

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

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-140-2006-117 EA

CASEFILE NUMBER: Lease # COC-23794

PROJECT NAME: Proposal to Drill 4 Directional Wells from an existing well location in the Starkey Gulch area.

LEGAL DESCRIPTION:

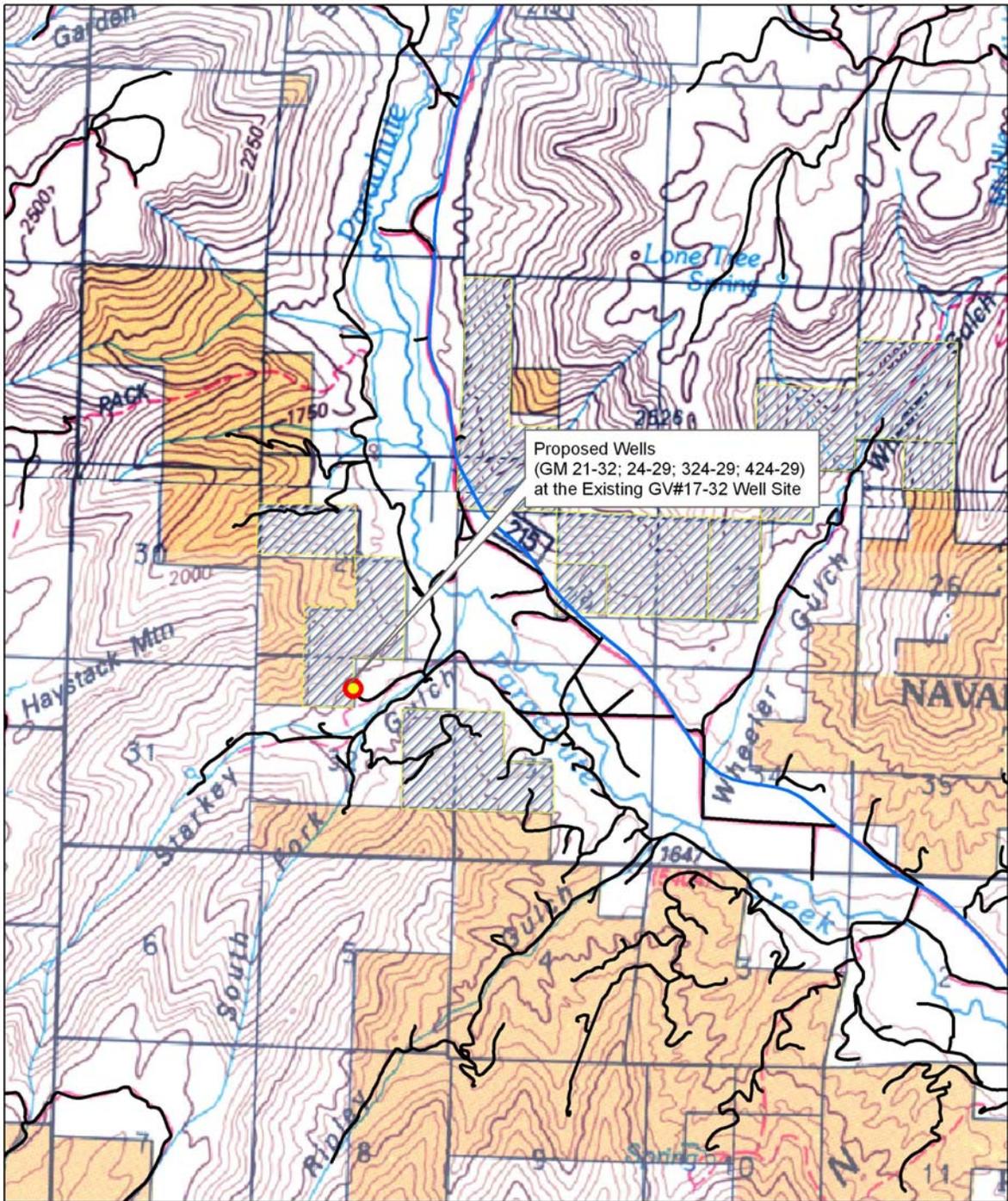
GM 21-32 Surface Location: T6S, R96W Sec 32, NENW (824' FNL, 2658' FWL)
Bottom Hole: T6S, R96W Sec 32, NENW (197' FNL, 2048' FWL)
Surface Owner: Williams Production RMT Company
Federal Lease: COC-23794

GM 24-29 Surface Location: T6S, R96W Sec 32, NENW (823' FNL, 2636' FWL)
Bottom Hole: T6S, R96W Sec 29, SESW (609' FSL, 1917' FWL)
Surface Owner: Williams Production RMT Company
Federal Lease: COC-23794

GM 324-29 Surface Location: T6S, R96W Sec 32, NWNE (823' FNL, 2621' FEL)
Bottom Hole: T6S, R96W Sec 29, SESW (321' FSL, 2228' FWL)
Surface Owner: Williams Production RMT Company
Federal Lease: COC-23794

GM 424-29 Surface Location: T6S, R96W Sec 32, NWNE (823' FNL, 2651' FEL)
Bottom Hole: T6S, R96W Sec 29, SESW (857' FSL, 1565' FWL)
Surface Owner: Williams Production RMT Company
Federal Lease: COC-23794

APPLICANT: Williams Production RMT Company



T6S, R96W, Sec 32, 6th P.M.

Garfield County, CO

Surface Owner: Williams Production RMT Company

 = Split Estate



6/27/06

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Proposed Action:

Williams Production RMT Company proposes to drill four directional wells from one location into the above described federal lease. The surface is owned by Williams Production RMT Company. Average surface disturbance is about 2.5 acres.

The proposed action includes drilling and completion operations, installation of production facilities (pipeline, separator/dehydrator, water tank, etc.), production of natural gas, and intermediate and final reclamation measures. The Applications for Permit to Drill (APD) include a drilling program and a multi-point surface use and operations plan that describe details of well pad construction and interim reclamation. The proposed action will be implemented consistent with the oil and gas lease (listed above), federal regulations (43 CFR 3100), the Record of Decision and Resource Management Plan Amendment March 1999, and the operational measures included in the APD as well as the Conditions of Approval (COA) attached to the APD.

No Action Alternative:

The proposed action involves federal subsurface minerals that are encumbered with federal oil and gas leases, which grants the lessee a right to explore and develop the lease. The no action constitutes denial of the proposed action and could be used to prevent unnecessary and undue degradation. Absent a non-discretionary statutory prohibition against drilling, BLM cannot deny the right to drill and develop the leasehold. Only Congress can completely prohibit development activities (Western Colorado Congress, 130 IBLA 244, 248 (1994), citing Union Oil Co. of California v. Morton, 512 F.2d 743, 750-51 (9th Cir. 1975). For this reason, the No Action alternative has been considered but eliminated.

NEED FOR THE ACTION: The purpose and need is to authorize the Application for Permit to Drill (APD) to satisfy federal lease obligations that will in turn provide natural gas for commercial marketing to the public.

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

Name of Plan: Glenwood Springs Resource Management Plan.

Date Approved: Amended in November 1991 - Oil and Gas Leasing and Development - Final Supplemental Environmental Impact Statement; amended Nov. 1996 - Colorado Standards and Guidelines; amended in August 1997 - Castle Peak Travel Management Plan; amended in March 1999 - Oil and Gas Leasing & Development Final Supplemental Environmental Impact Statement; amended in November 1999 - Red Hill Plan Amendment; and amended in September 2002 – Fire Management Plan for Wildland Fire Management and Prescriptive Vegetation Treatment Guidance.

Decision Number/Page: The proposed action is located on leases in areas designated Open for oil and gas leasing in 1984 in the Glenwood Springs Resource Management Plan (page 14 and map 4).

Decision Language: The FSEIS described the environmental effects, including the cumulative effects, of oil and gas development, but did not authorize the construction of any individual well locations. This EA is more site-specific than the FSEIS and includes the results of the on-the-ground inventories for cultural resources and special status plant and animal species, if appropriate. This EA tiers to both the DSEIS and FSEIS and the information in the FSEIS is incorporated by reference. The EA will focus on specific issues and will not deal with the larger regional issues addressed in the FSEIS. The proposed action has been reviewed for and is in compliance with the FSEIS (43 CFR 1610.5, BLM 1617.3) - Page or Decision Number: Pages 1-5, Record of Decision dated March 24, 1999.

Standards for Public Land Health: In January 1997, Colorado Bureau of Land Management (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. Because a standard exists for these five categories, the impact analysis must address whether the proposed action or any alternatives being analyzed would result in impacts that would maintain, improve, or deteriorate land health conditions for that specific parameter.

A formal Land Health Assessment (LHA) titled “Rifle West Watershed” (BLM 2005) was completed on the lands affected by the actions addressed in the EA. Portions of these lands were found not to be meeting the standards. Specific concerns related to the condition of the sagebrush and pinyon-juniper habitats that comprise important big game winter range. Furthermore, habitat fragmentation, loss of habitat, and increased human use associated with natural gas exploration and development are resulting in a failure to meet Standard 3, or a trend away from meeting Standard 3 for wildlife. Mule deer numbers, in particular, are lower than Colorado Division of Wildlife (CDOW) population objectives for the landscape, and lower than the habitat carrying capacity in the absence of fragmentation issues.

Based on the findings of the Land Health Assessment, specific mitigation and reclamation practices may be required for the Proposed Action to move toward achieving conformance with the standards. Specifically identified in the Rifle West Watershed LHA was the recommendation: Oil and gas development activities should conform to Best Management Practices for the industry. This should include graveling roads which are susceptible to erosion, and promptly reclaiming all unused portions of well pads and roads with a mix of native grasses, forbs and shrubs to meet BLM’s Reclamation Policy and Land Health Standards. Furthermore, discussions of mitigation and reclamation practices to facilitate conformance with Public Land Health standards are presented below in individual resource sections.

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The proposed action area (Garfield County) has been described as an attainment area under CAAQS and NAAQS (Colorado Ambient Air Quality Standards and National Ambient Air Quality Standards). An attainment area is an area where ambient air pollution amounts are determined to be below NAAQS standards. For further details, refer to the Draft Roan Plateau RMPA EIS, page 3_20-22.

Environmental Consequences/Mitigation: The Draft Roan Plateau EIS, pages 4_31-48, describes potential effects from oil and gas development. Analysis was completed with regard to greenhouse gas emissions, a near-field and far-field analysis for carbon monoxide, particulate matter (PM₁₀ and PM_{2.5}), sulfur dioxide, and 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 Draft EIS. Findings indicate that no adverse long term effects would be realized under the Draft Roan Plateau EIS plan. It is anticipated that the proposed action in this document would not likely produce adverse effects to air quality when compared to the Roan Plateau plan.

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 Draft Roan Plateau EIS mentioned above. However, it is anticipated that road and pad construction activities along with production activities associated with the proposed action would likely produce high levels of dust in dry conditions without dust abatement. To mitigate dust generated by these activities, the operator will 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.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN, WILD AND SCENIC RIVERS and WILDERNESS

Affected Environment: There are no federal un-studied rivers, rivers found to be eligible or designated Wild and Scenic Rivers or designated Wilderness areas, Wilderness Study Areas or citizens proposed wilderness areas within the proposed project area.

CULTURAL RESOURCES

Affected Environment: Two inventories (GSFO #1107 and 1285A) were conducted of the area containing the well pad location and access road. No historic properties were identified as eligible for listing on the National Register of Historic Places. As such a determination of “**No Historic Properties Affected**” was made in accordance with the National Historic Preservation Act (16 U.S.C. 470f, as amended), BLM/SHPO National Programmatic Agreement (1997), and the Colorado Protocol (1998).

Environmental Consequences/Mitigation: 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, from illegal collection and excavation to vandalism.

The importance of the Education/Discovery Stipulation needs to be stressed to Williams and their subcontractors informing them of their responsibilities to protect and report any cultural resources encountered on public land during operations under this permit.

Mitigation: A standard Education/Discovery Condition of Approval for Cultural Resource protection will be attached to the APDs.

ENVIRONMENTAL JUSTICE

Affected Environment: Review of 2001 data from US Census Bureau indicates the median annual income of Garfield County averages \$43,560 and is neither an impoverished or wealthy county. Median annual income of Eagle County averages \$51,578 and is not impoverished but is considered a wealthy county. U.S. Census Bureau data from July, 2002 shows the minority population of Garfield and Eagle County comprises less than 3 % of the total population¹.

Garfield County		Eagle County	
Median Household Income		Median Household Income	
Estimate	90% Confidence Interval	Estimate	90% Confidence Interval
\$43,560	\$40,491 to \$46,613	\$51,578	\$47,958 to \$55,177

Environmental Consequences/Mitigation: The proposed action and alternatives are not expected to create a disproportionately high and adverse human health impact or environmental effect on minority or low-income populations within the area.

FARMLANDS, PRIME AND UNIQUE

Affected Environment: The proposed action does not involve any prime or unique farmlands.

Environmental Consequences/Mitigation: N/A

FLOODPLAINS

Affected Environment: The proposed action does not involve any floodplains, wetlands or riparian zones. Wetlands and riparian vegetation do not reside within the limits of the proposed action.

Environmental Consequences/Mitigation: No indirect or cumulative impacts to wetlands and riparian zones are anticipated from the proposed action.

Analysis on the Public Land Health Standard for riparian systems: The proposed drilling activities are located on private land; consequently, there would be no influence on “Public” land health. If the proposed action was on public land, the relatively small amount of disturbance

¹ Table CO-EST2002-ASRO-02-08-County Population Estimates by Race Alone and Hispanic or Latino Origin: July 1, 2002
 Source: Population Division, U.S. Census Bureau
 Release Date: September 18, 2003
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would not cause or lead towards a failure to achieve Public Land Health Standards for riparian systems.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: The pad lies within a mix of salt desert scrub vegetation to the north and west, and pinyon juniper to the east and south of the pad. There is some cheat grass present, but it is not a dominant understory species. No other noxious weeds were seen in the area, although there were invasive weeds present such as clasping pepperweed.

Environmental Consequences: Surface-disturbing activities provide a niche for the invasion and establishment of noxious and non-native species, particularly when these species are already present in the surrounding area. Because cheat grass is present in the project area, the potential for cheat grass invasion following construction is extremely high.

Mitigations: In order to minimize the high potential for invasion of cheat grass and other weeds, the following steps are recommended:

- Since this well pad is located on private surface, the private landowner would ultimately determine the seed mix to be used for reclamation; however, there is a BLM recommended seed mix in the COA's and the Vegetation Section which is designed to stabilize the site, deter the invasion of noxious weeds, and provide big game winter habitat. All disturbed areas not needed for immediate access to the wells should be seeded with either the recommended BLM seed mix or a seed mix of the landowners' choice.
- The seed will be certified free of noxious weeds. All seed to be applied to public land must have a valid seed test, within one year of the acceptance date, from a seed analysis lab by a registered seed analyst (Association of Official Seed Analysts). The seed lab shall show no more than 0.5 percent by weight of "other weed" seeds; and the seed lot shall contain no "noxious, prohibited, or restricted weed" seeds according to the All States Noxious Test. Seed may contain up to 2.0 percent of "other crop" seed by weight which includes the seed of other agronomic crops and native plants; however, a lower percent of other crop seed is recommended. Seed tags shall be supplied to the Glenwood Springs BLM Energy Office Ecologist at least 14 days prior to the date of proposed seeding for acceptance. Seed which does not meet the above criteria shall not be applied to public lands.
- A Standard Condition of Approval is attached requiring the project proponent to monitor for the presence of any Colorado-listed noxious weeds at least once or 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.

Because cheat grass is already abundant in the general vicinity, it may not be feasible to completely eliminate it from the project area. Therefore, if the area adjacent to the project site contains less than a 50% cover of cheat grass, interim reclamation will be considered acceptable when the cover of cheat grass on the project site does not exceed 5%. If the area adjacent to the project site contains more than a 50% cover of cheat grass, interim reclamation

will be considered acceptable when the cover of cheat grass on the project site does not exceed 50%.

MIGRATORY BIRDS

Affected Environment: The existing well pad is surrounded by sparse juniper woodlands and sagebrush and salt desert scrub vegetation with grasses and forbs in the understory. Given this mix of vegetation, the project area provides cover, forage, breeding, and nesting habitat for a variety of migratory bird species. A few species that are on the U. S. Fish and Wildlife Service's Birds of Conservation Concern list may be present. Within the sagebrush and scrub vegetation the sage sparrow may occur. Within the pinyon-juniper woodlands the pinyon jay, black-throated gray warbler, and gray vireo may reside. No raptors are known to nest near the existing well pad. It is likely that a variety of raptors forage on and near the existing well pad.

Environmental Consequences/Mitigation: The well pad already exists and will be redisturbed to accommodate 4 new wells. No new disturbance is anticipated. The only new impacts from the action will be displacement of birds away from the well pad during pad construction, drilling, and completion activities due to noise and human presence.

NATIVE AMERICAN RELIGIOUS CONCERNS

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

Environmental Consequences/Mitigation: Indirect impacts from increased access and personnel could result in a range of impacts to unknown cultural resources from illegal collection to vandalism. The importance of the Education/Discovery Stipulation needs to be stressed to Williams and their subcontractors. A standard Education/Discovery Condition of Approval for Cultural Resource protection will be attached to the APD.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES (includes an analysis on Standard 4)

Affected Environment: According to the latest species list from the U. S. Fish and Wildlife Service, the following federally listed and candidate species may reside or be impacted by actions occurring in Garfield County: bald eagle, Canada lynx, Mexican spotted owl, black-footed ferret, Uinta Basin hookless cactus, Parachute beardtongue, DeBeque phacelia, yellow-billed cuckoo, razorback sucker, Colorado pikeminnow, bonytail chub, and humpback chub.

Specific to the project location, no federal or state listed species, federal proposed or candidate species, or BLM Sensitive species (collectively called special status species) or their habitat occur directly within the project area footprint.

The GSFO BLM Energy Ecologist conducted a TES floristic survey of the pad and surrounding area in July 2006. No federally listed or candidate plant species or BLM sensitive plant species or their habitats were found in the vicinity of the project area. The closest known TES plant location is more than five miles away.

Parachute Creek located within 2/3 of a mile of the existing well pad contains Colorado River cutthroat trout a BLM sensitive species.

Environmental Consequences/Mitigation:

Colorado River cutthroat trout

The proposed action calls for the drilling of 4 new directional wells from an existing well pad. Redisturbance to the well pad will result in removal of vegetation and will increase the potential for erosion and sedimentation into nearby Starkey Gulch and Parachute Creek. Sediment has the potential to impact cutthroat trout by silting in pools, smothering important spawning substrates and potentially eggs, and reducing water quality. The mitigation in the Soils and Water Quality sections should help to minimize erosion concerns. No additional mitigation is proposed.

Based on the lack of potential habitat and occurrence records for any other special status species, the proposed action should have “**No Effect**” on any other listed or BLM sensitive species or their habitats. In addition, no indirect or offsite impacts are anticipated.

Analysis on the Public Land Health Standard for Threatened & Endangered species: Since there is no potential habitat for special status species in the project area and no offsite or indirect impacts are anticipated if the COA’s are implemented, the proposed action should have no effect on any special status species. The proposed action should not result in a failure of the area to achieve Standard 4 for special status, threatened or endangered species.

WASTES, HAZARDOUS OR SOLID

Affected Environment: All wastes will be managed in accordance with the applicable Oil and Gas regulations and On-Shore Orders.

WATER QUALITY, SURFACE AND GROUND (includes an analysis on Standard 5)

Affected Environment:

Surface Water

The proposed action is located in Starkey Gulch and occurs within an unnamed sub-watershed 19,804 acres in size. The ephemeral drainage Starkey Gulch Creek drains Starkey Gulch and joins Parachute Creek downstream from the proposed action area. Along the eastern edge of the proposed action area there is an incised ephemeral drainage that appears to be aggressively head-cutting adjacent to the southeast corner of the existing pad.

The State of Colorado has developed *Stream Classifications and Water Quality Standards* (CDPHE, Water Quality Control Commission, Regulation No. 37) that identify beneficial uses of water and numeric standards used to determine allowable concentrations of water quality parameters. Starkey Gulch Creek falls within the Lower Colorado River Basin segment 11g that includes all tributaries to Parachute Creek on the east side of Parachute Creek from a point immediately below the East Fork of Parachute Creek to the confluence with the Colorado River.

This segment is classified aquatic life cold 2, recreation 2, and agriculture. Aquatic life cold class 2 refers to waters not capable of sustaining a wide variety of cold or warm water biota due to habitat, flows, or uncorrectable water quality conditions. Recreation class 2 refers to stream

segments that are not suitable or intended to become suitable for primary contact recreation. The agriculture class refers to waters that are suitable or intended to become suitable for irrigation or livestock use. Numeric standards include a comprehensive list of physical, biological, inorganic, and metal standards that have been established to protect the designated uses above. At this time there is no water quality data for Starkey Gulch 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) that identifies stream segments that are not currently meeting water quality standards with technology based controls alone. Starkey Gulch Creek does not fall within any listed segment. However, the Lower Colorado River Basin segment COLCLC04a that includes tributaries to the Colorado River from the Roaring Fork River to Parachute Creek are listed as impaired due to Selenium and have been given medium priority by the State of Colorado.

The State of Colorado has developed a *Monitoring and Evaluation List* (CDPHE, Water Quality Control Commission, Regulation No. 94) that identifies water bodies suspected to have water quality problems. Starkey Gulch Creek does not fall within any listed segment. However, the Lower Colorado River Basin segment COLCLC01 that includes the Colorado River from the Roaring Fork River to Parachute Creek is listed for sediment.

Environmental Consequences/Mitigation: 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 nearby ephemeral drainage and Starkey Gulch Creek would be minimized. The following mitigation measures will be implemented to protect surface water.

- The operator will consult with the State of Colorado Water Quality Control Division 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 Authorized Officer is required to indicate that appropriate permits have been obtained or are not required by the permitting agency.
- Roads will be crowned, ditched, surfaced, and constructed to BLM Gold Book standards.
- Well pads will be constructed to BLM Gold Book standards. Fill slopes will be seeded to minimize erosion and protected with silt fences to prevent sediment from leaving the site.
- An engineered reserve pit will be required to store drilling muds, cuttings, fracing material, and any other byproducts of production activities.
- Well pad and road construction activities will remain at an acceptable distance from the nearby ephemeral drainage to prevent further degradation of the channel and to minimize offsite sedimentation.

Analysis on the Public Land Health Standard for water quality: The proposed action with associated mitigation would not likely prevent standard 5 for water quality from being met.

WETLANDS & RIPARIAN ZONES (includes a analysis on Standard 2)

Affected Environment: There are no wetlands or riparian zones within the proposed action area therefore they would not be affected by the proposed action.

Analysis on the Public Land Health Standard for riparian systems: Not Affected

NON-CRITICAL ELEMENTS

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

SOILS (includes a analysis on Standard 1)

Affected Environment: The soil map from the *Soil Survey of Rifle Area, Colorado: Parts of Garfield and Mesa Counties* (USDA Soil Conservation Service, 1985) indicates that the well pad is located on the soil map unit Torriorthenta-Camborthids-Rock outcrop complex and that the access road is located on soil map units Torriorthenta-Camborthids-Rock outcrop complex and Nihill channery loam. Following is a brief description of the soil units encountered in the proposed action area.

- Torriorthents-Camborthids-Rock outcrop complex consists of exposed sandstone and shale bedrock, loose stones, stony basaltic alluvium, and shallow to deep soils that occur on slopes from 15 to 70 percent. By composition, 45 percent of the complex is Torriorthents, 20 percent is Camborthids, and 15 percent is Rock outcrop. Erosion hazard for this complex is moderate to severe. Primary uses for this complex include grazing, wildlife habitat, and recreation.
 - Torriorthents occur on foothills and mountainsides below Rock outcrop and are shallow to moderately deep. They are clayey to loamy and contain gravel, cobbles, and stones.
 - Camborthids occur on toe slopes and open areas on foothills and mountainsides. They are clayey to loamy and shallow to deep.
 - Rock outcrop is Mesaverde sandstone and Wasatch shale.
- Nihill channery loam is a deep, well drained, moderately sloping to hilly soil found on alluvial fans and valley sides at elevations from 5,000 to 6,500 feet and on slopes from 6 to 25 percent. Erosion hazard is severe and surface runoff is slow. Primary uses for this soil include grazing and wildlife habitat.

Environmental Consequences/Mitigation: There would be some soil loss, loss of soil productivity, and an increase in sediment available for transport resulting from construction activities. To minimize potential negative impacts associated with soil loss and transport, the following mitigation measures will be implemented.

- Reclamation measures such as contouring disturbed areas, roughing the soil surface, re-vegetating, and controlling runoff will minimize soil erosion and transport by stabilizing areas and capturing sediment.
- Due to the severe erosion potential of the area soils, the access road will be crowned, ditched, graveled, and include drainage features in accordance with BLM Gold Book

standards. In addition, the proposed well pad will be 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.

Analysis on the Public Land Health Standard for upland soils: The proposed action would not likely prevent standard 1 from being achieved.

VEGETATION (includes an analysis on Standard 3)

Affected Environment: The vegetation within the project area consists of a mix of salt desert scrub vegetation to the north and west, and pinyon juniper to the east and south of the pad. Dominant shrubs within the salt desert scrub include greasewood, shadscale and rabbitbrush. Sagebrush is found within the pinyon juniper areas. There is some cheat grass present, but it is not a dominant understory species.

Environmental Consequences: Additional disturbance to the existing well pad and road would average about 2.5 acres. In order to accommodate access to the well about half of the area would not be reclaimed during the life of the well. With implementation of reclamation practices identified in the COA’s, establishment of desirable herbaceous vegetation on the unused portions of the pad, pipeline and road could be restored within 2 to 3 years. The establishment of mature shrubs could take from 5 to 25 years. However, because of the periodic workovers and the potential for additional well bores to be drilled from this pad, it is likely that vegetation would remain in an early seral stage for the life of the wells.

Mitigation: The following steps are recommended to successfully reclaim the disturbed area:

- A BLM seed mix designed to meet interim reclamation standards using a mixture of native shrubs and grasses, and native or desirable non-native forbs is recommended; however, because this 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 noxious and invasive weed establishment, maintain big game winter range habitat and prevent erosion. The following seed mix and rates are recommended for use on all disturbed surfaces within the project area:

<u>Species of Seed</u>	<u>Variety</u>	<u>Drilled Application Rate* (PLS lbs/acre)</u>
Shadscale saltbush		3.4
4-wing saltbush		3.4
Western wheatgrass	Arriba	2.6
Bluebunch wheatgrass	Secar	2.1
Bottlebrush squirreltail		1.6
Indian ricegrass	Paloma	1.5
Scarlet globemallow		0.6
TOTAL		15.2 PLS lbs/acre

* In areas that cannot be drilled, broadcast seed at twice the application rate and cover ¼ to ½ deep with a harrow or drag bar.

- The project area will be fenced to exclude livestock grazing for the first two growing seasons or until the seeded species or native volunteer species become firmly established. The seeded species will be considered firmly established when at least 50% of the new plants are producing seed.

Analysis of the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): The Rifle West Land Health Assessment, completed in 2005, 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. The Invasive, Non-native Species section 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.

WILDLIFE, AQUATIC (includes an analysis on Standard 3)

Affected Environment: The existing well pad is located between two short ephemeral washes that feed Starkey Gulch located within ¼ mile of the well pad and road. Starkey Gulch contains no fish but drains into Parachute Creek located approximately 2/3 of a mile away. Parachute Creek contains rainbow, brown and cutthroat trout, and aquatic insects.

Environmental Consequences/Mitigation: The proposed action calls for the drilling of 4 new directional wells from an existing well pad. Redisturbance to the well pad will result in removal of vegetation and will increase the potential for erosion and sedimentation into nearby Starkey Gulch and Parachute Creek. Sediment has the potential to impact trout by silting in pools, smothering important spawning substrates and potentially eggs, and reducing water quality. The mitigation in the Soils and Water Quality sections should help to minimize erosion concerns. No additional mitigation is proposed.

Analysis on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): A formal Land Health Assessment was completed for the area in 2004. The majority of the watershed was meeting standard 3 for aquatic wildlife. Removal of vegetation will increase the potential for erosion and sedimentation, but given proposed mitigation in the Soils and Water Quality sections, minimal negative impacts are anticipated.

WILDLIFE, TERRESTRIAL (includes an analysis on Standard 3)

Affected Environment: The existing well pad is surrounded by sparse juniper woodlands and sagebrush and salt desert scrub vegetation with grasses and forbs in the understory. Given this mix of vegetation, the project area provides cover, forage, breeding, and nesting habitat for a variety of big game, small game, and non-game mammals, birds, and amphibians. The area is mapped as important big game winter range.

Environmental Consequences/Mitigation: The action calls for the drilling of 4 directional wells off of an existing well pad. The action should not result in any new direct or indirect losses of habitat. Increased human use and traffic during well pad reconstruction, drilling, and completion will likely displace wildlife away from the immediate area.

Standard measures are incorporated into the APD along with other measures (i.e., automatic well reporting, and reclamation) to conform to the FSEIS that will help to mitigate wildlife impacts. Public access and use of the roads for all the proposed well sites will be prevented due to controlled access on private lands. This will minimize disturbance and reduce effective habitat loss.

Analysis on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): A formal Land Health Assessment was completed for the area in 2004. At that time large portions of the watershed were either not meeting or in a downward trend regarding the ability to meet Standard 3 for some terrestrial wildlife species. Given that no new habitat loss will result, the proposed action should have minimal additional impact on the watershed's ability to meet Standard 3 for terrestrial wildlife.

THRESHOLD ANALYSIS FOR WILDLIFE AND WILDLIFE HABITAT MITIGATION: In the FSEIS Record of Decision (March 1999) on page 14 it states that: "*Within high value or crucial big game winter range, the operator is required to implement specific measures to reduce impacts of oil and gas operations on wildlife and wildlife habitat. Measures to reduce impacts would generally be considered when well density exceeds four wells per 640 acres, or when road density exceeds three miles of road per 640 acres.*" Furthermore, Lease Notice GS-LN-05 states: "*Within high value or crucial big game winter range, the operator is required to implement specific measures to reduce impacts of oil and gas operations on wildlife and wildlife habitat.*"

This proposed well pad already exists. As such, the road and well density thresholds will not be increased via implementation of the proposed action. As such offsite or replacement mitigation measures to reduce impacts to wildlife are not currently being considered.

PALEONTOLOGY

Affected Environment: The proposed project area is in the upper part (Shire Member) of the Wasatch (a.k.a. Debeque Fm.) Formation (Eocene). This alternating mudstone and sandstone lithology is variegated in color and has produced vertebrate and other fossils in other nearby areas, but not in the immediate vicinity of this proposed project. If any fossils are found during operations, the BLM Authorized Officer should be notified as soon as possible.

All persons associated with operations under this authorization should be informed that any objects or sites of paleontological value, such as vertebrate or scientifically important invertebrate fossils, should not be destroyed, damaged or removed.

Environmental Consequences/Mitigation: A standard Education/Discovery Condition of Approval for Paleontology Resource protection will be attached to the APDs.

OTHER NON-CRITICAL ELEMENTS: For the following elements, those brought forward for analysis will be formatted as shown above.

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

CUMULATIVE IMPACTS SUMMARY: The 2004 Draft Roan Plateau Resource Management Plan Amendment & Environmental Impact Statement released in November, 2004 (DEIS, 2004) analyzed 5 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 from 855 to 1582 new gas wells on public lands. The drilling of the wells addressed in this Environmental Assessment is well below the low range of development analyzed in the DEIS.

Since the completion of the 1999 Oil and Gas Leasing and Development FSEIS, the number of wells analyzed in subsequent NEPA documents has exceeded the 230 federal wells forecast in the RFD for lands outside the NOSR Production Area. However, drilling technology advancements has drastically reduced the expected surface disturbance of 3.4 acres per well or 1,020 acres from Federal wells analyzed in the 1999 FSEIS. The FSEIS analysis was based on a reasonably foreseeable development scenario, including the numbers of wells, well spacing, equipment necessary, and assumed emission rates. Since completion of the FSEIS, the majority of new wells has been drilled directionally and, in many instances, are being drilled from existing well pads, thereby reducing the overall anticipated surface impact addressed in the 1999 FSEIS.

The air quality analysis conducted in the 2004 DEIS does assess the impacts to the airshed from oil and gas development within and around the Roan Plateau Planning Area. The proposed action addressed in this document, which could include well pad and/or road construction, well

drilling and well completion work typical for oil and gas development, would not represent a significant increase in emissions relative to the emissions assumed in the 2004 DEIS

PERSONS / AGENCIES CONSULTED:

INTERDISCIPLINARY REVIEW:

<u>Name</u>	<u>Title</u>	<u>Area of Responsibility</u>
Rick Haskins	Natural Resource Specialist	Team Leader
Jeff O'Connell	Hydrologist	Air, Riparian, Water, Soils
Beth Brenneman	Ecologist	Special Status Plants, Vegetation, Noxious Weeds
John Brogan	Archaeologist	Cultural Resources and Native American
Tom Fresques	Wildlife Biologist	Terrestrial & Aquatic Wildlife, Special Status Wildlife Species
Fred Conrath	Geologist	Ground Water/Minerals
Harley Armstrong	Paleontologist	Paleontology
Marty O'Mara	Petroleum Engineer	Downhole Conditions of Approval
Kay Hopkins	Outdoor Recreation Planner	Visual Resources
Isaac Pittman	Rangeland Management Specialist	Range

FONSI

CO-140-2006-117EA

**Williams Production RMT Company
Proposal to Drill six (4) wells from one well pad in the Starkey Gulch area.
GM 21-32, GM 24-29, GM 324-29, GM 424-29**

The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The proposed action with any 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 GM 21-32, GM 24-29, GM 324-29, and GM 424-29 Wells as outlined in the Environmental Assessment with the Conditions of Approval in order to provide for the orderly, economical and environmentally sound exploration and development of oil and gas resources on valid oil and gas leases.

RATIONALE:

1. Approval of the proposed action is validating the rights granted with the federal oil and gas leases to develop the leasehold to provide commercial commodities of oil and gas.
2. The environmental impacts have been mitigated with measures included in the Surface Use Plan (Williams Production RMT Company Master APD Standard Operating Practices for 10 Point Drilling Plan and 13 Point Surface Use Plan) and the attached Conditions of Approval.

MITIGATION MEASURES: Mitigation measures are included in the Surface Use Plan and Conditions of Approval for both surface and drilling operations.

NAME OF PREPARER: Rick Haskins, Natural Resource Specialist

SIGNATURE OF AUTHORIZED OFFICIAL:


Authorized Officer

DATE SIGNED: 7/17/06

Attachments: map, Conditions of Approval

CONDITIONS OF APPROVAL
APPLICATION FOR PERMIT TO DRILL

Company/Operator: Williams Production RMT Company.

Surface Location: NENW Sec. 32, T06S, R96W

<u>Well</u> <u>Name</u>	<u>Well</u> <u>No.</u>	<u>API No.</u>	<u>BH Location</u>	<u>Lease</u>
GM	21-32	05-045-Pend.	NENW Sec 32, T06S, R96W	COC-23794
GM	24-29	05-045-Pend.	SESW Sec 29, T06S, R96W	COC-23794
GM	324-29	05-045-Pend.	SESW Sec 29, T06S, R96W	COC-23794
GM	434-29	05-045-Pend.	SESW Sec 29, T06S, R96W	COC-23794

Those Conditions of Approval identified in the Williams Production RMT Company Master APD (Revised 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 prior to running the surface and production casing and conducting the BOP test.

Please contact Marty O'Mara, (970)947-5221, Steve Ficklin, (970)947-5213 or Jennifer Gallegos (970)947-5220 of the Glenwood Springs Energy office at least 24 hours prior to spud.

SURFACE USE CONDITIONS OF APPROVAL

Lease COC 23794

GM 21-32

GM 24-29

GM 324-29

GM 424-29

1. At least forty-eight (48) hours prior to construction of access road and/or well pad, operator will notify BLM representative of construction startup plans.
2. The operator will consult with the State of Colorado Water Quality Control Division 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.
3. The paint color to be use on all surface facilities, including metal containment rings is Desert Brown (10yr 6/3). The facilities should be placed against the cut side of the pad, where feasible.
4. The operator is responsible for applying 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. Operator will be responsible for providing timely year-round road maintenance and cleanup on the access road. A regular schedule for maintenance will include, but not be limited to, blading, ditch and culvert cleaning, road surface replacement and dust abatement. The road will be crowned, ditched, and drained with culverts and/or water dips. Initial gravel application will be a minimum of 4 inches. When rutting within the traveled way becomes greater then 6 inches, gravel will be applied as approved by the Authorized Officer.

To minimize erosion concerns, all constructed or upgraded road surfaces shall be graveled and made all weather passable in accordance with Gold Book standards. Appropriate water dips and culverts should be incorporated as well. This will reduce rutting, and erosion concerns.

Well pads will be constructed to BLM Gold Book standards.

6. An engineered reserve pit will be required to store drilling muds, cuttings, fracing material, and any other byproducts of production activities.
7. The project proponent is required to monitor for the presence of any Colorado-listed noxious weeds at least once or 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. Cultural Resources/Native American Education/Discovery

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

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

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

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

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

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

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

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

9. Paleontological Resource Education/Discovery

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

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

10. Refer to Appendix I. Surface Reclamation of the 6/98 GSFO's Draft Supplemental EIS for Oil & Gas Leasing Development (pages I-1 through I-8) for specific reclamation goals, objectives, timelines, measures and monitoring methods. These guidelines will be followed in completing the reclamation of disturbed surfaces on well pads, access roads and pipelines.

Some effective practices that will be implemented during reclamation include, but are not limited to: proper siting of the well pad to minimize impacts, the immediate seeding of disturbed areas after construction, proper storage and redistribution of topsoil, reshaping cut and fill slopes, seeding with specified seed mix within the first available growing season after disturbance, deep ripping (>18 inches on 2 foot centers), fencing reclaimed areas to protect from livestock use, and the use of riprap, slash or other erosion control structures to help control sediment loss.

The 4 Reclamation Categories defined on Page I-8 of Appendix I (6/98 GSFO’s Draft Supplemental EIS for Oil & Gas Leasing Development) will be used in gauging the progress of reclamation monitoring.

In order to minimize the impact of noxious weeds and invasive species on the site, all disturbed areas not needed for immediate operation of the wells will be seeded with a mixture of native grasses, shrubs and forbs. A seed mix designed to reclaim the sites and deter establishment of noxious weeds is listed below. The seed shall be certified free of noxious weeds.

Seed Mix Application Practices

A seed mix designed to meet interim reclamation standards while providing forage and browse for wintering elk and deer using a mixture of native shrubs and grasses and native or desirable non-native forbs is recommended. The following seed mix and rates are recommended for use on all disturbed surfaces within the project area:

Species of Seed	Variety	Drilled Application Rate* (PLS lbs/acre)
Shadscale saltbush		3.4
4-wing saltbush		3.4
Western wheatgrass	Arriba	2.6
Bluebunch wheatgrass	Secar	2.1
Bottlebrush squirreltail		1.6
Indian ricegrass	Paloma	1.5
Scarlet globemallow		0.6
TOTAL		15.2 PLS lbs/acre

* In areas that cannot be drilled, broadcast seed at 2 times the application rate and cover ¼ to ½ deep with a harrow or drag bar.

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

Upon completion of backfilling, leveling, ripping to minimum 18 inch depth on 2 foot centers, and recontouring, the stockpiled topsoil will be evenly spread over the reclaimed areas(s). Prior to reseeding, all disturbed surfaces will be scarified and left with a rough surface. No depressions will be left that would trap water and form ponds.

The prepared seedbed will be seeded within 24 hours after completing dirt work unless a change is requested by the operator and approved by the Authorized Officer. Prepare the seedbed by

contour cultivating 4-6 inches deep. **Drill seed ¼ to ½ inch deep** following the contour. All seeding will be conducted after September 1 and prior to ground frost. Spring seeding will be done after the frost leaves the ground and no later than May 15th. If the seeding is unsuccessful, operator will be required to make subsequent seedings until the reclamation objectives identified in Appendix I. Surface Reclamation of the 6/98 GSFO's Draft Supplemental EIS for Oil & Gas Leasing Development are met.

Erosion Control Practices

The cut and fill slopes will be protected against rilling and erosion with measures such as water bars, lateral furrows, seeding or other measures approved by the Authorized Officer. Weed free straw bales, straw "wattles", straw matting or a well-anchored fabric silt fence will be used on cuts and fill slopes to protect against soil erosion.

Topsoil Practices

During well pad, road and/or pipeline construction, topsoil will be stripped to a minimum depth of 6 inches and segregated from other subsurface material piles, ie. excess material from reserve pit and pad construction. If topsoil is less than 6 inches, the top 6 inches of surface material will be stripped and piled. Topsoil pile will be seeded with sterile cover crop (ReGreen) or BLM specified seed mix identified herein within 48 hours of stripping the topsoil.

Site Protection Practices

The project area will be fenced to exclude livestock grazing for the first two growing seasons or until the seeded species or native volunteer species become firmly established. The seeded species will be considered firmly established when at least 50% of the new plants are producing seed. The Authorized Officer will approve the type of fencing. Fencing shall be to BLM standards

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 what additional actions were taken or are needed to meet these objectives.

11. It will be the responsibility of the operator to comply with the Migratory Bird Treaty Act with respect to "take" of migratory bird species. 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. To minimize impacts to wintering big game on lands encumbered by leases not containing winter big game timing limitations, a 60-day Condition of Approval will be applied. As such, no

well pad construction, drilling, or completion will be allowed from January 15 to March 15. This will reduce impacts to wintering big game in the area. Exceptions to this limitation in any particular year may be specifically approved by the appropriate Authorized Officer of the Bureau of Land Management.

13. 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.

Notice: Check the lease for stipulations concerning Timing Limitations, No Surface Occupancy, and Controlled Surface Use.