access offsite Federal minerals from the existing privately owned surface location. Seven fee (private) wells would also be drilled from these pads.

The proposed action would include drilling and completion operations, installation of production facilities, production of natural gas, and intermediate and final reclamation measures. To accommodate these operations, previously disturbed areas that are presently undergoing interim reclamation would be redisturbed.

The development of existing surface location GV 22-29 would involve directional drilling of ten new Federal wells, relocating an existing pipeline, rerouting an existing drainage and road, and removing existing production equipment (Table 1). Reconfiguring the existing pad to accommodate production equipment is also proposed. The maximum cut of this pad is 25 feet, and the maximum fill depth is 9 feet. The area of redisturbance at this location would be 4.39 acres.

Four new directionally drilled Federal wells are proposed at existing surface location GM 42-27 (see Table 1). No substantial alterations to the existing pad are proposed, although existing production equipment would be removed and replaced at an offsite location. The maximum cut height and fill depth are 12.2 feet. The area of redisturbance at this location would be 2.2 acres.

As proposed, three new Federal wells would be directionally drilled at existing surface location MV-54-20 (see Table 1). In addition, an existing road and pipeline would be realigned. In order to accommodate the reserve pit and other proposed drilling and production facilities, the existing pad would be expanded onto previously reclaimed areas. Both the maximum cut height and fill depth at this pad is 7 feet. The proposed action would result in 1.95 acres of ground disturbance.

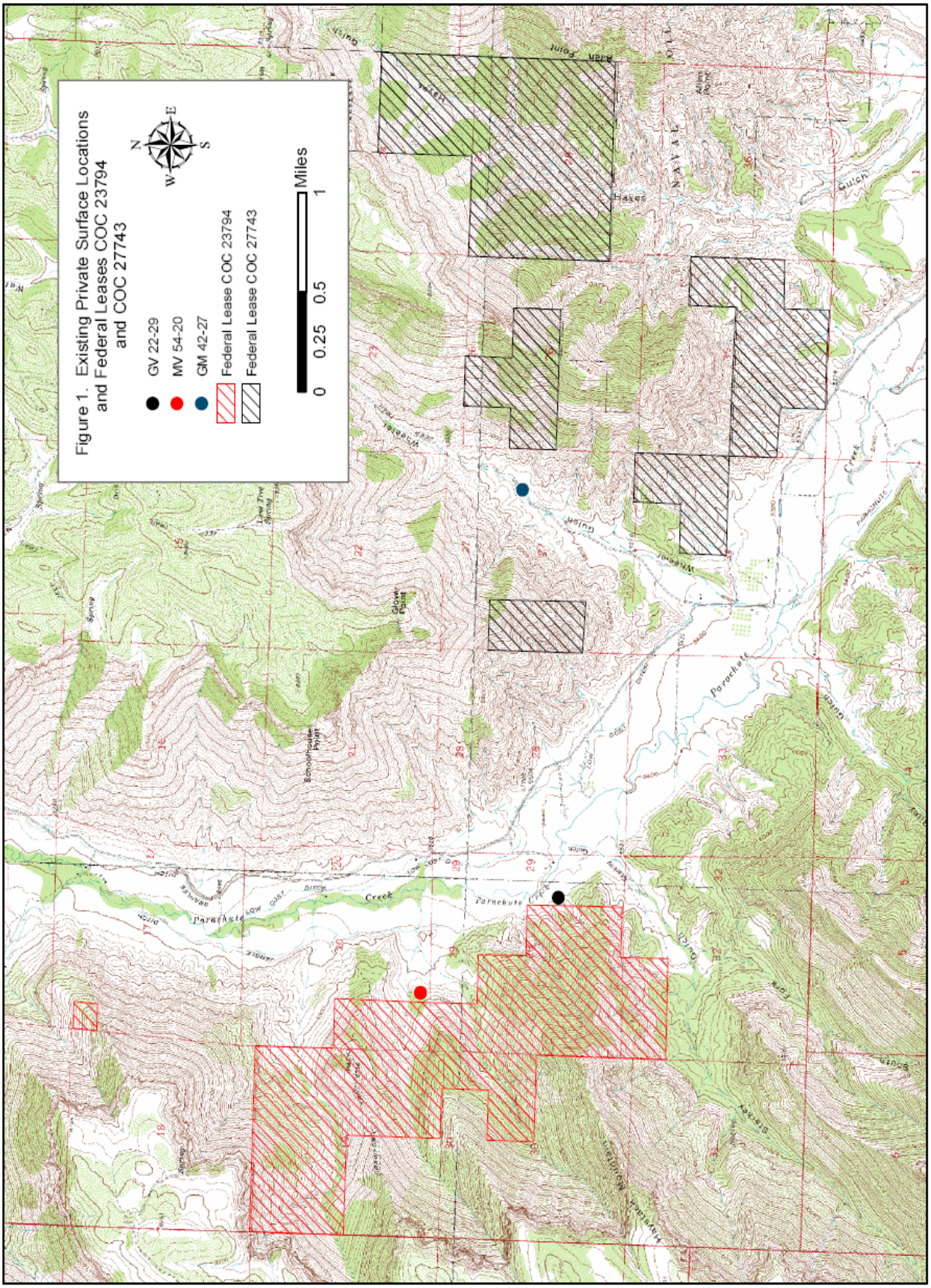
Figure 1. Existing Private Surface Locations and Federal Leases COC 23794 and COC 27743
GV 22-29
MV 54-20
GM 42-27
Federal Lease COC 23794
Federal Lease COC 27743
N
E
S
W
0 0.25 0.5 1
Miles

Table 1. Existing Surface Locations and Proposed Federal Wells			
Lease	***Existing Surface Location***	***Proposed Wells***	***Location of Proposed Production Zones***
COC 23794 (1976)	GV 22-29 – 1860 feet FSL x 1140 feet FEL, NESE, Section 29, T6S, R96W	GM 434-29	SWSE, Section 29, T6S, R96 W
		GM 334-29	SWSE
		GM 423-29	NESW
		GM 534-29	SWSE
		GM 634-29	SWSE
		GM 33-29	NWSE
		GM 34-29	SWSE
		GM 333-29	NWSE
		GM 323-29	NESW
		GM 343-29	SWSE
	MV 54-20 – 282 feet FSL x 1495 feet FWL, SESW, Section 20, T6S, R96W	GM 14-20	SWSW, Section 20, T 6S, R96W
		GM 314-20	SWSW
		GM 414-20	SWSW
COC 27743 (1981)	GM-42-27 – 2241 feet FNL x 1081 feet FEL, SENE, Section 27, T6S, R 96W	GM 512-26	SWNW, Section 26, T 6S, R 96W
		GM 312-26	SWNW
		GM 412-26	SWNW
		GM 12-26	SWNW

Access to all three locations would be via existing roads. The Williams Master Application for Permit to Drill (APD) would be applicable to all seventeen 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 the terms of the respective oil and gas leases, and with Conditions of Approval (COA) attached to the APDs (Appendix A).

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

In accordance with Council on Environmental Quality (CEQ) regulations, the no action alternative is evaluated to provide a base from which to compare impacts associated with the proposed action. For the purpose of the following comparative analysis, the no action alternative would consist of the drilling and development of 7 fee wells on the 3 existing pads, but the development of the 17 Federal wells would not occur.

PURPOSE AND NEED FOR THE ACTION: The purpose of the action is to develop oil and gas resources on Federal Leases COC 23794 and COC 27743 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 Leases COC 23794 and COC 27743, signed in 1976 and 1981 respectively, carry the following stipulations:

1. Prior to undertaking any ground disturbing activities on lands covered under the provisions of [these leases], the lessee shall:

    a. Engage the services of a qualified professional archaeologist to conduct a complete, intensive survey of the areas to be disturbed.

    b. Provide the lessor [BLM] sufficient time to review documentary evidence that a survey has been performed.

    c. Follow the mitigation requirements set forth by the lessor concerning protection, preservation, or disposition of any sites of material discovered.

2. The lessee shall immediately bring to the attention of the lessor any and all antiquities or other objects of historic or scientific interest discovered as a result of operations under this lease and shall leave such discoveries intact until told to proceed by the lessor.

While the proposed action would involve the development of Federal minerals, the surface activities would occur on private land off of the lease. Despite this fact, BLM regulations and policies require that the BLM does not undertake or authorize any action that would result in violation of Federal laws such as the Endangered Species Act, Migratory Bird Treaty Act, National Historic Preservation Act, Clean Water Act, and Clean Air Act. Approval of an APD is a Federal action that creates a Federal nexus between these laws and aspects of the proposed action associated with the exploration or development of Federal minerals. Therefore, BLM will apply the above stipulations to APDs issued as part of the proposed action due to the requirement to protect cultural resources under the National Historic Preservation Act.

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

LAND USE 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: Glenwood Springs Resource Management Plan (BLM 1984).

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

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

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

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

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

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

Table 2. Critical Elements of the Human Environment

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

* Public Land Health Standard

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

Critical Environmental Elements

The following critical elements of the human environment are present and affected by the proposed action and/or no action alternative: air quality, invasive non-native species, migratory birds, special status species, hazardous or solid wastes, and water quality.

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_{10} and $PM_{2.5}$), sulfur dioxide, hazardous air pollutants including: benzene, ethylbenzene, formaldehyde, hydrogen sulfide, toluene, and xylenes. Sulfur and nitrogen deposition analysis, acid neutralizing capacity, and visibility screening-level analysis were also completed in the Roan Plateau RMPA and EIS. Findings indicate that no adverse long-term effects would result under that plan. Since the proposed action is within the scope of the reasonable foreseeable development (RFD) scenario analyzed in that document, it is anticipated that the proposed action would be unlikely to have adverse effects on air quality.

Activities described in the proposed action would result in localized short-term increases in vehicle and equipment emissions. Concentrations of emissions would be below applicable ambient air quality standards as analyzed in the Roan Plateau RMPA & EIS. However, it is anticipated that construction 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 3).

No Action Alternative:

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

Cultural Resources

Affected Environment: Three Class III cultural resource inventories (1106-17, 1276, and 1285) were conducted at the proposed well locations. 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 9). 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 would not include the Education/Discovery COA designed to protect cultural resources. The lack of this mitigating measure could lead to illegal collection and excavation or vandalism.

Invasive Non-native Species

Affected Environment: The three pads lie within a salt desert scrub community with some pinyon and juniper trees. Cheatgrass is found on all three pads. Kochia, Russian thistle and halogeton were found at GM 42-27 and halogeton was found at GV 22-29.

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, kochia, Russian-thistle, and halogeton are present in the vicinity of the pads, 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 2 and 6).

No Action Alternative:

Environmental Consequences: If mitigation measures are not implemented, cheatgrass, kochia, Russian-thistle and halogeton could spread more widely than under the proposed action.

Migratory Birds

Affected Environment: The three existing pads are located near valley bottoms within a salt desert scrub community. Scattered pinyon and juniper are found nearby. The area provides cover, forage, and nesting habitat for a variety of migratory birds. A few species on the U. S. Fish and Wildlife Service (USFWS) 2002 list of Birds of Conservation Concern (BCC) may occur in the area. These include the pinyon jay, gray vireo, black-throated gray warbler, and Virginia's warbler. Other species that are not on the BCC list but associated primarily with this habitat type include residents such as the juniper titmouse and Townsend's solitaire and migrants such as the blue-gray gnatcatcher.

This habitat provides perching, feeding, and potential nesting sites for several raptor species, including one species on the BCC list, Swainson's hawk. Other raptors that could use the salt desert scrub habitat for nesting include the Cooper's hawk, sharp-shinned hawk, red-tailed hawk, and two small owls, the western screech-owl and northern pygmy-owl. Another species on the BCC list, the golden eagle, would not be expected to nest onsite. Two raptor nests occur within a quarter mile of one of the existing pads, GM 42-27. The species using these nests is not known.

Proposed Action:

Environmental Consequences: Because the pads already exist and would only be slightly enlarged, the proposed action would result in minimal loss of potential nesting, breeding, roosting, perching, and foraging habitat. The greater effect would occur during construction and completion activities when habitat effectiveness would be reduced as a result of development activity. It is possible that during construction activities, individual birds could be displaced to adjacent habitats due to noise and human presence. Effects of displacement could include increased risk of predation or reproduction failure if adjacent habitat is at carrying capacity or if disturbance leads to nest abandonment. Effects from construction and completion activities would likely be temporary (<3 years) but some disturbance-related effects could be expected to continue for the long term (>10 years) as a result of production and maintenance of the wells. Furthermore, impacts to birds at the species or local population level could include a change in abundance and composition as a result of cumulative habitat fragmentation from existing and increasing energy development in the area.

The Federal Leases under which rights to minerals are held (COC 23794 and COC 27743) do not stipulate a raptor nesting season timing limitation. In such cases, a sixty day timing limitation during the nesting season may be imposed in order to provide some level of protection to nesting raptors. However, given that both Federal and fee wells would be drilled from the same pads, a timing limitation to protect nesting raptors would not be effective, since operations would shift to private well development during the timing limitation period and disturbance-related effects would continue. Therefore, no nesting season timing limitation on the development of the Federal wells is recommended.

The development of reserve pits may be expected to attract waterfowl and other migratory birds for purposes of resting, foraging, or as a source of free water. Contact with produced water and drilling and completion fluids has the potential to cause death and injury (e.g., acute or chronic toxicity, compromised insulation). Based on this potential, birds should be prevented from accessing the reserve pit. Mitigation measures designed to limit access to reserve pits are presented Appendix A (Number 11).

No Action Alternative:

Environmental Consequences: Impacts from the no action alternative would be generally similar to the proposed action. However, injury or mortality could increase if birds are not prevented from accessing the reserve pits.

Native American Religious Concerns

Affected Environment: At present, no Native American concerns are known within the project area and none were identified during the inventories. The Ute tribes currently claim this area as part of their ancestral homeland. If new data are disclosed, 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 impacts from increased access and personnel could result in a range of impacts to unknown cultural resources from illegal collection to vandalism.

A standard Education/Discovery COA for the protection of Native American values would be attached to the APDs (Appendix A, Number 9). 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 would not include the Education/Discovery COA designed to protect resources of Native American Religious Concern. The lack of these mitigating measures could lead to illegal collection, illegal excavation, or vandalism.

Special Status Species (includes analysis on Standard 4)

Affected Environment: According to the latest species list from the U.S. Fish and Wildlife Service (USFWS 2002), the following Federally listed or candidate threatened or endangered species may occur within or be impacted by actions occurring in Garfield County: lynx (*Lynx lynx*), black-footed ferret (*Mustela nigripes*), bald eagle (*Haliaeetus leucocephalus*), Mexican spotted owl (*Strix occidentalis lucida*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), razorback sucker (*Xyrauchen texanus*), Colorado pikeminnow (*Ptychocheilus lucius*), bonytail chub (*Gila elegans*), humpback chub

(*Gila cypha*), Uinta Basin hookless cactus (*Sclerocactus glaucus*), Parachute beardtongue (*Penstemon debilis*), and DeBeque phacelia (*Phacelia submutica*).

Of the Federally listed, proposed, or candidate threatened or endangered wildlife species listed above, habitat is present near the project area for the threatened bald eagle and two endangered fishes, the Colorado pikeminnow and razorback sucker. Winter habitat and potential nesting habitat for the bald eagle is present in the Colorado River corridor, while the Colorado River and 100-year floodplain are Designated Critical Habitat for the two endangered fishes.

BLM sensitive wildlife species with habitat and/or occurrence records in the area include the milk snake (*Lampropeltis triangulum taylori*), midget faded rattlesnake (*Crotalus viridis concolor*), Great Basin spadefoot toad (*Spea intermontana*), flannelmouth sucker (*Catostomus latipinnis*), bluehead sucker (*Catostomus discobolus*), and roundtail chub (*Gila robusta*). The milk snake is potentially present in riparian and floodplain habitats, the midget faded rattlesnake is potentially present in rocky uplands, and the Great Basin spadefoot is potentially present within or near seasonal surface waters. The three native fish species are known to inhabit the Colorado River and the lower portions of Parachute Creek near the project area.

A plant inventory of the project area was completed on October 18, 2006, by the BLM Energy Office Ecologist. No special status plant species were found, nor was suitable habitat present for these species.

Proposed Action:

Environmental Consequences: Since the existing GV 22-29 pad is located within the mapped bald eagle winter habitat corridor along Parachute Creek, the proposed activities on this pad **"May Affect"** bald eagles. Therefore, a biological assessment and consultation with the U.S. Fish and Wildlife Service (USFWS) are required under Section 7 of the Endangered Species Act to further evaluate potential effects.

The other existing locations—GM 42-29 and MV 54-20—are not located in bald eagle habitat or sufficiently close to require special protective measures. Therefore, it has been determined that the proposed developments associated with these pads would have **"No Effect"** on bald eagle populations and consultation with the USFWS is not required.

The proposed action would occur in habitats of the milk snake, the midget faded rattlesnake, and the Great Basin spadefoot (toad). Direct effects on these 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.

All of the special status fish species associated with Parachute Creek and the Colorado River are adapted to naturally high sediment loads such as occur in both streams. Under the proposed action, each existing pad would be redisturbed to accommodate additional drilling, thereby increasing the area of disturbed or exposed soils available for erosion and transport of sediments to nearby drainages. Although some minor, temporary increase in sediment transport to Parachute Creek and thence to the Colorado River may occur from the proposed action, it is not likely that the increase would be detectable above current background levels. Therefore, the proposed action would have "**No Effect"** on the Colorado pikeminnow or razorback sucker.

Since the flannelmouth sucker, bluehead sucker, and roundtail chub have similar habitat requirements and are similarly adapted to high sediment loads, the proposed action would also not be expected to adversely affect these special status species. Mitigation measures presented in Appendix A (Numbers 2 and 8) would be implemented to minimize sedimentation.

Since special status plants or suitable habitat are not present in the project vicinity, the proposed action would have no impact on these species.

No Action Alternative:

Environmental Consequences: The no action alternative would have generally similar impacts to most special status species as the proposed action, if sedimentation is controlled per Colorado Oil and Gas Conservation Commission (COGCC) standards. However, impacts to bald eagles may occur under this alternative since Section 7 consultation would not occur.

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 the special status animal species known or likely to occur there (BLM 2005). However, large portions of the landscape are being heavily fragmented due to extensive natural gas development. Continued habitat fragmentation is of concern as 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 will continue to reduce habitat patch size and both habitat quality and quantity. The proposed action and no action alternative in conjunction with like activities occurring throughout this watershed could increase sediment loads. Although the contribution of the proposed action and no action alternative would be minimal, they would further trend the area away from meeting Standard 4 for special status animal species.

Since the project area has no potential habitat for special status plant species, and since no offsite or indirect impacts are anticipated, the proposed action should not result in a failure of the area to achieve Standard 4 for special status plant species.

Wastes, Hazardous or Solid

Affected Environment: Hazardous materials are defined by the BLM as any substance, pollutant, or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, 42 USC 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any “hazardous waste” as defined in the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, 42 USC 9601 et seq., and its regulations. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 USM 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: Impacts of the no action alternative would be the same as the proposed action.

Water Quality, Surface and Ground (includes analysis on Standard 5)

Surface Water

Affected Environment: Well pad MV 54-20 is located approximately 250 feet south of an unnamed ephemeral drainage that is tributary to the perennial Parachute Creek to the east. Well pad GV 22-29 is located approximately 375 feet south of an unnamed ephemeral drainage and 550 feet west of Parachute Creek. Well pad GM 42-27 is located approximately 300 feet north of an unnamed ephemeral drainage and 400 feet east of the ephemeral Wheeler Creek. South of the GM 42-27 pad, Wheeler Creek joins Parachute Creek. Downstream from the existing well pads and in the Town of Parachute, Parachute Creek joins the Colorado River.

According to the *Stream Classifications and Water Quality Standards* (CDPHE, Water Quality Control Commission, Regulation No. 37), Parachute Creek is within the Lower Colorado River Basin segment 11h that includes the mainstem of Parachute Creek from the confluence of the West and East Forks to the confluence with the Colorado River. This segment has been classified aquatic life cold 2, recreation 1b, and agriculture. These classifications indicate 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. There is potential for primary contact recreation, and it is suitable for irrigation and livestock use. At this time, there are no water quality data for this portion of Parachute Creek or Wheeler Creek.

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) which identifies stream segments that are not currently meeting water quality standards with technology based controls alone. Parachute Creek is within the Lower Colorado River Basin segment COLCLC04a that includes tributaries to the Colorado River from the Roaring Fork to Parachute Creek. This segment is listed as impaired due to selenium and has been given medium priority by the State of Colorado. However, Parachute Creek is not listed in the *Monitoring and Evaluation List* (CDPHE, Water Quality Control Commission, Regulation No. 94) as a water body suspected to have water quality problems.

Proposed Action:

Environmental Consequences: Proposed activities would temporarily remove soil and vegetation resulting in an increase in erosion potential and offsite sedimentation. With measures to control runoff water in place, reestablishment of vegetation, and proper engineering of roads, the potential for sediment transport to the two ephemeral drainages would be minimized. The mitigation measures presented in Appendix A (Numbers 2 and 8) would be implemented to protect surface water.

No Action Alternative:

Environmental Consequences: If COGCC standards are applied, impacts from the no action alternative would be similar to the proposed action.

Groundwater

Affected Environment: The surface formation is the Wasatch Formation. Water wells in the area are relatively shallow. The proposed well surface casing depths are adequate to protect the water wells from

possible contamination from downhole fluids or from drilling fluids. The top of cement in the production casing annular space must be 200 feet about the top of the Mesaverde Group for all Federal wells. The 10-point drilling plans are adequate to protect downhole resources.

Proposed Action:

Environmental Consequences: With the use of proper construction practices, drilling practices, and with best management practices, no significant adverse impact to groundwater aquifers and quality is anticipated to result from the proposed action. A geologic and engineering review was performed on the 10-point drilling plans to ensure that the cementing and casing programs adequately protect the downhole resources.

No Action Alternative:

Environmental Consequences: With adherence to COGCC standards, the impacts from the no action alternative should be similar to the proposed action.

Analysis on the Public Land Health Standard for Water Quality: The proposed action with associated mitigation, and the application of COGCC standards to the no action alternative, would not likely prevent standard 5 for water quality from being met.

Other Affected Resources

In addition to the critical elements, the following resources would be affected by the proposed action and/or no action alternative: Geology and minerals, noise, paleontology, soils, vegetation, visual resources, and aquatic and terrestrial wildlife. Access and transportation and range resources would not be affected and are, therefore, not described.

Geology and Minerals

Affected Environment: The proposed action would consist of drilling a multitude of wells from three existing well pads, the GV 22-29, MV 54-20 and the GM 42-27. These wells would penetrate the Wasatch, Williams Fork and Iles Formations. In these wells, conventional sands would be explored for possible economic gas recovery in the Mesaverde Group. The casing and cementing programs are adequate to protect downhole resources. Coals with approximately 6,000 feet of overburden can be found in the lower Williams Fork Formation for wells drilled from all three well pads. They current value of these coals as a mineable resource is low. Nonetheless, the identified seams would be isolated by the proposed casing and cementing program.

Proposed Action:

Environmental Consequences: All coal seams and fresh water zones would be protected with casing and cement behind pipe. Therefore, the proposed action would have no impact on geology and minerals. Downhole COAs are presented in Appendix B.

No Action Alternative:

Environmental Consequences: If downhole resources are protected per COGCC standards, impacts from the no action alternative would be similar to those from the proposed action.

Noise

Affected Environment: The existing well pads are within a mile of isolated ranches and residences along Parachute Creek. The community of Parachute is approximately 3.5 miles to the southeast. Noise levels in the area are presently created by traffic serving the wells in the South Parachute Field.

Proposed Action:

Environmental Consequences: Increased levels of noise would occur during the construction, drilling, and completion phases of the proposed action. The noise would be most noticeable along the roads used to haul equipment and at the well sites. Drilling activities are subject to noise abatement procedures as defined in the COGCC Rules and Regulations (Aesthetic & Noise Control Regulations).

No Action Alternative:

Environmental Consequences: The impact of the no action alternative would be similar to the proposed action, although the duration of higher noise levels would be shorter because fewer fee wells would be developed.

Paleontology

Affected Environment: Surficial geology consists of the Wasatch Formation of Paleocene age. The Wasatch is a Class 1 formation, with areas known or likely to produce abundant scientifically important fossils vulnerable to surface-disturbing activities. The Wasatch Formation may contain early horses, rare primates, rhinoceroses, birds, crocodiles, rodents, fish, turtles, fresh water clams, snails, and plants.

Proposed Action:

Environmental Consequences: All of the new drilling activity and most of the associated facilities development would occur on previously disturbed ground. It is unlikely that paleontological resources would be impacted. On this basis, no new paleontological surveys would be required prior to BLM authorization of the APDs. If any fossils are noticed at anytime, the AO must be notified so the resource can be recorded, evaluated, stabilized, or mitigated. The standard paleontology condition of approval would be applied to the APDs (Appendix A, Number 10).

No Action Alternative:

Environmental Consequences: Impacts of the no action alternative would likely be the same as the proposed action since the well pads already exist and new ground disturbance would be limited. The standard paleontology condition of approval would not apply to wells developed under this alternative.

Soils (includes analysis on Standard 1)

Affected Environment: Pad MV 54-20 is located on the soil map unit Rock outcrop-Torriorthents complex, pad GV 22-29 is located on the soil map unit Nihill channery loam, and pad GM 42-27 is located on the soil map unit Badland (USDA 1985). Following is a brief description of these soil map units:

- Rock outcrop-Torriorthents complex – 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.

- Nihill channery loam – This soil map unit is deep, well-drained, and is found on alluvial fans and the sides of valleys at elevations ranging from 5,000 to 6,500 feet and on slopes of 6 to 25 percent. This soil is derived from Green River shale and sandstone parent material. Surface runoff for this soil is slow, and erosion hazard is severe. Primary uses for this soil include grazing and wildlife habitat.

- Badland – This soil map unit consists of steep, barren land that has been dissected by intermittent drainages. This unit occurs in soft shale, sandstone, and siltstone of the Green River, Wasatch, Mancos, and Mesa Verde Formations. This soil map is approximately 85 percent unvegetated, with very severe erosion hazard and frequent active erosion.

Proposed Action:

Environmental Consequences: Some soil loss, loss of soil productivity, and increase in sediment available for transport would result from construction activities. Due to the proximity of existing well pads to drainages, mitigation measures would be implemented to minimize potential impacts associated with soil loss and transport (Appendix A, Numbers 2 and 8).

No Action Alternative:

Environmental Consequences: If Best Management Practices (BMPs) are used, the impacts of the no action alternative would be similar to those of the proposed action.

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 analysis on Standard 3)

Affected Environment: The three pads lie within a salt desert scrub community with some pinyon and juniper trees. Common shrubs include rabbitbrush, sagebrush, shadscale, fourwing saltbush, and greasewood. Weedy species such as halogeton, kochia, and cheatgrass are also present. These pads have been previously disturbed by prior drilling and development activity and have undergone interim reclamation.

Proposed Action:

Environmental Consequences: Some new ground disturbance would occur outside the previously disturbed areas to accommodate facilities. If production occurs, about half of the pad would not be reclaimed during the life of the well to allow for operational and maintenance activities. With implementation of reclamation practices identified in Appendix A (Number 2), establishment of desirable vegetation on the unused portions of the pad could be restored within 2 to 3 years. However, because of periodic workovers and the potential for additional well bores in the future, it is likely that vegetation would remain in an early seral stage for the life of the wells.

No Action Alternative:

Environmental Consequences: Under the no action alternative, the BLM would no jurisdiction to enforce reclamation practices aimed at establishing herbaceous vegetation desirable from an ecological

standpoint. Reclamation standards are guided by the COGCC, and disturbed areas may be seeded with species agreed upon between the operator and the surface land owner.

Analysis on the Public Land Health Standard for Plant and Animal Communities (partial, see also **Wildlife, Aquatic and Wildlife, Terrestrial**): The Rifle West Land Health Assessment determined that this portion of the landscape was not meeting Standard 3. Problems noted were the widespread invasion of cheatgrass with a corresponding loss of other functional groups such as perennial native grasses and forbs. Also, sagebrush communities were 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. If successfully revegetated, the proposed action may result in a localized improvement in vegetative conditions by improving the density, frequency and composition of native plant species.

Under the no action alternative, the effect on Standard 3 is not clear since there is no mandate on private surface to seed with native species.

Visual Resources

Affected Environment: The proposed project area is located in areas classified as VRM Class II and IV in the (BLM 1984). The management objective of the VRM Class II designation is to retain the existing characteristic landscape. The level of change in any of the basic landscape elements (line, form, color, texture) should be low and not evident.

The objective of Class IV is to provide for management activities which allow for major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

Visual resource management objectives do not apply to non-BLM lands, but visual concerns may be addressed on split estate where Federal minerals occur. VRM classes shown for non-public lands are an indication of the visual values for those lands, and those values are only protected by landowner discretion.

The protection of VRM classes, landscape character and scenic quality on private and public lands and split estate is discussed in the FSEIS (BLM 1999b:3-41 to 3-45). The impacts of development are also described (BLM 1999b:4-49-54). The proposed action would not affect any of the key viewing areas or viewsheds described in the FSEIS. In particular, the proposed action would not be seen from the key viewing areas of 1-70 or the town of Parachute.

Proposed Action:

Environmental Consequences: While the proposed action would take place on existing pads, actions including drilling and completion operations and installation of production facilities (e.g., pipeline, separator/dehydrator, water tank, etc.) would introduce additional contrasts within the landscape. Although short-term impacts to visual values are expected, interim reclamation of the well pad with seeded shrub and grass species would reduce long-term contrasts after two to three growing seasons. Pads MV 54-20 and GV 22-29 are located in a VRM Class IV area and would meet VRM objectives. Pad GM 42-27 is within a VRM class II area. The private surface owner has discretion on pad location and colors of facilities, etc. Mitigation measures that would reduce overall long-term visual impacts resulting from the addition of the new facilities are presented in Appendix A (Number 12).

No Action Alternative:

Environmental Consequences: Under the no action alternative, development would occur on private mineral estate and the BLM, therefore, would have no authority to manage visual resources and suggest possible mitigation. The private surface owner would still have discretion over the protection of the visual characteristics of the landscape.

Wildlife, Aquatic (includes analysis on Standard 3)

Affected Environment: The MV 54-20 pad is located between two small ephemeral drainages that feed Parachute Creek located approximately 0.7 mile downstream. The GV 22-29 pad is located within 0.15 mile of Parachute Creek near a small ephemeral wash. The GM 42-27 pad is located within 0.15 mile of Wheeler Gulch, an ephemeral tributary to Parachute Creek located approximately 1.2 miles downstream. Parachute Creek is the only aquatic system that contains aquatic wildlife near any of the 3 existing well pads where new wells would be drilled. In addition to the BLM sensitive fish species addressed in the **Special Status Species** section, the creek is known to contain brown trout and rainbow trout and aquatic invertebrates, including aquatic insects that provide an important preybase for both native and non-native fishes. Both the brown trout and rainbow trout are non-native species introduced to support a recreational fishery.

Proposed Action:

Environmental Consequences: Although little habitat loss would occur as a result of the proposed action, each pad would be redisturbed to allow for additional drilling. Thus, soils would be exposed to increased erosion potential and nearby drainages to sedimentation. Erosion and sedimentation has the potential to impact trout species by silting in important spawning substrates and limited pool habitat, and by covering gravels and cobbles needed by aquatic insect larvae important as a food supply for the introduced trouts and some native fishes. Sediment can reduce water quality and limit fish productivity. To minimize impacts to downstream fishes and aquatic insects, the mitigation measures presented in Appendix A (Numbers 2 and 8) are recommended.

No Action Alternative:

Environmental Consequences: With the implementation of mitigation measures, impacts from the no action alternative would be similar to the proposed action.

Analysis on the Public Land Health Standard 3 for Plant and Animal Communities (partial, see also **Vegetation and Wildlife, Terrestrial):** A formal land health assessment for this watershed was completed in 2004 (BLM 2005). At that time, the majority of the streams were meeting Standard 3 for aquatic wildlife. Although Parachute Creek and Wheeler and Starkey Gulch were not part of the assessment, portions of nearby Cottonwood Gulch and Riley Gulch were not meeting the standard due to excessive sediment from intensive oil & gas development and nearby roads. The proposed action in conjunction with similar activity occurring in the larger watershed is trending the area away from meeting Standard 3 for aquatic wildlife sensitive to sediment, as erosion concerns increase with the increased activity.

The no action alternative would result in increased erosion and sedimentation potential in ways comparable to the proposed action, and would probably contribute to the trend away from meeting Standard 3 for sediment-sensitive aquatic wildlife species.

Wildlife, Terrestrial (includes analysis on Standard 3)

Affected Environment: The three pads are located near valley bottoms within a salt desert scrub community. Scattered pinyon and juniper are found nearby. The area around the pads provide cover, forage, and nesting habitat for a variety of big game and small game, as well as non-game mammals, birds, and reptiles. All three pads are located within winter range, winter concentration areas, and severe winter range for mule deer. None of the pads carries those designations for elk, but all three are within 0.5 mile of elk winter range (CDOW 2001).

Proposed Action:

Environmental Consequences: Short-term, long-term, and cumulative impacts to terrestrial wildlife were analyzed in the FSEIS (BLM 1999b). These impacts include, but are not limited to, displacement into less suitable habitat, increased stress, and habitat loss. These impacts are more significant during critical seasons, such as winter or during reproduction. The proposed action would result in a minor increase in the direct loss of terrestrial wildlife habitat, while a larger area would be indirectly affected. Indirect habitat losses may occur if increased human activity (e.g., traffic, noise) associated with infrastructure cause mule deer to be displaced or alter their habitat use patterns. Similar effects could be expected for elk.

The surface location of proposed developments would be on private surface and the leases under which rights to minerals are held (COC 23794 and COC 27743) do not contain a big game winter timing limitation. A sixty day timing limitation during the most critical part of the winter season could be imposed in cases where the lease does not contain the timing limitation stipulation. However, given that both Federal and fee wells would be drilled from the same surface locations, a timing limitation to protect wintering big game would be ineffective, as operations would shift to private well development during the limitation period and disturbance-related effects to big game would continue. Therefore, no winter timing limitation on the development of the Federal wells would be required. As such, any drilling that occurs during the winter would likely displace animals from preferred habitats and increase stress and energy consumption by resident animals. This can impact over winter survival, as big game using winter range are likely to be disturbed by noise and human activity associated with development activities. Public access and use of the roads for all the proposed well sites would be prevented due to controlled access on private lands. This would help reduce indirect habitat loss associated with the development. Over the long term, reclamation measures presented in Appendix A (Number 2) would mitigate direct habitat losses.

No Action Alternative:

Environmental Consequences: The impacts of the no action alternative would be similar to the proposed action, although reclamation measures would be applied at the discretion of the private surface owner.

Analysis on the Public Land Health Standard 3 for Plant and Animal Communities (partial, see also **Vegetation and Wildlife, Aquatic**)**:** The Rifle West land health assessment found that 38,373 acres of land within this watershed are 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 primary problem is large-scale habitat fragmentation due to natural gas exploration and development that has resulted in increased road, well pad, and pipeline densities. This physical loss of habitat is exacerbated when combined with increasing human use.

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 losses of habitat and result in increased human use in 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 contribute to direct and indirect habitat losses in ways comparable to the proposed action and would contribute to the trend away from meeting Standard 3 for some terrestrial wildlife species.

CUMULATIVE IMPACTS SUMMARY:

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

The proposed action is representative of recent advances in drilling technology that are reducing the cumulative impact levels described in the Draft Roan Plateau RMP Amendment and EIS. Specifically, greater use of directional drilling, being pursued most intensively by Williams, has allowing up to 22 wells per pad instead of the more typical number of two to four at the time the Draft Roan Plateau RMP Amendment and EIS and the earlier Oil and Gas Leasing & Development Final Supplemental EIS were prepared in November 2004 and March 1999, respectively. This advancement has reduced the number of pads that need to be constructed and allowed BLM to undertake a management direction emphasizing phased and clustered development, unitization, centralization of surface facilities, limits on unclaimed disturbance, and restrictions or prohibitions on the development of sensitive areas and key resources. Since the Proposed Roan Plateau RMP Amendment and EIS presents a recent analysis of cumulative impacts in an area encompassing the proposed action, it is incorporated by reference.

As an example of the reduction in cumulative impacts associated with the greater use of clustered directional drilling, the Proposed Plan presented in the Final Roan Plateau RMP Amendment and EIS of August 2006 estimated 812 acres of long-term disturbance from 1,570 new wells on 193 new pads. In comparison, the maximum development scenario presented in the Draft plan of November 2004 estimated 2,495 acres of long-term disturbance from 1,582 new wells but 584 pads.

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

The proposed activities on the GM 42-27 and GM 54-20 locations are anticipated to contribute negligibly to the collective impact, due to the collocation of new Federal wells with private wells on existing pads and the mitigation measures represented by the conditions of approval identified in Appendices A and B. The cumulative impacts on bald eagle populations due to proposed activities on the GV22-29 location are not well understood, and consultation with the USFWS has been initiated.

PARTIES AND AGENCIES CONSULTED:

Williams Production RMT Company

U.S. Fish and Wildlife Service

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
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
Beth Brenneman	Ecologist	Vegetation, Invasive Non-Native Species, Special Status Species
Fred Conrath	Geologist	Ground Water, Geology and Minerals
Harley Armstrong	Paleontologist	Paleontology
Marty O'Mara	Petroleum Engineer	Downhole Conditions of Approval
Kay Hopkins	Outdoor Recreation Planner	Visual Resources, ACEC, WSR,
Jeff O'Connell	Hydrologist	Air Quality, Surface Water, Soils
Isaac Pittman	Rangeland Specialist	Range Management

REFERENCES:

Bureau of Land Management (BLM)

1984 *Glenwood Springs Resource Management Plan*. Glenwood Springs Field Office.

1991. *Record of Decision, Oil and Gas Plan Amendment to the Glenwood Springs Resource Management Plan*. Glenwood Springs Field Office.

1999a. *Oil and Gas Leasing and Development – Record of Decision and Resource Management Plan Amendment*. Glenwood Springs Field Office.

1999b. *Oil and Gas Leasing and Development – Final Supplemental Environmental Impact Statement*. Glenwood Springs Resource Area. Glenwood Spring Field Office.

2004. *Draft Roan Plateau Planning Area Resource Management Plan Amendment and Environmental Impact Statement*. Glenwood Springs Field Office.

2005. *Rifle-West Watershed Land Health Assessment*. Glenwood Springs Field Office.

2006. *Final Roan Plateau Planning Area Resource Management Plan Amendment and Environmental Impact Statement*. Glenwood Springs Field Office.

Colorado Division of Wildlife (CDOW)

2005. Colorado Species Distribution – Bald Eagle. Seasonal Activity Area Definitions. Fort Collins, Colorado 80526

2001. Elk and mule deer GIS data.

U. S. Department of Agriculture (USDA)

1985. *Soil Survey of Rifle Area, Colorado: Parts of Garfield and Mesa Counties*. Soil Conservation Service [Natural Resources Conservation Service].

U.S. Fish and Wildlife Service (USFWS)

2002. Birds of conservation concern. Division of Migratory Bird Management, Arlington, Virginia. 99 pp. [Online version available at http://migratorybirds.fws.gov/reports/bcc2002.pdf]

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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 (APDs) for all wells and associated developments proposed for existing locations GM 42-27 and GM 54-20 with the Conditions of Approval (COAs) identified in Appendices A and B. 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.

The APDs associated with existing location GV 22-29 are **not** approved pending the conclusion of consultation with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act. Consultation is required to determine potential effects of the proposed developments on bald eagle populations.

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: Mark J. Ennes, Planning and Environmental Coordinator

SIGNATURE OF PLANNING AND ENVIRONMENTAL COORDINATOR:

Planning and Environmental Coordinator — Date 12/14/06

SIGNATURE OF AUTHORIZED OFFICIAL:

Authorized Officer — Date 12/15/06

APPENDIX A

SURFACE USE CONDITIONS OF APPROVAL

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SURFACE USE CONDITIONS OF APPROVAL

Existing GM 42-27 location:
New wells: GM 512-26, GM 312-26, GM 412-26, GM 12-26

Existing GM 54-20 location:
New wells: GM 14-20, GM 314-20, GM 414-20

1. Startup. At least 48 hours prior to construction, the operator shall notify the BLM representative of construction startup plans.

2. 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 to 3:1 or flatter 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 is 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 updated seed mix for the Wheeler to Webster GAP, presented in table below, is recommended for use on all disturbed surfaces within the project area.

Common Name	*Variety*	*Percent*	*PLS lbs/acre*
Fourwing Saltbush	Rincon	10	3.7
Shadscale Saltbush		7	2.0
Wyoming Sagebrush	Hobble Creek	7	0.05
Western Wheatgrass	Arriba	17	3.0
Sandberg Bluegrass		17	0.4
Galleta	Viva florets	17	1.8
Alkali Sacaton	Salado	14	0.2
Sainfoin	Eski	11	7.3
Total		**100**	**18.45**

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.

Fall seeding shall be conducted after September 1 and prior to ground frost. Spring seeding shall be conducted after the frost leaves the ground and no later than May 15. 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.

Note: Because cheatgrass is already abundant in the project vicinity, it may not be feasible to completely eliminate this invasive species from the project area. Therefore, if the area adjacent to the project site contains less than a 50-percent cover of cheatgrass, interim reclamation will be considered acceptable when the cover of cheatgrass on the project site does not exceed 5 percent. If the area adjacent to the project site contains more than a 50-percent cover of cheatgrass, interim reclamation will be considered acceptable when the cover of cheatgrass on the project site does not exceed 50 percent.

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.

The operator will submit an annual reclamation report by December 31 to the Authorized Officer. The report will document compliance with all aspects of the reclamation objectives. The report will specify if the reclamation objectives are likely to be achieved and actions needed to meet these objectives.

3. 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.

4. Stormwater. The operator is responsible for consulting with the State of Colorado Water Quality Control Division (contact Matt Czahor at: 303-692-3575 or matthew.czahor@state.co.us) regarding Stormwater Discharge Permits prior to commencing construction activities. All construction activities that disturb one acre or greater require a Stormwater Discharge Permit. Written documentation to the BLM Authorized Officer is required within 30 days of the APD approval date to indicate that appropriate permits have been obtained. Written documentation may be a copy of the Stormwater Discharge Permit or an official verification letter from the State Water Quality Control Division to the operator that includes the Permit Certification Number. For further information contact Jeff O'Connell, Hydrologist of the Glenwood Springs Energy Office at 970-947-5215 or Jeffrey_O'Connell@blm.gov. Appropriate documents may be sent via electronic mail, faxed (970-947-5267), or mailed to Jeff O'Connell at the Glenwood Springs Energy Office.

5. Wetlands and Other Waters of the U.S. The operator is responsible for consultation with the U.S. Army Corps of Engineers (contact Sue Nall at 970-243-1199 x16 or susan.nall@usace.army.mil) to obtain approval prior to discharging fill material into waters of the U.S. in accordance with Section 404 of the Clean Water Act. Waters of the US are defined in 33 CFR Section 328.3. Written documentation to the Authorized Officer is required within 45 days of the APD approval date to

indicate that the US Army Corps of Engineers has been notified prior to construction or that 404 Permits have been obtained or are not required by the permitting agency. Written documentation may be a copy of the Pre-Construction Notification (PCN) Form or an official verification letter from the US Army Corps of Engineers to the operator stating that a permit has been issued or is not required for the activities in question. For further information contact Jeff O'Connell, Hydrologist of the Glenwood Springs Energy Office at 970-947-5215 or jeffrey_o'connell@blm.gov. Appropriate documents may be sent via electronic mail, faxed (970-947-5267), or mailed to Jeff O'Connell at the Glenwood Springs Energy Office.

6. Noxious Weeds. The project proponent is required to monitor for the presence of any Colorado-listed noxious weeds twice annually during the growing season until final reclamation of the pad is complete. The project proponent will promptly treat and control any noxious weeds. A Pesticide Use Proposal must be approved by BLM prior to the use of herbicides.

7. Reserve Pit. A minimum of 2 feet of freeboard shall be maintained in the reserve pit. Freeboard is measured from the highest level of drilling fluids and cuttings in the reserve pit to the lowest surface elevation of ground at the reserve pit perimeter.

8. Roads and Well Pads. Due to the moderate to very severe erosion potential of the area soils, access roads will be crowned, ditched, graveled, and include drainage features in accordance with BLM Gold Book standards. Although existing, the well pads will be re-constructed to BLM Gold Book standards and include Best Management Practices (BMPs) designed to minimize erosion and offsite sedimentation. Roads should be periodically re-graveled when ruts exceed 6 inches in depth or as directed by the Authorized Officer. Initial gravel application will be a minimum of 4 inches.

9. Cultural 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 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 ruins 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 Authorized Officer 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 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;
   - what mitigation measures the holder will likely have to undertake before the site can be used (assuming *in situ* preservation is not necessary); and
   - the timeframe for the Authorized Officer to complete an expedited review under 36 CFR 800.11, or any agreements in lieu thereof, to confirm through the SHPO 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 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 relocation and/or to conduct 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 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 will also be included in this evaluation or mitigation. Impacts that occur to such resources as a result of the authorized activities will be mitigated at the proponent'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).

10. 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 proponent 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 proponent 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 proponent shall work around or set the discovery aside in a safe place to be accessed by the BLM-permitted paleontologist.

11. 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.

12. Visual Resources. It is recommended that above-ground facilities associated with the production and storage of Federal minerals be painted the non-reflective environmental color, Desert Tan (10YR6/3).

APPENDIX B

DOWNHOLE CONDITIONS OF APPROVAL

DOWNHOLE CONDITIONS OF APPROVAL

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

Surface Location: **SWSW Sec. 20, T6S, R96W**

Well Name	Well No.	Bottomhole Location	Lease
Chevron GM	**14-20**	**SWSW Sec. 20, T6S, R96W**	**COC-23794**
Chevron GM	**314-20**	**SWSW Sec. 20, T6S, R96W**	**COC-23794**
Chevron GM	**414-20**	**SWSW Sec. 20, T6S, R96W**	**COC-23794**

Conditions of Approval identified in the Williams Production RMT Company Master APD (Approved April 27, 2006) for the Grand Valley Field Area A shall apply.

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

Surface Location: **SENE Sec. 27, T6S, R96W**

Well Name	Well No.	Bottomhole Location	Lease
GM	**12-26**	**SWNW Sec. 26, T6S, R96W**	**COC-27743**
GM	**312-26**	**SWNW Sec. 26, T6S, R96W**	**COC-27743**
GM	**412-26**	**SWNW Sec. 26, T6S, R96W**	**COC-27743**
GM	**512-26**	**NWNW Sec. 26, T6S, R96W**	**COC-27743**

Conditions of Approval identified in the Williams Production RMT Company Master APD (Approved April 27, 2006) for the Grand Valley Field Area A shall apply.

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

4) pre- and post-spud
5) prior to running the surface and production casing
6) conducting the BOP test

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Glenwood Springs Energy Office
2425 South Grand Avenue, Suite 101
Glenwood Springs, Colorado 81601
970-947-5210

IN REPLY REFER TO

CO140
COC 23794

January 18, 2007

Subject: Supplement to EA CO140-2007-009

Dear Interested Publics:

Attached to this letter is supplemental information regarding the BLM environmental assessment (EA) numbered CO140-2007-009. The EA, published on December 15, 2006, addressed Applications for Permits to Drill (APDs) by Williams Production RMT Company for seventeen Federal natural gas wells from three existing fee (privately owned) surface locations along Parachute Creek in Garfield County, Colorado. As noted in the EA, the analysis for pad GV 22-29 could not be completed due to unresolved issues regarding proximity to winter habitat for the bald eagle, a species federally listed as threatened under the Endangered Species Act (ESA).

The finding of no significant impact (FONSI) attached to that EA specifically stated drilling of the ten Federal wells to be drilled from the GV 22-29 pad was **not** authorized pending results of consultation with the U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the ESA. The Section 7 consultation by USFWS was based on a biological assessment (BA) prepared for BLM by WestWater Engineering, Inc. The BA, submitted by BLM to USFWS on December 27, 2007, concluded that drilling of the ten Federal gas wells from the GV 22-29 pad would be "not likely to adversely affect" the bald eagle. The USFWS concurred with BLM's determination of effects in a memorandum dated January 3, 2007.

Based on the BA and USFWS concurrence with the determination of "not likely to adversely affect" the bald eagle, BLM has approved the FONSI for the ten Federal gas wells to be drilled from the GV 22-29 pad. These wells are as follows: GM 323-29, 423-29, 33-29, 333-29, 34-29, 334-29, 434-29, 534-29, 634-29, and 343-29. The concurrence from USFWS, the FONSI for the GV 22-29 pad, and the Surface Use and Downhole Conditions of Approval accompanying the ten Federal gas well APDs are attached to this letter.

Sincerely,

Steve Bennett
Associate Field Manager
Glenwood Springs Field Office

FONSI
CO140-2007-009 EA
Location GV 22-29

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 (APDs) for all wells and associated developments proposed for existing location GV 22-29 with the Conditions of Approval (COAs) identified in Appendices A and B. 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.

The APDs associated with existing locations GM 42-27 and GM 54-20 GV 22-29 were approved under a separate FONSI because they did not require consultation with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act. Consultation for GV 22-29 was required to determine potential effects of the proposed developments on bald eagles. In a letter dated January 2007, the US Fish and Wildlife Service concurred with our finding of "not likely to adversely affect" for bald eagles at the natural gas well pad location GV 22-29.

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: Mark J. Ennes, Planning and Environmental Coordinator

SIGNATURE OF PLANNING AND ENVIRONMENTAL COORDINATOR:

Planning and Environmental Coordinator

Date 1/18/07

SIGNATURE OF AUTHORIZED OFFICIAL:

Authorized Officer

Date 1-4-2007

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
764 Horizon Drive, Building B
Grand Junction, Colorado 81506-3946

IN REPLY REFER TO:
ES/CO:BLM/GSEO/Williams NW Pipeline Corporation
TAILS 65413-2007-F-0070

January 3, 2007

Memorandum

To: Bureau of Land Management, Glenwood Springs Energy Office, Glenwood Springs, Colorado
Attention: Allen Crockett

From: Western Colorado Supervisor, Fish and Wildlife Service, Ecological Services, Grand Junction, Colorado

Subject: Section 7 Concurrence for Williams RMT Four Proposed Natural Gas Wells near Parachute, Colorado

This memorandum is in response to your e-mail correspondence of December 27, 2006, regarding the biological assessment (BA) for the development of Williams RMT natural gas wells in the Lower Colorado River Corridor Parachute, Colorado. There are four gas wells that are being evaluated under this BA.

The BA you provided discusses the potential impacts associated with wells number RWF 22-29, PA 21-2, PA 331-2 and GV 22-29. Wells number RWF 22-29, PA 21-2 and PA 331-2 are located within close proximity to the Colorado River four to seven miles upstream of the Town of Parachute. As your BA describes, the Colorado River is used extensively by bald eagles during the winter months. Most of eagle use along the river is associated with birds that migrate to the area from locations farther north. The primary reason the birds utilize the river corridor is for feeding. The river provides habitat for migrating waterfowl and fish that the bald eagles depend upon for winter food. As you state in your BA, there are no known active nest sites within ½ mile of the proposed drilling sites. The Service is particularly sensitive to disturbance that occurs within ½ mile or less of active bald eagle nests. In your BA you recognize that drilling activities along the river may have some impacts to bald eagles, however, as you state and we concur, the activity "may affect but is not likely to adversely affect" the continued use by bald eagles along the river or their overall population.

Well number GV 22-29 which is proposed 5 miles north of Parachute on the west side of Parachute Creek is in an area where no known bald eagle nesting or roosting has been documented in the past. Therefore, we concur with your "may affect not likely to adversely affect" determination for this well site.

Based on the fact that there are several active and inactive bald eagle nests along the river within several miles of the proposed well sites the potential for bald eagles to establish a territory and construct a nest within close proximity to one of these well sites in the future is a possibility. Based on this potential, monitoring of bald eagle use in and near the proposed well sites should continue during the site preparation and drilling and if bald eagles begin nest construction the Service should be contacted immediately and section 7 consultation be reinitiated to discuss the means to limit activity that may be detrimental to their nesting.

We appreciate the opportunity to consult on the wells proposed by Williams and the potential impact to bald eagles that may result from their construction. If the Service can be of any further assistance please feel free to contact Creed Clayton at (970) 947-5219 or me at (970) 243-2778, extension 29.

RKrueger:BLM-GSEO-WilliamsRMT4GasWellsCL.doc:010307

APPENDIX A

SURFACE USE CONDITIONS OF APPROVAL

CO140-2007-009 EA Supplement

SURFACE USE CONDITIONS OF APPROVAL

Existing GV 22-29 location:
New wells: GM 323-29, 423-29, 33-29, 333-29, 34-29, 334-29, 434-29, 534-29, 634-29, and 343-29

1. Startup. At least 48 hours prior to construction, the operator shall notify the BLM representative of construction startup plans.

2. Endangered Species. A survey to determine the presence or absence of nesting bald eagles within 0.5 miles of the pad is required no sooner than two weeks prior to any construction or drilling activities if these activities commence between January 1 and July 31 (i.e., are not already underway in conjunction with private wells). In the event an active bald eagle nest is found within 0.5 mile of the pad, Williams is advised to ensure compliance with the Endangered Species Act by suspending all activities, including those associated with private wells, and contacting Creed Clayton of the U.S. Fish and Wildlife Service (USFWS) at the Glenwood Springs Energy Office at 970-947-5219 or at creed_clayton@fws.gov. BLM would also apply a 60-day Timing Limitation for the period during which consultation with USFWS would occur, or until July 31, whichever occurs first.

3. 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.

   The updated seed mix for the Wheeler to Webster GAP, presented in table below, is recommended for use on all disturbed surfaces within the project area.

Common Name	Cultivar	Percent	Lbs PLS/Acre
Fourwing Saltbush	Rincon	10	3.7
Shadscale Saltbush		7	2.0
Wyoming Sagebrush	Hobble Creek	7	0.05
Western Wheatgrass	Arriba	17	3.0
Sandberg Bluegrass		17	0.4
Galleta	Viva florets	17	1.8
Alkali Sacaton	Salado	14	0.2
Sainfoin	Eski	11	7.3
Total		**100**	**18.45**

   a. Seedbed Preparation. All slopes will be reshaped to 3:1 or flatter 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 is 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 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.

Fall seeding shall be conducted after September 1 and prior to ground frost. Spring seeding shall be conducted after the frost leaves the ground and no later than May 15. 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.

Note: Because cheatgrass is already abundant in the project vicinity, it may not be feasible to completely eliminate this invasive species from the project area. Therefore, if the area adjacent to the project site contains less than a 50-percent cover of cheatgrass, interim reclamation will be considered acceptable when the cover of cheatgrass on the project site does not exceed 5 percent. If the area adjacent to the project site contains more than a 50-percent cover of cheatgrass, interim reclamation will be considered acceptable when the cover of cheatgrass on the project site does not exceed 50 percent.

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.

The operator will submit an annual reclamation report by December 31 to the Authorized Officer. The report will document compliance with all aspects of the reclamation objectives. The report will specify if the reclamation objectives are likely to be achieved and actions needed to meet these objectives.

4. 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.

5. Stormwater. The operator is responsible for consulting with the State of Colorado Water Quality Control Division (contact Matt Czahor at: 303-692-3575 or matthew.czahor@state.co.us) regarding Stormwater Discharge Permits prior to commencing construction activities. All construction activities that disturb one acre or greater require a Stormwater Discharge Permit. Written documentation to the BLM Authorized Officer is required within 30 days of the APD approval date to indicate that appropriate permits have been obtained. Written documentation may be a copy of the Stormwater Discharge Permit or an official verification letter from the State Water Quality Control Division to the operator that includes the Permit Certification Number. For further information

contact Jeff O'Connell, Hydrologist of the Glenwood Springs Energy Office at 970-947-5215 or Jeffrey_O'Connell@blm.gov. Appropriate documents may be sent via electronic mail, faxed (970-947-5267), or mailed to Jeff O'Connell at the Glenwood Springs Energy Office.

6. Wetlands and Other Waters of the U.S. The operator is responsible for consultation with the U.S. Army Corps of Engineers (contact Sue Nall at 970-243-1199 x16 or susan.nall@usace.army.mil) to obtain approval prior to discharging fill material into waters of the U.S. in accordance with Section 404 of the Clean Water Act. Waters of the US are defined in 33 CFR Section 328.3. Written documentation to the Authorized Officer is required within 45 days of the APD approval date to indicate that the US Army Corps of Engineers has been notified prior to construction or that 404 Permits have been obtained or are not required by the permitting agency. Written documentation may be a copy of the Pre-Construction Notification (PCN) Form or an official verification letter from the US Army Corps of Engineers to the operator stating that a permit has been issued or is not required for the activities in question. For further information contact Jeff O'Connell, Hydrologist of the Glenwood Springs Energy Office at 970-947-5215 or jeffrey_o'connell@blm.gov. Appropriate documents may be sent via electronic mail, faxed (970-947-5267), or mailed to Jeff O'Connell at the Glenwood Springs Energy Office.

7. Noxious Weeds. The project proponent is required to monitor for the presence of any Colorado-listed noxious weeds twice annually during the growing season until final reclamation of the pad is complete. The project proponent will promptly treat and control any noxious weeds. A Pesticide Use Proposal must be approved by BLM prior to the use of herbicides.

8. Reserve Pit. A minimum of 2 feet of freeboard shall be maintained in the reserve pit. Freeboard is measured from the highest level of drilling fluids and cuttings in the reserve pit to the lowest surface elevation of ground at the reserve pit perimeter.

9. Roads and Well Pads. Due to the moderate to very severe erosion potential of the area soils, access roads will be crowned, ditched, graveled, and include drainage features in accordance with BLM Gold Book standards. Although existing, the well pads will be re-constructed to BLM Gold Book standards and include Best Management Practices (BMPs) designed to minimize erosion and offsite sedimentation. Roads should be periodically re-graveled when ruts exceed 6 inches in depth or as directed by the Authorized Officer. Initial gravel application will be a minimum of 4 inches.

10. Cultural 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 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 ruins 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 Authorized Officer 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 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;
- what mitigation measures the holder will likely have to undertake before the site can be used (assuming *in situ* preservation is not necessary); and
- the timeframe for the Authorized Officer to complete an expedited review under 36 CFR 800.11, or any agreements in lieu thereof, to confirm through the SHPO 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 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 relocation and/or to conduct 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 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 will also be included in this evaluation or mitigation. Impacts that occur to such resources as a result of the authorized activities will be mitigated at the proponent'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).

11. 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 proponent 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 proponent 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 proponent shall work around or set the discovery aside in a safe place to be accessed by the BLM-permitted paleontologist.

12. 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.

13. Visual Resources. It is recommended that above-ground facilities associated with the production and storage of Federal minerals be painted the non-reflective environmental color, Desert Tan (10YR6/3).

APPENDIX B

DOWNHOLE CONDITIONS OF APPROVAL

CO140-2007-009 EA Supplement

DOWNHOLE CONDITIONS OF APPROVAL

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

Surface Location: **NESE Sec. 29, T6S, R96W**

Well Name	Well No.	Bottomhole Location	Lease
Puckett GM	**323-29**	**NESW Sec. 29, T06S, R96W**	**COC-23794**
Puckett GM	**423-29**	**NESW Sec. 29, T06S, R96W**	**COC-23794**
Puckett GM	**33-29**	**NWSE Sec. 29, T06S, R96W**	**COC-23794**
Puckett GM	**333-29**	**NWSE Sec. 29, T06S, R96W**	**COC-23794**
Puckett GM	**34-29**	**SWSE Sec. 29, T06S, R96W**	**COC-23794**
Puckett GM	**334-29**	**SWSE Sec. 29, T06S, R96W**	**COC-23794**
Puckett GM	**434-29**	**SWSE Sec. 29, T06S, R96W**	**COC-23794**
Puckett GM	**534-29**	**SWSE Sec. 29, T06S, R96W**	**COC-23794**
Puckett GM	**634-29**	**SWSE Sec. 29, T06S, R96W**	**COC-23794**
Puckett GM	**343-29**	**SWSE Sec. 29, T06S, R96W**	**COC-23794**

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

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