



U.S. Department of the Interior
Bureau of Land Management
Colorado State Office



Glenwood Springs Resource Area

Oil & Gas Leasing & Development **Record of Decision and Resource Management Plan Amendment**

March, 1999



U. S. Department of Interior
Bureau of Land Management

GLENWOOD SPRINGS RESOURCE AREA
OIL & GAS LEASING & DEVELOPMENT
RESOURCE MANAGEMENT PLAN AMENDMENT
AND
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT
RECORD OF DECISION

Approved by:



Mario Gonzalez
Acting COLORADO STATE DIRECTOR
Bureau of Land Management

March 24, 1999



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Colorado State Office
2850 Youngfield Street
Lakewood, Colorado 80215-7076

IN REPLY REFER TO:

1610/1792

March 24, 1999

Dear Reader:

Enclosed is a copy of the Record of Decision (ROD) for an Amendment to the oil and gas decisions contained in the Resource Management Plan (RMP) for the Glenwood Springs Resource Area (GSRA). The decisions described in the Plan Amendment are those analyzed in the "Glenwood Springs Resource Area Oil and Gas Leasing and Development Final Supplemental Environmental Impact Statement (SEIS)," published January 1999. The document is a supplement to the "Colorado Oil and Gas Leasing and Development Final Environmental Impact Statement (FEIS)," published in January, 1991.

The SEIS was primarily prepared to address increasing levels of oil and gas development in the western portion of the Glenwood Springs Resource Area. While the SEIS was being prepared, management of the 56,000 acre Naval Oil Shale Reserve (NOSR) was transferred from the Department of Energy to the Department of Interior. The legislation effecting this transfer further mandated that certain oil and gas reserves of the NOSR be offered for lease by November 18, 1998. Because of the physical proximity of the affected NOSR lands and the western portion of the GSRA, the decision was made to incorporate portions of the NOSR into the SEIS.

The approved plan amendment includes the entire GSRA, although the analysis in the SEIS focused on the area with increasing levels of oil and gas development in the western portion of the Resource Area. The remainder of the GSRA has experienced very little oil and gas development in the last 10 years and little future development is anticipated.

We are pleased to provide this copy for your reference and appreciate your cooperation and participation during the planning process. If you have any questions or desire more information, please contact the Glenwood Springs Resource Area office at 970-947-2800.

Sincerely,


Ann J. Morgan
State Director

Acting

Record of Decision

The purpose of this Record of Decision (ROD) is to document both the completion of the environmental review and the approval of the amendment of the oil and gas decisions of the Glenwood Springs Resource Area (GSRA), Resource Management Plan (RMP).

Decision

The decisions identified in Chapter 2 of the attached Glenwood Springs Resource Area, Resource Management Plan Amendment (Plan Amendment) are approved. These decisions are analyzed and described in the Preferred Alternative of the "Glenwood Springs Resource Area Oil and Gas Leasing and Development Final Supplemental Environmental Impact Statement (SEIS)," published January, 1999. The decisions contained in the ROD supersede the decisions made for the GSRA in the Record of Decision for the "Colorado Oil and Gas Leasing and Development Final Environmental Impact Statement (FEIS)," published in January 1991. They also supersede the oil and gas decisions in the GSRA Resource Management Plan (RMP), dated January, 1984. This Plan Amendment was prepared under the regulations for implementing the Federal Land Policy and Management Act (FLPMA) of 1976 (43 CFR 1600). An environmental impact statement (EIS) was prepared for this Plan Amendment in compliance with the National Environmental Policy Act (NEPA) of 1969. The decisions contained in this Plan Amendment are the same as those analyzed in the Preferred Alternative of the Final SEIS published by the BLM in January 1999. Minor corrections and editorial changes are shown in the "*Errata*" sheet (Appendix C) at the end of this document.

The decisions contained in this document will be implemented in the form of lease stipulations [No Surface Occupancy (NSO) stipulations, Timing Limitation (TL) stipulations, and Controlled Surface Use stipulations (CSU)] and Lease Notices (LN) placed on new leases. These stipulations and notices are identified in Appendix B of the attached Resource Management Plan Amendment. In addition, Conditions of Approval (COA) are

developed by the BLM on a case-by-case basis to address site-specific issues. Any mitigation measure which is consistent with lease rights, or accepted on a voluntary basis, and the guidance set forth in this plan and subsequent amendments is available to the Authorized Officer (AO) for use as a COA. Appendix D of the FEIS contains a full listing of potential COAs in use in 1991. Appendix D of the SEIS includes a list of COAs developed since then. Other COAs which are consistent with lease rights granted and the general guidance in the RMP amendment will be developed to mitigate site specific issues identified during analysis of field development proposals.

Although the lease stipulations and COAs were developed to apply to oil and gas leasing and development, it is intended that the same or similar measures will be applied to other public land uses in order to maintain or achieve the same resource conditions and to assure equitable treatment to all public lands users. Additional administrative measures may be needed to determine how to best apply comparable measures to other uses.

Approximately 160 acres of NOSR 1 located in Lots 1-4 Section 8 and Lots 1-4 Section 9, T. 6 S., R. 95 W., will be available for leasing at this time because the parcel is part of a communitization agreement initiated by the Department of Energy and is considered a portion of the NOSR to be leased by November 18, 1998. A Resource and Mineral Estate Protection NSO stipulation, with no exceptions, will be attached to the parcel to prevent impacts to surface resources while providing protection of the U.S. Government's mineral interest as defined by existing contract obligations. This will ensure no adverse environmental impacts occur as a result of leasing this parcel and no additional environmental analysis beyond that already in the SEIS is necessary.

Alternatives

Three alternatives were initially analyzed in the development of this Plan Amendment: Continuation of Current Management Alternative, a Maximum

Protection Alternative, and a Proposed Action. As a result of the comments received on the Draft SEIS, a Preferred Alternative was developed. All of these alternatives are further described and analyzed in both the Draft and Final SEIS.

Mitigation

The Plan Amendment has been designed to avoid or minimize environmental impacts as much as possible. Specific mitigation measures are described as lease stipulations and lease notices in Appendix B of this document and Appendix D of the SEIS.

Evaluation and Monitoring

This amended plan will be evaluated on an on-going basis to determine the effectiveness of the mitigation measures in achieving the desired levels of resource protection while facilitating the development of natural gas reserves. This evaluation will occur primarily in the context of the environmental assessments (EA) to be prepared for an Application for Permit to Drill (APD). The primary purpose of the evaluation is to determine: if actions are consistent with the Plan Amendment; whether original assumptions are still valid; whether environmental effects and impacts to mineral resources are correctly predicted; and whether mitigation measures are reasonable and satisfactory in achieving the desired levels of resource protection. Ultimately, evaluation will determine whether there is sufficient cause to warrant further change to the Resource Management Plan.

In addition, monitoring will be conducted as necessary for specific resources to determine the effectiveness of the mitigation measure in achieving the desired levels of resource protection.

Public Involvement

The views and opinions of the public were sought throughout the development of the Plan

Amendment. Numerous formal and informal meetings were held with the public, county commissioners, and various interest groups. A 90 day public review period was held to receive comments on the Draft SEIS. Because of numerous requests, the Draft SEIS review period was extended to allow more time for review and comment.

A 30 day public protest period was held in conjunction with a 60-day Governor's consistency review after the Final SEIS was published in January, 1999.

Protests

During the protest period, the BLM Director received protests from the following individuals and groups:

- Colorado Environmental Coalition (CEC)
- The Grand Valley Citizens' Alliance (GVCA) and Western Colorado Congress (WCC)
- Barrett Resources, Inc.
- Ralph Irwin
- Ronald Cloninger

The CEC protested that BLM failed to consider emerging issues and new information in preparing the alternatives and that BLM did not consider an appropriate range of alternatives, including a "no leasing" alternative.

GVCA and WCC protested that BLM did not select the Maximum Protection Alternative, that BLM needs to improve methods to measure reclamation success; that the analysis of environmental effects discounts the attributes of various land forms and resultant habitat and species diversity; that BLM should control spacing of wells and consider directional drilling; that BLM's analysis of impacts associated with impacts on existing leases was inadequate; that BLM did not adequately address pollution prevention; that the BLM estimate of the number of wells was too low; that wells should be located no less than 1000 feet from residences and that BLM failed to discuss unitization.

Barrett Resources, Inc. protested that some of the lease stipulations and lease notices were inappropriate because; exceptions were missing or not broad enough; the stipulations or notice indicate an imbalance in BLM's management goals; implementation of the measure would inappropriately restrict oil and gas development; implementation of the measure would be open-ended in terms of cost and delay; that the FEIS did not support the need for the measure; or that the measure was based on an inappropriate management goal.

Ralph Irwin protested that BLM should select the Maximum Protection Alternative and should not allow more than four wells per square mile.

Ronald Cloninger protested that the SEIS failed to discuss measures that will be utilized to control dust during the life of the well.

After careful review of the protests, the Director of BLM concluded that the Colorado State Director followed applicable planning procedures, laws, regulations, and policies, and considered relevant resource values and public input. Accordingly, the issues raised did not warrant changes to the proposed Plan Amendment.

Consistency

The plan amendment is consistent with plans, programs, and policies of the local and state governments and of other federal agencies.

Public Availability of the Plan

Copies of the Plan Amendment are available from the BLM offices in Glenwood Springs, Grand Junction, and Lakewood, Colorado.

Resource Management Plan Amendment

Glenwood Springs Resource Area
Resource Management Plan Amendment

Oil and Gas Element

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Chapter 1: Introduction

Purpose and Need

In November 1991, the Bureau of Land Management (BLM) amended the oil and gas portion of the Resource Management Plan (RMP) for the Glenwood Springs Resource Area (GSRA), as described in the FEIS of January, 1991. When the 1991 FEIS was being prepared, only limited oil and gas development had occurred in the GSRA. In the previous 30 years, about 50 wells had been drilled on federal mineral estate. The Reasonable Foreseeable Development (RFD) scenario used in the FEIS forecast 90 wells for the entire GSRA, which seemed a likely level of development for the next 20 years. However, soon after completion of the FEIS, the level of development activity began to increase in portions of the western part of the GSRA (referred to as Region 4). Although 72 wells had been anticipated in that area over a 20 year period, that number was reached in only eight years. This higher-than-expected rate of development raised questions about the impact analysis in the FEIS and its continued validity.

The FEIS (page 1-6) stated that when the number of wells identified in its RFD scenario had been authorized, BLM would prepare an environmental analysis to determine if the impacts identified in the FEIS had been exceeded. BLM concluded that development was concentrated in a relatively small area along the Interstate 70 corridor from Silt to Parachute in a pattern that was denser than implied in the FEIS. Additionally, as many as 25 wells per year had been approved on public land in recent years, and such rates were expected to continue into the future. This exceeded the rate analyzed in the FEIS. Therefore, a decision was made to complete a new evaluation of the impacts of oil and gas leasing and development in the GSRA and the SEIS process to supplement the 1991 EIS was initiated.

The purpose of the Supplemental EIS (SEIS) and this Plan Amendment is to: 1) comply with the FEIS mandate for a review of environmental effects when

the number of wells exceeded the RFD; 2) provide public disclosure of the impacts of a level of development greater than originally anticipated; 3) provide an improved information base for managing gas development impacts; 4) prepare a set of management objectives or standard operating procedures that could be used to manage future oil and gas development; and 5) review and modify the lease stipulations that could be applied to future leases and thereby amend the RMP for the GSRA (the Plan Amendment).

While the SEIS was being prepared, Congress passed Public Law 105-85, the Department of Defense Authorization Act of 1998 (included in Appendix C of the Draft SEIS). Section 3404 of the Act called for the transfer of all 56,000 acres of the Naval Oil Shale Reserves (NOSR) near Rifle, Colorado from the Department of Energy (DOE) to the Department of the Interior (DOI), to be managed by the BLM, and mandated that the oil and gas reserves of the developed portion of the NOSR be offered for lease by November 18, 1998. Because of the area's proximity and a physical nature similar to surrounding BLM land, the GSRA decided to include the developed portion of the NOSR (the NOSR Production Area) in the SEIS and Plan Amendment. The RMP amendment and environmental analysis for the remainder of the 56,000 acre NOSR, that part north of the NOSR Production Area, will be done as soon as practicable. This RMP amendment makes no oil and gas leasing decisions for this area of approximately 44,000 acres (about 38,000 in the GSRA, the remainder in the White River Resource Area).

Description of the Area

Like the 1991 Plan Amendment, this Plan Amendment addresses the entire GSRA (568,000 acres of public land from Edwards to DeBeque and from Aspen to Toponas). This includes a portion of the 56,000 acre Naval Oil Shale Reserve as described above. Maps depicting the GSRA are available in the SEIS.

Lands acquired by BLM in the GSRA since the FEIS, including about 4,200 acres near King Mountain in Routt County and the Haff Ranch southeast of Glenwood Springs in Garfield County are included in this Plan Amendment.

Valid Existing Rights

The Plan Amendment does not repeal valid existing rights on public lands. Valid existing rights take precedence over the actions in this plan. As an example, a lease issued prior to this plan having no timing limitation stipulation may not be restricted by decision in this plan unless the lessee agrees voluntarily or the restriction is determined to be compatible with the lease terms issued. Valid existing rights may be held by other federal agencies or by private individuals or companies.

Chapter 2: Resource Management Decisions

Objectives

The overall objective for this Plan Amendment is the same as the objective in the 1991 RMP amendment: to facilitate orderly, economic, and environmentally sound exploration and development of oil and gas resources using balanced multiple-use management. BLM is not proposing changes to the major decisions in the FEIS, namely that: 1) the entire federal mineral estate in the GSRA, except the Wilderness Study Areas (WSAs), would be open for oil and gas leasing and development; 2) BLM would apply lease stipulations and lease notices as appropriate to all new leases; and 3) BLM will develop appropriate Conditions of Approval (COAs) for all Applications for Permit to Drill (APDs) for leases issued prior to the RMP Amendment, provided the COAs are consistent with lease rights granted. Maps depicting the areas affected by lease stipulations are available in the SEIS.

Decisions

- All oil and gas leases will be subject to the standard terms and conditions of an oil and gas lease (see Appendix D of the Draft SEIS for a description of standard lease terms).
- Conditions of Approval (COA) will be applied to individual permits to drill and subsequent field operations at the time of actual lease development. Any mitigation measure which is consistent with lease rights, or accepted on a voluntary basis, and the guidance set forth in this plan and subsequent amendments is available to the Authorized Officer (AO) for use as a COA. Appendix D of the FEIS contains a full listing of potential COAs in use in 1991. Appendix D of the Final SEIS includes a list of COAs developed since then. Other COAs which are consistent with lease

rights granted and the general guidance in the Plan Amendment will be developed to mitigate site specific issues identified during analysis of field development proposals.

- Approximately 27,760 acres of BLM-administered mineral estate within the Glenwood Springs Resource Area are closed to oil and gas leasing (the WSAs).
- Special management areas, including surface coal mines, riparian and wetland zones, major river corridors, State wildlife areas, fish hatcheries, domestic watershed areas, debris flow hazard zones, steep slope areas, Areas of Critical Environmental Concern, Special Recreation Management Areas, Recreation Management Area, Interstate 70 viewshed and the Anvil Points Cave Area will be protected with No Surface Occupancy (NSO) stipulations on oil and gas leases. Exceptions to the NSO requirement are available at the discretion of the AO for many of these areas.
- Important wildlife habitat areas including grouse leks, raptor nest sites, Bald Eagle roost or nest sites, Peregrine Falcon nest complexes, Mexican Spotted Owl roost or nest sites, wildlife seclusion areas, and Threatened or Endangered species habitat will also be protected with No Surface Occupancy stipulations. Timing limitations will additionally be used to avoid development activities during periods critical to many wildlife species.
- Controlled Surface Use stipulations will be used for underground coal mines, riparian and wetland zones, BLM sensitive species habitat, areas with erosive soils or steep slopes, areas in Visual Resource Management Class II, and in the Sharrard Park Paleontological Area.
- Lease Notices notifying oil and gas lessees of special inventory requirements or reporting requirements will be utilized for Class I and II Paleontological Areas, biological inventory areas, annual reclamation progress reporting,

and emergency communication plans. Lease Notices will also be utilized to inform oil and gas lessees of operational concerns in wildlife areas, residential areas, in the Anvil Points Landfill, areas near the Rulison Project, and in sensitive viewsheds.

Appendix A of this document includes a listing of lease stipulations and identifies those situations where exceptions are available. Lease stipulation exceptions may be utilized for those lease stipulations where the option is identified as available, and the criteria for its use can be satisfied. Appendix B of this document describes the process utilized to manage lease development.

Further details of these decisions are provided in the Final SEIS.

Chapter 3: Plan Implementation, Monitoring and Maintenance

Implementation

This amendment will be implemented upon approval by the State Director. The new leasing stipulations and lease notices will be attached to oil and gas leases beginning with the first sale after plan implementation (i.e., ROD signing).

Evaluation and Monitoring

This plan will be evaluated on an on-going basis to determine the effectiveness of the mitigation measures in achieving the desired levels of resource protection while facilitating the development of natural gas reserves, as described in the Plan Amendment. This evaluation will occur primarily in the context of the environmental assessments (EA) to be prepared for an Application for Permit to Drill (APD). The primary purpose of the evaluation is to determine: if actions are consistent with the Plan Amendment; whether original assumptions are still valid; whether environmental effects and impacts to mineral resources are correctly predicted; and whether mitigation measures are reasonable and satisfactory in achieving the desired levels of resource protection. Ultimately, evaluation will determine whether there is sufficient cause to warrant changes to the Plan Amendment.

In addition, monitoring will be conducted as necessary for specific resources to determine the effectiveness of the mitigation measure in achieving the desired levels of resource protection.

Maintenance

Minor changes may be made to the plan without additional public involvement. This category of

plan change is called "plan maintenance." Definitions and procedures for plan maintenance are contained in the BLM planning regulations. Examples of plan maintenance include updating inventories of resources protected, so long as the new inventory does not change the need for, or level of, protection required by the plan.

One example of maintenance might be the expansion of acreage covered by a wildlife stipulation based on a new inventory. That kind of maintenance would only be done when the Authorized Officer determined that no new leasing restriction was required to protect the additional acreage and that the imposition of the restriction on the addition would not impact oil and gas development more than predicted in the RMP.

Amendments and Revisions

The Plan Amendment may be amended or revised if major changes are necessary. Monitoring and evaluation findings, new data, new or revised policy, or a proposed action resulting in a change in scope, terms, or conditions of the plan, would warrant an amendment or revision. An amendment will be analyzed either in an environmental assessment or environmental impact statement. The public and other agencies will be included in the amendment and revision process.

An example of a decision requiring a Plan Amendment would be to convert a No Surface Occupancy stipulation to a Timing Limitation stipulation of four months. To make such a decision the Authorized Officer would have to evaluate the impacts resulting from oil and gas development during certain times of the year in an area where the RMP originally analyzed the impacts of no development at all.

Note that this decision is different than one an AO might make on a one-time basis to exempt a particular operation from a No Surface Occupancy stipulation based on criteria analyzed in the RMP (See the discussion of waiver, exception, and modification of leasing stipulation on page 2-4 of

the Final SEIS).

Appendix A: Resource Management Decision Lease Stipulations

No Surface Occupancy Stipulations (NSO)

1. Surface Coal Mines. NSO within the area of an approved surface coal mine for the conservation of natural resources. This stipulation may be waived without a plan amendment if the lessee agrees that any well approved for drilling will be plugged below the coal when the crest of the highwall approaches within 500 feet of the well, and that the well will be re-entered or redrilled after completion of mining operations through the well location. A suspension of operations and production will be considered when the well is plugged and a new well is to be drilled after mining operations move through the location.

2. Riparian and Wetland Zones. To maintain the proper function of riparian zones, activities associated with oil and gas exploration and development, including roads, transmission lines and storage facilities, are restricted to an area beyond the outer edge of the riparian vegetation.

Exception: a) An exception may be granted if the Authorized Officer (AO) determines that the activity will cause no loss of riparian vegetation, or that the vegetation lost can be replaced within three to five years with vegetation of like species and age class; b) Within the riparian vegetation, an exception is permitted for stream crossings, if an area analysis indicates that no suitable alternative is available.

3. Major River Corridors. NSO within one-half mile of either side of the high water mark (bank-full stage) of six major rivers: Colorado, Roaring Fork, Crystal, Frying Pan, Eagle and Piney. These riverine and adjacent areas provide: a) special status fish and wildlife species habitat; b) important riparian values; c) water quality/filtering values; d) waterfowl and shorebird production values; e)

valuable amphibian habitat; f) high scenic and recreation values. Included in this area are public lands near the Eagle and Colorado Rivers designated as Special Recreation Management Areas (SRMAs) in which BLM provides facilities to enhance recreation opportunities and maintain the recreational setting.

Note: The area north of I-70 in the NOSR Production Area is not included in this stipulation.

Exception: The distance from the river may be reduced after the AO has considered the habitat values and the species present, the topographical and vegetative characteristics of the area, and the type and amount of surface disturbance proposed. For the Eagle and Colorado Rivers, additional exception criteria include measures to mitigate impacts on recreation: a) screening operations from scenic views; b) reducing drill rig and other equipment noise to an acceptable level; c) protecting the recreating public from operations; and d) restoring disturbed areas to a condition substantially unnoticeable to the casual observer.

4. Garfield Creek, Basalt, and West Rifle Creek State Wildlife Areas. Protection of wildlife habitat values for which these areas were acquired by the state, including crucial big game and upland game winter habitat, and concentration areas and riparian values.

Exception criteria include special mitigative measures developed in consultation with the Colorado Division of Wildlife.

5. Rifle Falls and Glenwood Springs Fish Hatcheries. NSO within a two mile radius of the hatcheries for the protection of the quality and quantity of surface water and underground aquifers supplying the Rifle Falls and Glenwood Springs Fish Hatcheries.

Exception criteria include special mitigative measures developed in consultation with the Colorado Division of Wildlife.

6. Grouse (includes sage grouse, Columbian sharp-tailed, lesser and greater prairie chicken). NSO within one-quarter mile radius of a lek site (courtship area).

Exception: The NSO area may be altered depending upon the active status of the lek or the geographical relationship of topographical barriers and vegetation screening to the lek site.

7. Raptors (includes golden eagle and osprey; all accipiters; falcons, except kestrel; buteos; and owls). Raptors that are listed and protected by the Endangered Species Act are addressed separately. NSO within one-eighth mile radius of a nest site.

Exception: The NSO area may be altered depending on the active status of the nest site or the geographical relationship to the nest site of topographic barriers and vegetation screening.

8. Bald Eagle. NSO within one-quarter mile radius of the roost or nest site.

Exception: For roost sites, the NSO applies to the essential features of the winter roost site complex. After Section 7 consultation with the U.S. Fish and Wildlife Service, the NSO area may be altered, depending on the active status of the roost or the geographical relationship of topographic barriers and vegetation screening to the roost site.

9. Peregrine Falcon. NSO within one-quarter mile radius of cliff nesting complex.

Exception: After Section 7 consultation with the US Fish and Wildlife Service, exceptions may be permitted.

10. Mexican Spotted Owl. NSO within one-quarter mile radius of a roost or nest site.

Exception: After Section 7 consultation with the US Fish and Wildlife Service, exceptions may be permitted.

11. Wildlife Seclusion Areas. NSO within fourteen seclusion areas that provide high wildlife value: The Roan Cliffs, Cottonwood Gulch, and

Webster Hill/Yellowslide Gulch (all in the NOSR Production Area); Hayes Gulch; Riley and Starkey Gulch; Riley Gulch; Crawford Gulch; Magpie Gulch; Paradise Creek; Coal Ridge; Lower Garfield; Jackson Gulch; Bald Mountain; and Battlement Mesa.

Exceptions may be granted based on approval by the AO of a mitigation plan that suitably addresses the wildlife seclusion values at risk. These areas provide several unique qualities, such as an optimum mix of quality forage, cover and water; proximity to natural migration corridors; birthing areas; topographic features which moderate severe winter conditions; and seclusion from human intrusion.

12. Threatened or Endangered Species. NSO on habitat areas for those species listed by the federal or state government as endangered or threatened, and for federal proposed or candidate species. Habitat areas include occupied habitat and habitat necessary for the maintenance or recovery of the species.

Exception: Surface occupancy may be authorized, pending Section 7 consultation with the U.S. Fish and Wildlife Service on federal Threatened or Endangered Species or with the Colorado Division of Wildlife for state listed species. The AO will consider the type and amount of surface disturbance, plant frequency and density, relative abundance of habitat, species and location, topography, and other related factors.

13. Domestic Watershed Areas. Protection of municipal watersheds providing domestic water for the communities of Rifle and New Castle.

Exception: Activity may be permitted if the AO determines, in consultation with the communities of Rifle and New Castle, that the applicant's proposal would produce only a negligible decrease in water quality.

14. Debris Flow Hazard Zones. NSO for the protection of the Glenwood Springs debris flow zones.

Exception: Activity may be permitted by the AO in consultation with the City of Glenwood Springs and Garfield County, provided that the applicant's proposal will produce only a negligible increase in the risk of debris flow.

15. Steep Slopes. To maintain site stability and site productivity, no surface disturbance for oil and gas facilities will be authorized on slopes greater than 50 percent. This NSO does not apply to pipelines.

Exception: In the event the lessee demonstrates that operations can be conducted without causing unacceptable impacts and that less restrictive measures will protect the public interest, an exception may be approved by the AO. A request for an exception must include an engineering and reclamation plan which provides a high level of certainty that such operations can be conducted consistent with the objectives of the GSRA Reclamation Policy. All elements of the Erosive Soils and Steep Slope CSU would apply. In addition, the operator must provide sufficient on-site analysis of soil types, vegetation types, aspect, depth to bedrock, nature of subsurface materials and potential for below ground seeps or springs. The lessee must also provide an evaluation of past practices on similar terrain and be able to demonstrate success under similar conditions. Previous success under similar conditions would be a critical element in the AO's determination.

16. Special Recreation Management Areas (SRMAs). For the protection of the recreational setting, recreation opportunities and recreation facilities provided within the SRMAs, the Class I VRM values in the Areas of Critical Environmental Concern (ACECs) and cave resources in the Deep Creek Cave Area, no surface occupancy will be permitted within the following areas:

- Deep Creek ACEC/SRMA
- Deep Creek Cave Area (Includes no subsurface occupancy for 5,000 feet below the surface)
- Bull Gulch ACEC/SRMA
- Thompson Creek ACEC/SRMA

- Hack Lake SRMA
- Rifle Mountain Park

Exceptions: No exceptions are permitted.

17. Recreation Management Areas. For the protection of non-motorized recreation opportunities, no surface occupancy will be authorized within the following areas:

- King Mountain Area
- Siloam Springs Area
- Castle Peak Area
- Bull Gulch Area (The portion of the Bull Gulch WSA not within the Bull Gulch SRMA.)
- Sunlight Peak Area
- Fisher Creek Area (Haff Ranch)

No exceptions are permitted in any of the above areas.

- King Creek Area (840 acres on the north side of King Mountain)
- Pisgah Mountain Area

Exceptions: For the Pisgah Mountain Area, oil and gas drilling and maintenance operations on designated BLM Roads 8530, 8536 and 8585 will be permitted, since these roads are open to motorized public use. For the King Creek Area, use of the two roads previously authorized for motorized use by adjacent landowners will be permitted. These exceptions are available provided wellpads and associated facilities could be located within 100 yards of the designated (Pisgah Mountain Area) or previously authorized (King Creek Area) roads. Certain timing restrictions consistent with current travel management regulations for the affected areas will also be necessary so that operations would not substantially affect the non-motorized recreation values in the area.

Note: Non-motorized recreation opportunities are those experiences where the visitor can generally expect to see fewer people, largely due to the fact that access is more difficult or challenging, and enjoy a mostly natural setting with a higher degree of solitude and tranquillity. BLM's overall management goal for the identified areas is to maintain the non-motorized recreation

opportunities. Non-motorized recreation opportunities are not exclusive of other uses; however, when other uses with the potential to conflict with these opportunities are being considered, the impact to the non-motorized recreation opportunities will be evaluated. Multiple use consistent with the GSRA RMP will be accommodated to the extent that such use has minimal impact on the non-motorized recreation opportunities.

18. Interstate 70 Viewshed. NSO on slopes over 30 percent with high visual sensitivity in the Interstate 70 viewshed. Lands with high visual sensitivity are those lands within 5 miles of the Interstate, of moderate to high visual exposure, where details of vegetation and landform are readily discernible and changes in visual contrast can be easily noticed by the casual observer on the Interstate.

Exceptions would be granted if protective measures can be designed to accomplish VRM Class II objectives, namely that the overall landscape character would be retained. Such measures would be designed to blend the disturbance in with the natural landscape. BLM acknowledges that activities on private lands alter the landscape character and affect the visual quality of the overall landscape. Such modifications to the overall landscape character will be considered when evaluating mitigation proposals.

19. Anvil Points Cave Area. For the protection of the scientific and wildlife values provided by these caves and to avoid the difficulties inherent in drilling such locations, no surface occupancy will be permitted in the area encompassing the cave openings, subsurface features and the watersheds immediately above the caves.

Exceptions: No exceptions are identified.

Timing Limitation Stipulations (TL)

1. Big Game Winter Habitat (includes mule deer, elk, pronghorn antelope and bighorn sheep).

Protection of winter habitat which includes severe big game winter range and other high value winter habitat as mapped by the CDOW.

- Big Game Winter Habitat - December 1 to April 30.

Exception: Under mild winter conditions, the last 60 days of the seasonal limitation period may be suspended after consultation with the CDOW. Severity of the winter will be determined on the basis of snow depth, snow crusting, daily mean temperatures, and whether animals were concentrated on the winter range during the winter months. This limitation may apply to work requiring a Sundry Notice pending environmental analysis of any operational or production aspects.

2. Big Game Birthing Areas.

- Elk Calving -April 16 to June 30
- Pronghorn Antelope Fawning - May 1 to July 15
- Rocky Mountain Bighorn Sheep Lambing - May 1 to July 15
- Desert Bighorn Sheep Lambing - March 16 to May 30

Exception for Big Game Birthing Areas: When it is determined through a site-specific environmental analysis that actions would not interfere with critical habitat function nor compromise animal condition within the project vicinity, the restriction may be altered or removed.

3. Grouse crucial winter habitat and nesting habitat (includes sage grouse, Columbian sharp-tailed grouse, and lesser and greater prairie chickens). Sage grouse nesting habitat is described as sagebrush stands with sagebrush plants between 30 and 100 centimeters in height and a mean canopy cover between fifteen and 40 percent within a two mile radius of an active lek.

- Sage grouse crucial winter habitat - December 16 to March 15.
- Sage grouse nesting habitat - March 1 to June 30.

No exceptions are permitted for winter habitat. Exceptions: During years when the lek is inactive and it is determined that there is no nesting activity occurring by May 15, the seasonal limitation may be suspended.

4. Greater Sandhill Crane nesting and staging areas - March 1 to October 16.

No exceptions identified.

5. White Pelican nesting and feeding habitat areas - March 16 to September 30.

No exceptions identified.

6. Raptor nesting and fledgling habitat (includes the golden eagle and all accipiters; falcons, except the kestrel; all buteos; and owls). Raptors that are listed and protected by the Endangered Species Act are addressed separately. A one-quarter mile buffer zone around the nest site from February 1 to August 15.

7. Ferruginous Hawk nesting and fledgling habitat. A one-mile buffer zone from February 1 to August 15 to avoid nest abandonment.

8. Osprey nesting and fledgling habitat. A one-half mile buffer zone from April 1 to August 31 to avoid nest abandonment.

Exception for raptor, ferruginous hawk and osprey (6, 7 and 8 above) nesting and fledgling habitat: During years when a nest site is unoccupied by May 15, the seasonal limitation may be suspended. It may also be suspended once the young have fledged and dispersed from the nest.

9. Mexican Spotted Owl nesting and fledgling habitat - February 1 to July 31.

The average Mexican spotted owl territory is estimated to encompass approximately 2,000 acres. Within this area, Primary Activity Centers (PACs) are defined around nesting, feeding, and roosting areas within the territory. These PACs are mapped

as a one-half mile radius (600 acre) area around nests, roosts and the center of feeding areas, and are not considered to be overlapping. With multiple sightings of the Mexican spotted owl, but with no confirmed nest or roost sites, a PAC is defined as the area where habitat is used the most.

Exceptions may be identified after formal Section 7 consultation with the U.S. Fish and Wildlife Service.

10. Bald Eagle Nest Site. A one-half mile buffer zone around the nest site is required to prevent disruption of nesting from December 15 to June 15.

Exceptions may be identified after formal Section 7 consultation with the U.S. Fish and Wildlife Service. The limitation may be suspended in years when the nest site is unoccupied by May 15 or once the young have fledged and dispersed from the nest.

11. Bald Eagle Winter Roost Site. A one-half mile buffer area around the roost site is required from November 16 to April 15 to avoid relocation to less suitable areas.

Exceptions may be identified after formal Section 7 consultation with the U.S. Fish and Wildlife Service. If there is partial or complete visual screening of the area of activity, the roost site buffer may be reduced to one-quarter mile.

12. Peregrine Falcon. A one-half mile buffer area around the cliff nesting complex from March 16 to July 31 to prevent abandonment and desertion of established territories.

Exceptions may be identified after formal Section 7 consultation with the U.S. Fish and Wildlife Service. The limitation may be suspended in years when the nest site is unoccupied by May 15, or once the young have fledged and dispersed from the nest.

13. Waterfowl and Shorebird Nesting Areas. This stipulation protects nesting ducks from April 15 to July 15 in a one-quarter mile buffer around the nesting and production areas of the following reservoirs: Fravert Watchable Wildlife Area, Consolidated Reservoir and the King Mountain

Reservoirs - Grimes-Brooks, Nobel and Upper and Lower King Mountain.

Exceptions may be permitted after consultation with the CDOW if nesting waterfowl and shorebirds are not present at the reservoirs, or if operations can be located in such a manner as to minimize disturbance to nesting waterfowl and shorebirds.

Controlled Surface Use (CSU) Stipulations

1. Underground Coal Mines. Within the area of federally leased coal lands, oil and gas operations will be relocated outside the area to be mined or located to accommodate room and pillar mining operations. This stipulation may be waived without a plan amendment if the lessee agrees that the drilling of a well will be subject to the following conditions:

- the well must be plugged when the mine approaches within 500 feet of the well bore;
- the well must be plugged in accordance with Mine Safety and Health Administration (formerly Mine Enforcement and Safety)
- the operator will provide an accurate location of where the casing intercepts the coal by providing a directional and deviational survey of the well to the coal operator; *or*
- relocate well into a permanent pillar or more than 500 feet outside the area to be mined. A suspension of operations and production will be considered when the well is plugged and a new well is to be drilled after mining operations move through the location.

2. Riparian and Wetland Zones. Within 500 feet of the outer edge of the riparian or wetland vegetation, activities associated with oil and gas exploration and development, including roads, pipelines and wellpads, may require special design, construction, and implementation measures, including relocation of operations beyond 200 meters, in order to protect the values and functions of the riparian and wetland zones. Such measures will be based on the nature, extent and value of the riparian or wetland area. In general, the areas

immediately adjacent to the riparian vegetation are most important to the function of the riparian zone and will be avoided.

3. BLM Sensitive Species. For those species listed as sensitive by BLM and for significant natural plant communities, special design, construction and implementation measures, including relocation of operations by more than 200 meters, may be required. For plants, habitat areas include occupied habitat and habitat necessary for the maintenance or recovery of the species or communities. For animals, habitat areas are areas that are important during some portion of the lifecycle, such as nesting and production areas or communal roost areas.

4. Erosive Soils and Slopes Greater Than 30 Percent. Special design, construction, operation and reclamation measures will be required to limit the amount of surface disturbance, to reduce erosion potential, to maintain site stability and productivity, and to insure successful reclamation in identified areas of highly erosive soils and of slopes greater than 30 percent. Highly erosive soils are soils in the "severe" and "very severe" erosion classes based on Administration) Informational Report 1052; and NRCS Erosion Condition mapping. Areas identified in the RMP as Erosion Hazard Areas and Water Quality Management Areas are also included in this stipulation. Implementation may include relocation of operations beyond 200 meters.

The surface use plan of the APD submitted for wells on erosive soils or slopes greater than 30 percent must include specific measures to comply with the GSRA Reclamation Policy, such as stabilizing the site to prevent settling, land sliding, slumping, and highwall degradation, and controlling erosion to protect the site and adjacent areas from accelerated erosion and sedimentation and siltation of nearby water sources.

Specific performance objectives for the plan include:

- Limitation of total disturbance to 3.0 acres for the wellpad;
- Limitation of the interim *in use* area to 0.5 acres; and

- maximizing the area of interim reclamation that is shaped to a grade of 3:1 or less; any planned highwall must be demonstrated to be safe and stable and include enhanced reclamation and erosion prevention measures as needed.

The operator must also provide an evaluation of the site's reclamation potential based on problematic characteristics of the site (slope, aspect, vegetation, depth of soils, soil salinity and alkali content) and a comparison of the site with comparable sites already constructed. When the proposed site is comparable to sites where reclamation has not been successful, the operator will be required to make adjustments to reclamation techniques. Special measures might include: locating production facilities off-site; building roads to higher standards, including surfacing; constructing sediment catchments; reclaiming the reserve pit immediately after use; and applying fertilizers, mulches, soil additives and geotextile fabrics. The AO will evaluate plans submitted by the operator and approve a design and any special measures that best accomplish the performance objectives, achieving a reasonable balance of site stability and revegetation potential, and minimizing overall disturbance.

5. Visual Resource Management (VRM) Class II. Within VRM Class II areas, relocation of operations by more than 200 meters may be required to protect visual values. Protection may include special design requirements and other measures to retain the overall landscape character. Such measures would be designed to blend the disturbance in with the natural landscape so that it does not attract attention from key observation points. BLM acknowledges that activities on private lands may alter the landscape character and such modifications will be considered when evaluating mitigation proposals relative to the visual quality of the overall landscape.

6. Sharrard Park Paleontological Area. Special survey, design, construction and reclamation measures may be required, including relocation of operations beyond 200 meters, in the identified portions of Wasatch outcrops within the Sharrard Park area. The operator will provide a survey of the

paleontological resources in the proposed areas of disturbance (plus a 200 foot buffer around that disturbance), performed by a BLM-permitted paleontologist. The operator will implement mitigation measures approved by the AO, instruct all on-site personnel to be aware of the potential for fossils, notify the AO if any fossils are found, and leave in place any vertebrate fossils.

Lease Notices (LN)

1. Class I and II Paleontological Areas. An inventory shall be conducted by an accredited paleontologist approved by the AO prior to surface-disturbing activities in these areas.

2. Biological Inventories. In areas of known or suspected habitat of special status species, or habitat of other species of interest, such as raptor nests or elk calving areas, or significant natural plant communities, a biological inventory will be required prior to approval of operations. The inventory would be used to prepare mitigating measures to reduce the impacts of surface disturbance on the affected species or their habitats. These mitigating measures may include, but are not limited to, relocation of roads, wellpads, pipelines, and other facilities, and fencing operations or habitat.

Given the high potential for sensitive species to occur in the NOSR Production Area, it is likely that a biological inventory will be required for most proposed locations in that area prior to development activities.

3. Annual Reports of Reclamation Progress. All lessees in the GSRA are required to report to the AO annually on the ongoing progress of reclamation at locations developed on the lease.

4. Emergency Communications Plan. The operator is required to prepare and maintain a current emergency communications plan. The plan shall be provided to the BLM, Colorado State Patrol, the affected county and communities, and the general public.

The plan shall contain information sufficient to describe the potential for emergency incidents related to oil and gas development which pose an immediate danger to human health and safety and would normally require immediate actions by the operator to remove the threat, such as for hazardous materials spills; actions to be taken by the operator in the event of such an incident; and a communications plan to inform appropriate authorities and potentially affected citizens.

5. Wildlife and Wildlife Habitat. 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. Such measures shall be developed in concert with BLM during the preparation of the EA. They may include completion of habitat improvement projects designed to replace habitat lost through construction activities; reduction of human disturbance in important habitat areas during critical times of the year by installing gates and closing roads; using telemetry to collect well data; and accessing well site locations during the times of the day when wildlife is not likely to be present in the area.

It is recognized that other measures may be appropriate and that not all measures would be appropriate for all areas. As such, this notice is best implemented through site-specific planning addressing several years activity in an area. 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.

BLM's overall goals are to: a) reduce direct impacts (physical loss of habitat) by minimizing the disturbance on lands where revegetation is not possible, such as roads, production facilities, working portions of the wellpads, exposed rock outcrops, highwalls, etc., and by offsetting the loss of productive wildlife areas during interim reclamation; and b) reduce indirect habitat impacts (reduced habitat availability for big game and other species from disturbances caused by increased

human activities) in big game winter range and in other high value wildlife areas (refer to Draft SEIS, Appendix G), by managing human activities to minimize disturbance during critical times of the year.

6. Working in Wildlife Habitat. The operator is required to establish a set of reasonable operating procedures for employees and contractors working in important wildlife habitats. Such procedures would be designed to inform employees and contractors of ways to minimize the effect of their presence on wildlife and wildlife habitats. Procedures might address items such as working in bear country, controlling dogs, and understanding and abiding by hunting and firearm regulations.

7. Working in Residential Areas. The operator drilling on federal mineral estate is required to consider the impact of operations on nearby communities and residences and will be expected to reasonably adjust operating procedures to accommodate local residential concerns. For example, the operator will be expected to try to work out reasonable compromises on issues such as noise, dust, and traffic. The operator will be expected to address such issues when raised during public comment periods associated with preparation of environmental assessments or when complaints are reported to the operator, BLM or the COGCC.

8. Anvil Points Landfill. Any operations within the Anvil Points landfill area owned by Garfield County shall be consistent with the terms and conditions established in EA-CO-078-5-31.

9. Project Rulison Monitoring. Any wells located within three miles of Project Rulison will be subject to oversight measures established by the Colorado Oil and Gas Conservation Commission (COGCC). Any such wells would also be reviewed by the Department of Energy (DOE) for consideration if such wells should be incorporated into DOE's regular monitoring program.

10. Sensitive Viewsheds. Special design and construction measures may be required in order to minimize the visual impacts of drilling activities within five miles of all communities or population

centers throughout the GSRA, major BLM or county roads, and state or federal highways. The overall goal of these measures would be to blend the disturbance with the natural landscape as much as possible. At a minimum, operations should be designed to insure that the disturbance does not dominate the natural landscape character (VRM Class III objective). BLM acknowledges that activities on private lands may alter the landscape character, and such alterations will be considered when evaluating mitigation proposals relative to the visual quality of the overall landscape.

Appendix B: Management of Lease Development

In order to maximize BLM's ability to achieve the mitigation measures described in this Plan Amendment, BLM may implement the following procedures during processing of APD's and other authorizations for leasehold development.

1. Geographic Area Proposal (GAP). In areas being actively developed, the operator must submit a Geographic Area Proposal (GAP) that describes a minimum of two to three years activity for operator-controlled federal leases within a reasonable geographic area (to be determined jointly with BLM). The GAP will be used to plan development of federal leases within the area, to account for well locations, roads, and pipelines, and to identify cumulative environmental effects and appropriate mitigation. The extent of the analysis will be dependent on the extent of surface ownership, extent of lease holdings, topography, access and resource concerns. This requirement for a GAP may be waived for individual or small groups of exploratory wells, for directional wells drilled on previously developed wellpads, or for individual wells proposed along existing roads.

2. Inventories. The operator may be required to conduct biological, cultural, paleontological or other inventories, as appropriate, for an area identified by the BLM at the time of the GAP analysis.

3. Cumulative Impacts. The cumulative impacts of oil and gas development are discussed in the Final SEIS. Future EAs for APDs will not repeat this analysis. However, the GAP environmental assessment will evaluate the effects of all past oil and gas development as well as planned actions within the geographic area, to determine the need for appropriate mitigation.

4. Mitigation Planning. BLM will review the Plan Amendment to identify which mitigation measures are applicable to the area under consideration and will work with the operator to jointly develop a

mitigation plan that incorporates those measures. Stipulations will be implemented for the GAP as far as they are consistent with lease rights. In those cases where mitigation measures might be inconsistent with lease rights, BLM will seek voluntary compliance from the operator or develop alternative mitigation measures to accomplish the objectives of the Plan Amendment in so far as possible. (Chapter 2 of the Final SEIS includes a detailed description of the ways in which stipulations are applied both to new and to existing leases.) As appropriate, BLM will apply the COAs listed in the Appendix D of the Final SEIS or develop new COAs to accomplish reasonable mitigation to offset the impacts described in the EA consistent with the goals established in the Plan.

5. Impacts on wildlife habitat. BLM will require reasonable mitigation of the impacts on wildlife habitat that are attributable to both past and proposed oil and gas development within the GAP area. Such mitigation will generally be considered when well densities on critical winter wildlife habitats in high value wildlife areas (refer to Draft SEIS, Appendix G) exceed four wells per 640 acres or when road densities exceed three miles of road per 640 acres. It is not BLM's intent that oil and gas operators be held accountable for mitigation of habitat impacts due to residential, agricultural or other commercial land uses, including those impacts associated with the Federal and State Highways and County Roads.

BLM's overall goal is to reduce direct impacts on wildlife habitat by minimizing the amount of land on which revegetation is not possible, such as roads, production facilities, working portions of wellpads, exposed rock outcrops, highwalls, etc. In consideration of the amount and type of habitat made unavailable due to oil and gas operations, BLM will develop appropriate mitigation for such habitat losses.

Indirect habitat impacts (reduced habitat availability for big game and other species from disturbances caused by increased human activities) in big game winter range in high value wildlife areas will be mitigated by managing human activities to minimize

disturbance during critical time periods, using such measures as road closures, hourly restrictions for well operations, and use of radio telemetry to monitor individual wells. Additionally, each operator will be expected to adopt a *code of conduct* for field employees such that they can perform their duties in the manner most compatible with wildlife use in the same area.

Appendix C: Errata

The following errata refer to corrections of material in the Final SEIS:

Page 1-7, Map 1-3, Region 4: Location of the Naval Oil Shale Reserves. The map incorrectly displays the northeastern boundary of the NOSR Production Area. The following legal description refers to additional lands that should have been shown on the map. These lands were included in the analysis in the Final SEIS.

Township 6 South, Range 94, west,
6th P.M.
Section 3: NWSW, S2S2, NESE:
Section 10: NWNE, NW.

Page 2-10, Section 2.4.2, No Surface Occupancy Stipulations. The last phrase of the description of NSO 19, Anvil Points Cave Area, should read *subsurface features and the watersheds immediately above the caves*, removing the reference to the *two defined* caves.

Page 2-18, Table 2.5-1, Comparison of the Alternatives. In the description of NSO 17, the parenthetical description of the King Creek Area should read *840 acres on the north side of King Mountain* changing the acreage figure from 640 acres to 840 acres.