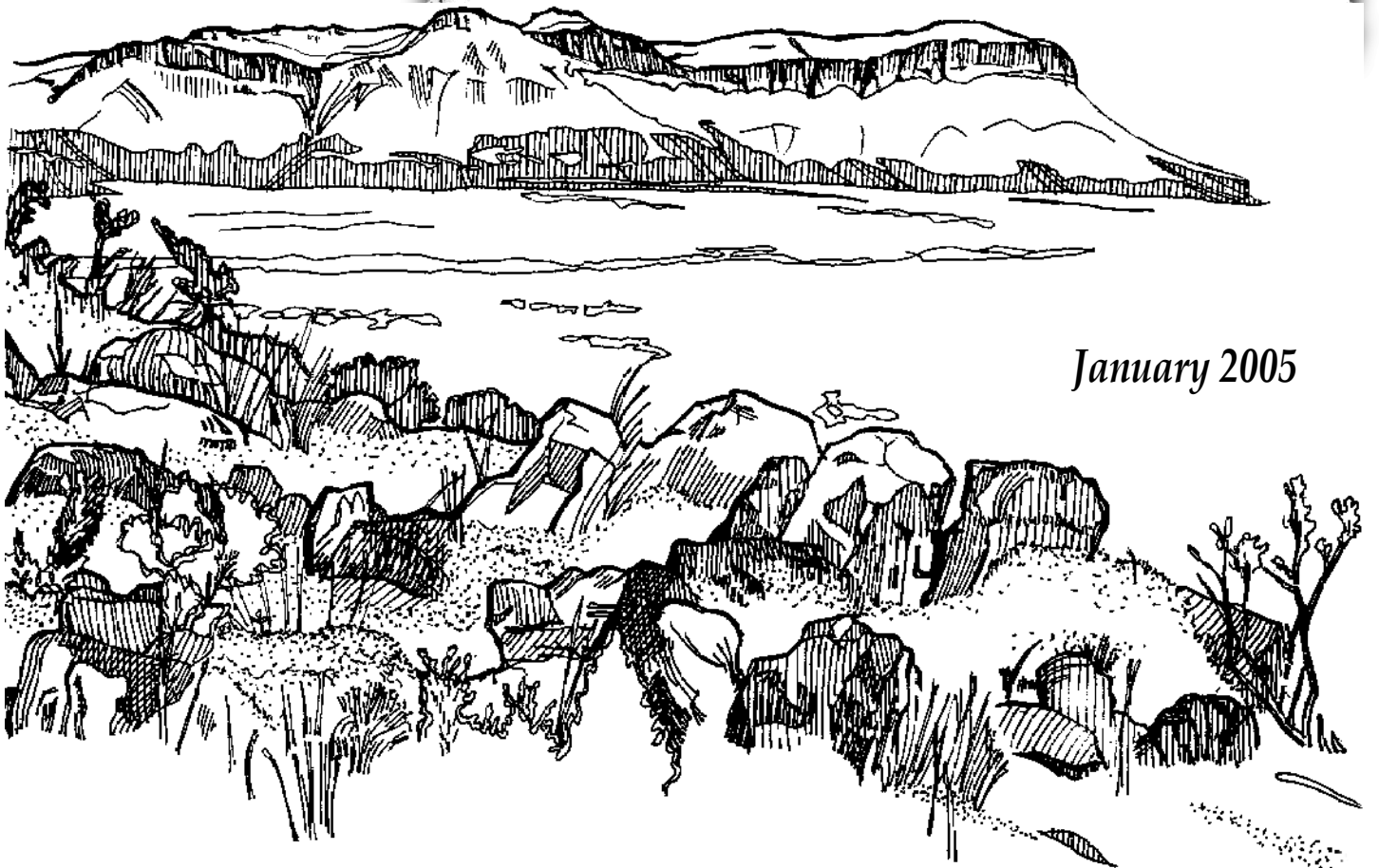




Record of Decision and Resource Management Plan Amendment for Federal Fluid Minerals Leasing and Development in Sierra and Otero Counties

*United States Department of the Interior
Bureau of Land Management*

LAS CRUCES FIELD OFFICE



January 2005

BUREAU OF LAND MANAGEMENT

The Bureau of Land Management is responsible for the balanced management of the public lands and resources and their various values so that they are considered in a combination that will best serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield, a combination of uses that take into account the long-term needs of future generations for renewable and nonrenewable resources. These resources include recreation, range, timber, minerals, watershed, fish and wildlife, wilderness and natural, scenic, scientific, and cultural values.

BLM/NM/PL-010-1610



United States Department of the Interior
BUREAU OF LAND MANAGEMENT

Las Cruces District Office
1800 Marquess
Las Cruces, New Mexico 88005
www.nm.blm.gov



IN REPLY REFER TO:
1610 (03000)

January 24, 2005

Dear Reader:

This Record of Decision (ROD) approves the proposed amendment to the White Sands Resource Management Plan. The amendment is described as the proposed plan in the Proposed Resource Management Plan Amendment (RMPA)/Final Environmental Impact Statement (FEIS) for Federal Fluid Minerals Leasing and Development in Sierra and Otero Counties, dated December 2003, as further clarified in the Supplement to Proposed RMPA/FEIS dated May 2004. The plan amendment provides guidance for managing Bureau of Land Management (BLM) administered oil and gas activities in Sierra and Otero Counties, New Mexico.

The ROD culminates a 6-year process analyzing the environmental effects of future leasing and development in Sierra and Otero Counties. Public involvement started with Scoping in October 1998, and continued throughout the planning process. In October 2000, the BLM released the Draft RMPA/EIS. In December 2003, BLM released the Proposed RMPA/FEIS. Following the 60-day Governor's Consistency Review, a Supplement to the Proposed RMPA and Final EIS was released on May 28, 2004, with an additional opportunity for public comment, which concluded on June 28, 2004.

The FEIS was prepared pursuant to the National Environmental Policy Act and other regulations and statutes to fully disclose the potential environmental impacts that could result from implementation of the proposed decisions for future leasing and development, and to solicit public comment and input. The EIS process was designed to inform the public of BLM's management recommendations for oil and gas activities in Sierra and Otero Counties. The BLM involved the public in the preparation of the RMPA/FEIS by hosting numerous public meetings and accepting public comments throughout the process. The BLM also provided information to the public through news releases and mailings, as well as presentations at numerous public meetings. The Otero County Board of Commissioners is a cooperating agency in this analysis.

The Proposed RMPA was subject to a 30-day protest period that ended February 8, 2004, and a Governor's Consistency Review which ended March 9, 2004. This ROD includes information about the protests, the Governor's Consistency Review, and BLM's findings. As a result of the Governor's review and the BLM's desire to improve the public's understanding of the changes between the Draft and Final EIS, a Supplement to the RMPA/FEIS was issued. The Supplement proposes that three parcels of land, totaling 35,790 acres, be closed to future oil and gas leasing. The Supplement is also approved in this ROD.

This is a land use planning decision made in accordance with 43 CFR 1600. The regulations in 43 CFR 1610.5-2 do not provide for any additional administrative review of this decision.

However, implementation of this decision through future authorizations of Applications for Permits to Drill (APD), and other actions, may be administratively reviewed at the time such authorizations are made. Such review will be conducted in accordance with regulations in 43 CFR 3165.3, 43 CFR 3165.4, and 43 CFR 4.

A copy of the ROD/RMPA has been sent to affected governmental agencies and to those persons who have been involved in the planning effort and have indicated they wish to receive a copy of the ROD. You may view the ROD/RMPA, Supplement, FEIS, and Draft EIS, on the BLM web site at www.nm.blm.gov. Copies of the ROD/RMPA are available to the public at the following locations:

BLM
New Mexico State Office
1474 Rodeo Road
Santa Fe, NM 87505

BLM
Las Cruces Field Office
1800 Marquess
Las Cruces, NM 88005

BLM
Roswell Field Office
2909 W. Second St.
Roswell, NM 88201

BLM wishes to thank all the individuals, organizations, businesses, and agencies who provided input and comments on the Draft EIS, Final EIS, and Supplement to the FEIS. Your help has been a critical part of this effort and was essential in preparing the FEIS and this ROD. If you have any questions about the ROD, please contact Tom Phillips, RMPA Team Leader, at (505) 525-4377.

Sincerely,

A handwritten signature in black ink that reads "Edwin L. Roberson". The signature is written in a cursive, flowing style.

Edwin L. Roberson
Field Manager

**RECORD OF DECISION
AND
RESOURCE MANAGEMENT PLAN
AMENDMENT**

**for Federal Fluid Minerals Leasing and
Development
in Sierra and Otero Counties**

January 2005

**U.S. Department of the Interior
Bureau of Land Management
Las Cruces Field Office
Las Cruces, New Mexico**

Approving Official:



**Linda S.C. Rundell
New Mexico State Director**

January 24, 2005

Date

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Map 2 - Otero County – Oil and Gas Leasing Decisions

INTRODUCTION

This Record of Decision (ROD) approves the amendment to the White Sands Resource Management Plan (RMP), regarding future oil and gas leasing and development in Sierra and Otero Counties. The approved plan amendment consists of Alternative A Modified, in the Proposed Resource Management Plan Amendment (RMPA) and Final Environmental Impact Statement (FEIS) dated December 2003, and in the Supplement to Proposed RMPA/FEIS dated May 2004. The amendment provides guidance for oil and gas management on approximately 2.1 million acres of public surface and subsurface lands in Sierra and Otero Counties, New Mexico. This amendment and EIS was completed with the involvement of Otero County as a Cooperating Agency.

SUMMARY

The 1986 White Sands RMP identified management decisions for all BLM managed resources and uses, including leasing and development of fluid minerals in Sierra and Otero Counties. That plan indicated that the majority of public land would be available for leasing. Under the 1986 RMP, approximately 1.97 million acres were available for leasing with Standard Lease Terms and Conditions; 70,600 acres were closed to leasing; and 9,900 acres were available for leasing with No Surface Occupancy.

Over the last 80 years, 101 wells have been drilled and all but two of them have been subsequently plugged and abandoned. There has never been any production of oil or gas in either Sierra or Otero County. Between 1986 and 1997, leasing of less than 150,000 acres has occurred, and all of that has been in Otero County. Only a few wells have been drilled in that timeframe, and two of those wells in southern Otero County have shown indications of economically recoverable natural gas.

The BLM started the planning process in October 1998 by requesting comments to determine the scope of issues and concerns that needed to be addressed in the RMPA/EIS. The Draft RMPA/EIS was made available for public review and comment in October 2000. The Draft RMPA/EIS responded to issues raised in scoping and described and analyzed three alternatives for management of Federal oil and gas resources in Sierra and Otero Counties.

The public review/comment process was very involved and lengthy. Six open houses/public hearings were held in three locations in or adjacent to the planning area, and the public comment period was extended twice to accommodate the expanding desire of the public to provide input into the alternatives and impact analysis. Following 7 months of official public comment period, there was an additional 30 months of review, analysis, and discussion.

Following this lengthy public process, the BLM issued the Proposed RMPA/Final EIS in December 2003. This document identified the BLM's proposed plan, which was essentially Alternative A from the Draft RMPA, but modified to incorporate corrections or necessary changes, based on public comments received.

Great care was taken in analyzing the potential oil and gas development, as over 90 percent of the State revenues to the Land Trusts are generated from the oil and gas industry, which then contributes to education, hospitals, etc. Over \$4 billion has been returned to New Mexico from mineral development (largely oil and gas) since the inception of the 1920 Mineral Leasing Act. Today, a full complement of State and Federal regulations govern the oil and gas industry.

A Biological Assessment was prepared and provided to the U.S. Fish and Wildlife Service (FWS) for review. The BLM determined that the implementation of the Proposed Plan was “not likely to adversely affect” the 10 species on which the BLM consulted with the FWS. The FWS provided their concurrence in a memorandum dated October 14, 2003.

DECISION

The decision is hereby made to approve the Proposed Plan Amendment as described in Alternative A Modified in the Proposed RMPA/FEIS for Federal Fluid Minerals Leasing and Development in Sierra and Otero Counties (Published in the Federal Register, January 9, 2004). This ROD also adopts the change identified in the Supplement to the Proposed RMPA/FEIS (Published in the Federal Register, May 28, 2004), to discretionarily close to leasing 35,790 acres in three parcels of Chihuahuan Desert Grassland. All of the lands and minerals within Sierra and Otero Counties, administered by the BLM, are included in the decision. The Plan Amendment allows for the protection of resource values while sustaining the ability for the fluid minerals industry to achieve the Reasonable Foreseeable Development (RFD) and fulfills the BLM policy of multiple use and sustained yield of public land as directed under the Federal Land Policy and Management Act (FLPMA).

The specifics of the approved decisions are further explained below:

Lands Closed To Leasing

These are lands closed by other laws, Executive Orders, policies, etc. (Non-discretionarily), as well as lands closed due to the New Mexico State Director’s decision (Discretionarily). More information and descriptions of locations are found in Appendix A.

- An old United States Air Force bombing and gunnery range is an area that was used previously as an impact area, and subsurface use is prohibited. The BLM will manage the land as a non-discretionary closure to ensure public safety.
- The Air Navigation Site is a location established under Secretarial Order to provide for an air navigation facility.
- The Jornada del Muerto, Brokeoff Mountains, Guadalupe Escarpment, and Sacramento Escarpment Wilderness Study Areas (WSAs) are non-discretionarily closed to leasing to protect the wilderness values of these areas.
- The six Areas of Critical Environmental Concern (ACECs) will be discretionarily closed to leasing to protect high-quality resource values of these areas. Visual Resource Management (VRM) Class I areas, which coincide with the six ACECs, will be discretionarily closed to leasing to protect high-quality visual resource values that have been identified in these areas.
- The eight nominated ACECs will be discretionarily closed to leasing. They have been determined to meet the BLM’s “relevance and importance” criteria, and they will be managed to protect the known and/or potential biological communities in each of these areas until such time as they are evaluated further for potential designation.

- Three of the more pristine portions of the Nutt and Otero Mesa desert grassland habitat, which have been identified as aplomado falcon core areas (potential habitat), will be closed to leasing (as indicated in the Supplement). The three areas are comprised of the Nutt grassland complex (8,094 acres) and two Otero Mesa grassland complexes (11,483 acres and 16,213 acres). The two Otero Mesa parcels are adjacent to McGregor Range, the majority of which is also Chihuahuan Desert grassland and closed to mineral leasing and development.

Lands Open To Leasing With Stipulations

These lands will be made available for oil and gas leasing, but will have stipulations or lease notices that will be applied to future leases. More information and descriptions of locations are found in Appendix B.

- The protected cultural resource areas of Rattlesnake Hill Archaeological District, Lone Butte, and Jarilla Mountains will be open to leasing, but with a stipulation of no surface occupancy to protect cultural resources since they are listed on the State Register of Cultural Properties and/or are eligible for inclusion on the National Register of Historic Places.
- Recreation and Public Purposes Act (R&PP) leases and patents will be open to leasing with a stipulation of no surface occupancy. These areas serve the communities in Sierra and Otero Counties.
- Community Pit 7, a mineral material area managed by the BLM for public use, will be open to leasing with no surface occupancy.
- Riparian areas and other wetlands and playas will be open to leasing, but with a stipulation of no surface occupancy within 0.25 mile to minimize impacts on these sensitive areas.
- The six ecological study plots will be open to leasing with a stipulation of no surface occupancy to protect existing ecological resources in these areas for research and scientific purposes.
- Tularosa River Recreation Area will be open to leasing with a stipulation of no surface occupancy.
- Lake Valley Historic Town site will be open to leasing, but with a stipulation of no surface occupancy to protect the town site and schoolhouse which are subject to existing cultural resource regulations since both are on the State Register of Historic Properties and are eligible for inclusion on the National Register of Historic Places.
- Lake Valley Backcountry Byway will be open to leasing, but with a stipulation of no surface occupancy in order to protect the scenic resources along the route. No surface disturbance will be authorized within 0.5 mile of either side of the route. For proposed disturbances between 0.5 and 1 mile from either side of the road, operators also may be required to provide and implement mitigation plans for proposed development activities.

- The Berrendo Administrative Camp Site will be open to leasing, but with a stipulation to control surface use to avoid effects to existing structures and the helipad and to protect capital investment.
- Highly erosive and fragile soils (mapped by the Natural Resources Conservation Service) as Nickel-Bluepoint, Alamogordo-Gypsum Land-Aztec, Holloman-Gypsum Land-Yesum and Prelo-Tome-Largo) will be open to leasing, but with a stipulation to control surface use to maintain productivity and minimize erosion.
- The remainder of the Nutt and Otero Mesa desert grassland habitat areas (exclusive of the aplomado falcon core areas) will be open to leasing, but with a stipulation that requires new lessees to form exploratory unit(s) prior to commencing drilling activity and that limits industry's disturbance to no more than 5 percent of the exploratory unit at any one time. The purpose is to protect remnant Chihuahuan Desert grassland habitat and associated special status wildlife species through greater planning of the future oil and gas development. This would be further accomplished through a Plan of Development for the unit(s).
- Designated historic trails (i.e., Mormon Battalion, Butterfield, and Jornada del Muerto Trails) will be open to leasing, but with a stipulation to control surface use. No surface-disturbing activities will be allowed within 0.25 mile from each side of those trails for their entire lengths; however, areas along those trails where there is existing disturbance may be used to cross the trails.
- VRM Class II areas will be open to leasing, but with a stipulation to control surface use to protect visual resource values in these areas.
- Special status species habitats identified by the BLM will be open to leasing, but with a stipulation to control surface use to avoid adverse impacts on individual species and their associated habitats.

Lands Open To Leasing With A Lease Notice

These lands will be made available to leasing under standard lease terms and conditions, but will have a Lease Notice attached to the lease to explain or caution the lessee about some issue or concern. More information and descriptions of locations are found in Appendix B.

- White Sands Missile Range Safety Evacuation Zone, an area adjacent to the western edge of the White Sands Missile Range, may be evacuated on days that missiles are fired by the Department of the Army. The land is administered by the BLM; however, the Department of the Army is responsible for evacuation notification. Therefore, the BLM will manage the land as open to leasing with standard lease terms and conditions, but will issue a Lease Notice to lessees informing them of the potential for evacuation.
- Cuchillo Mountains Piñon Nut Collection Area will be open to leasing with standard lease terms and conditions; however, a Lease Notice will be issued advising the lessee that the current use of the stands of piñon pine trees as a public and commercial nut collection area must be maintained.

- Red Sands Off Road Vehicle (ORV) area will be open to leasing with standard lease terms and conditions; however, a Lease Notice will be issued to advise the lessee about the intermittent use of this recreation area by motorcyclists and other recreational users.

Lands Which Are Open With Standard Lease Terms And Conditions That Were Previously Closed To Leasing Or Had Stipulations Applied

- The area of the Caballo Mountain Communication Site will be open to leasing with standard lease terms and conditions.
- Public Water Reserves (PWRs), which consist of approximately 17 separate 40-acre parcels that are otherwise withdrawn for use by the public via PWR 107 (1926), will be open to leasing with standard lease terms and conditions; however, where the PWR is a spring or dirt tank, no surface occupancy will be allowed within ¼ mile.
- The five watershed areas identified and mapped by the BLM will be open to leasing with standard lease terms and conditions.
- The four big game habitat areas identified and mapped by the BLM will be open to leasing with standard lease terms and conditions.
- Unoccupied habitat suitable for Desert Bighorn Sheep, will be open to leasing with standard lease terms and conditions (unless it overlays with areas closed to leasing such as in the existing WSAs, ACECs, and nominated ACECs). However in the Caballo Mountains, leasing will be deferred, while the New Mexico Department of Game and Fish (NMDGF) continue to evaluate the area for possible re-introduction. The State Director will then evaluate the progress of NMDGF, and, if BLM finds it unlikely that reintroduction would occur within the life of the Bighorn Sheep Plan, the area will be available for potential leasing at that time.
- VRM Classes III and IV will be open to leasing with standard lease terms and conditions.

All other lands not specifically identified above will generally be made available for leasing under standard lease terms and conditions. Standard terms of an oil and gas lease provide for protection to other resources, and site-specific environmental analysis as provided by NEPA. This is accomplished through the evaluation of surface disturbance proposals such as Applications for Permit to Drill (APDs). (See Section 6 of the Oil and Gas Lease Form). All lands remain governed by the appropriate Code of Federal Regulations and State regulations to protect the natural resources.

ALTERNATIVES INCLUDING THE APPROVED PLAN

There were three alternatives analyzed during development of the approved plan. An additional two alternatives, considered initially as possible methods of resolving issues, were eliminated prior to detailed analysis because they were unreasonable or not practical as a result of technical, legal, or policy factors. Certain lands are closed to leasing at the discretion of the decision maker, and the acreage of those discretionarily closed lands is described below under each alternative.

Under all alternatives, certain lands are closed beyond the discretion of the BLM. These are lands specifically precluded from Federal fluid mineral leasing by law, regulation, or Secretarial or Executive Order, or that have been otherwise formally closed by decisions reached beyond the scope of the BLM. Within the BLM's decision area, these include four Wilderness Study Areas (WSAs), an air navigation site, and an old Air Force bombing and gunnery range. These non-discretionary closures total approximately 55,823 acres (3 percent of the land in the decision area).

The No-Action Alternative is the existing management under the 1986 White Sands RMP. This Alternative represents continued implementation of existing management plans, policies, and decisions, some of which are outdated and not in compliance with current BLM program direction. Lease issuance would continue to be considered on a case-by-case basis; that is, each lease application would be reviewed and evaluated comprehensively for compliance with NEPA. Once a lease is issued, the BLM would continue to implement, primarily, standard lease terms and conditions to manage operations in a manner that would minimize impacts on resources, land uses, and users.

A substantial amount of land open to leasing would remain open with standard lease terms and conditions – approximately 1,972,426 (96 percent). This Alternative includes 46,047 acres as non-discretionarily closed to leasing (2 percent), and approximately 14,838 acres (less than 1 percent) would be discretionarily closed to leasing. Less than 1 percent would be leased with a stipulation of no surface occupancy. None of the available land would be leased with a stipulation of controlled surface use.

Alternative A Modified was the BLM's Preferred Alternative in the Final EIS, and was further changed as described in the Supplement to Final EIS. This Alternative complies with current management direction by: (1) clearly identifying which land under BLM jurisdiction will be available for development through leasing; and (2) describes how available land will be managed, including constraints in the form of stipulations attached to new leases. This provides the lease applicant with information, in advance of leasing, regarding the availability of land for leasing and constraints, if any, which will be attached to the lease.

Under this Alternative, the amount of land open to leasing with standard lease terms and conditions will be about 1,406,625 acres (69 percent) within the two-county planning area. Approximately 65,887 acres (3 percent) would be discretionarily closed to leasing. The amount of land open to leasing with a stipulation of no surface occupancy will be approximately 40,526 acres (2 percent). Further balance is achieved by adding controlled surface use stipulations for approximately 484,135 acres (24 percent) of land open to leasing.

A stipulation will be attached to leases covered by this plan amendment to inform the lessee that BLM, as a part of the site-specific analysis for surface disturbing activities, may be required to conduct further environmental analysis, if oil and gas development activities appear likely to exceed that which was analyzed in the development of this RMPA. This is a NEPA requirement that BLM will have to undertake.

As projected in the Reasonable Foreseeable Development (RFD), BLM analyzed potential impacts from a maximum of 141 wells to be drilled, resulting in less than 1,600 acres of disturbance. The two-county planning area is considered a frontier area, and the best available information indicates a small level of development; however, unexpected exploration success could produce a situation where the potential for development exceeds that projected in the RFD. The following special lease stipulation will be attached to future leases to explain this

situation and make clear that total surface disturbance above the 1,589 acres associated with the RFD is not currently authorized and may not be authorized in the future.

“The total combined surface disturbance from exploration, drilling, production and other activities associated with lease operations cannot exceed 1,589 acres in Sierra and Otero Counties. Surface disturbance is considered to be any surface altering activity that the operator proposes to conduct, from the time that a lease is issued, through the time that the lease expires. Approval of future requests for lease related activities may be delayed or denied, as BLM conducts required NEPA review. This limitation applies to all maintenance and operation of producing wells on this lease and any subsequent sublease or other assignments of any type.”

In the case of existing leases (issued prior to approval of this RMPA), a Notice to Lessees will be issued to inform the lease holders of the possibility of BLM’s requirement for further environmental analysis.

Alternative B (Environmentally Preferred Alternative) would set aside more acreage from leasing and create greater levels of restriction to mitigate impacts. While this Alternative is environmentally preferable and complies with some of the current management direction, it is not fully consistent with the recommendations of the President’s Energy Policy Development Group and Executive Order (EO) 13212, which outlines the President’s policy toward increasing production in an environmentally sound manner. This Alternative is also inconsistent with BLM guidance regarding the appropriate application of stipulations. BLM Handbook H-1624-1 Planning for Fluid Mineral Resources, calls for the use of the least restrictive stipulation that effectively accomplishes the resource management objectives or uses for a given alternative. BLM did provide a thorough analysis of this Alternative in the Draft RMPA/EIS, however this alternative would likely preclude exploration and development, as BLM has analyzed in, and would make exploration activities difficult or impossible over much of the planning area. Therefore, this alternative would not provide for a balance of the local, state, and National interests.

Under this Alternative, the amount of land open to leasing with standard lease terms and conditions would be about 639,445 acres (31 percent) within the two-county planning area. This alternative includes approximately 46,047 acres as non-discretionarily closed to leasing (2 percent), and approximately 281,149 acres (14 percent) would be discretionarily closed to leasing. The amount of land open to leasing with a stipulation of no surface occupancy would be approximately 184,320 acres (9 percent), and the land open to leasing with stipulations of controlled surface use would be approximately 892,262 acres (43 percent).

MANAGEMENT CONSIDERATIONS

Comprehensive land use planning is a requirement of the Federal Land Policy and Management Act (FLPMA). This RMPA updates decisions for oil and gas management from the 1986 White Sands RMP. Although the White Sands RMP has been amended four times between 1987 and 2001, only one of the amendments affected oil and gas activities. The Otero County Areas of Critical Environmental Concern (ACEC) RMP Amendment (August 1997) made decisions to discretionarily close to leasing six ACECs in Otero County. The decisions from that amendment are still valid and have been carried forward.

The use of public land and the Federal mineral estate for the development of reliable domestic sources of energy is consistent with the President's EO 13212 as well as with FLPMA.

The BLM has reviewed all the alternatives discussed in the RMPA/FEIS and the predicted environmental, economic and social consequences. Implementation of Alternative A Modified, as changed via the Supplement, will provide for exploration and development of oil and gas resources by identifying what land would be made available for leasing, and clarifying what necessary restrictions would apply to some of the land beyond standard lease terms and conditions. The RMPA also identifies what land is closed to leasing for the protection of other natural resources or for safety purposes. This decision is the result of extensive public input, including close involvement with the New Mexico Resource Advisory Council and the Otero County Board of Commissioners, which has been a cooperating agency on this planning effort.

MITIGATION MEASURES

The land use plan decisions in this RMPA focus on oil and gas leasing. Areas within the decision area that are closed to leasing are listed in Appendix A. Appendix B lists areas that will be open to leasing with stipulations or notices. Applicable stipulations or notices are published in the lease sale notice prior to competitive bidding. These stipulations and notices would then be incorporated into leases prior to the parties signing the lease contract.

The BLM will incorporate appropriate Best Management Practices (BMPs) into proposed Applications for Permit to Drill (APDs) and associated on- and off-lease rights-of-way (ROW) approvals after appropriate NEPA evaluation. BMPs are innovative, dynamic, and economically feasible mitigation measures applied on a site-specific basis to reduce, prevent, or avoid adverse environmental or social impacts. BMPs are applied to management actions to aid in achieving desired outcomes for safe, environmentally sound resource development by preventing, minimizing, or mitigating adverse impacts and reducing conflicts. The early incorporation of BMPs into APDs by the oil and gas operator helps to ensure an efficient and timely APD process. The BLM has developed BMPs specific to public land management in Sierra and Otero Counties. These BMPs are listed in Appendix C and will be applied as Conditions of Approval on APDs and as stipulations attached to right-of-way grants.

The BLM will continue to seek partnerships with academic and research institutions to refine and improve rehabilitation techniques and materials for public land that is arid or semi-arid. For example, the BLM currently has an agreement with the Natural Resources Conservation Service (NRCS) Plant Material Center in Los Lunas, New Mexico to produce riparian plant materials. The Plant Materials Center's research and development program has recently improved techniques to grow black grama under farm conditions used by commercial seed producers. Black grama is a semi-arid grass common to Sierra and Otero Counties. Thus, black grama will be available for reseeding on disturbed sites in Sierra and Otero Counties.

The BLM will link rehabilitation requirements to the species that are growing adjacent to disturbed sites. This will be done at the Notice of Staking (NOS) or APD Pre-Drill onsite inspection stage. There will also be an assessment of the potential for successful reclamation of proposed well pad sites and ROWs, and relocation of these proposed locations will be considered as needed. When the BLM determines that a seed source for a particular species, such as black grama, is scarce or not available, the BLM will develop a source for those needed seeds. For example, the BLM has an existing agreement with the Adelante Resource Conservation and Development (RC&D) Office to grow plant seed that is needed by the BLM,

but is not available commercially. Initially, this program will be used to expand the opportunities to make black grama seed available. As other seeds are identified as not being available, BLM will develop a partnership to improve availability.

PLAN IMPLEMENTATION AND MONITORING

This RMPA identifies the majority of public land within Sierra and Otero Counties as open to leasing. There are numerous uncertainties as to the amount and type of oil and gas development expected in the planning area, especially since 99 wells have already been drilled and plugged. The BLM's Reasonable Foreseeable Development (RFD), a projection of the Federal fluid mineral actions likely to occur in the Planning Area over the next 20 years, anticipates the development of three modest oil fields and three gas fields. The approximate number of acres that are projected to be disturbed directly from exploration and development activities is 1,590 in the short term (1 to 3 years from implementation of ground-disturbing actions) and 862 over the long term (up to 30-year life of the projected fields' facilities, structures and disturbances). For geothermal resources, the approximate numbers of acres that are projected to be disturbed from geothermal exploration and development activities is 27. Only limited exploratory drilling for oil and gas has taken place on existing leases in Otero County. However, there have been 99 wells that have been plugged and 3D seismic (geophysical) exploration has demonstrated a modest level of activity.

This section briefly describes how implementation of the approved RMPA decisions will occur and how monitoring will be conducted. The BLM will develop an Implementation Strategy which will guide the leasing, development, and reclamation processes. The BLM will track implementation of the plan and periodically issue an implementation status report informing the public of the BLM's progress.

Leasing And Development

Leasing Process

Public land is available for oil and gas leasing only after it has been evaluated through the BLM's multiple-use planning process with public involvement. FLPMA requires a balanced management of the natural resources on public land, and the Minerals Leasing Act requires conservation and development of mineral resources such as oil and gas. In areas where development of oil and gas resources would conflict with the protection or management of other resources or public land uses, mitigating measures are identified and may appear on leases as either stipulations to uses or as restrictions on surface occupancy.

Congress passed the Federal Onshore Oil and Gas Leasing Reform Act of 1987 requiring all public land that is available for oil and gas leasing be offered first by competitive leasing. Noncompetitive oil and gas leasing may take place only after the land has been offered competitively at an oral auction and did not receive a bid.

When lease nominations are received, a specialist will complete a Documentation of NEPA Adequacy (DNA), for the parcels proposed for the lease sale. If a DNA concludes that there is significant new information bearing on the environmental effects of the proposed action, then the BLM will complete appropriate NEPA analysis. The DNA will ensure that the BLM updates any current information on changes from the RMPA/EIS. It also ensures that all stipulations are

attached to each individual lease as prescribed by the RMPA/EIS. If BLM concludes that a proposed action does not conform to the RMPA, then the action will not be approved unless the RMPA is further amended.

The maximum competitive lease size is 2,560 acres. The maximum noncompetitive lease size is 10,240 acres. Both competitive and noncompetitive leases are issued for a 10-year period. Both types of leases continue for as long thereafter as oil or gas is produced in paying quantities.

A Notice of Competitive Lease Sale, which lists lease parcels to be offered at the auction, will be published by each BLM State Office at least 45 days before the auction is held. Lease stipulations applicable to each parcel are specified in the Sale Notice as developed by the BLM Field Office with administrative jurisdiction, and reviewed by the staff from the BLM State Office hosting the sale. Oral auctions for all oil and gas leases are conducted by BLM State Offices not less than quarterly when parcels are available.

Oil and gas leases expire at the end of their primary term - the 10th year - unless diligent drilling operations are in progress on or for the benefit of the lease; the lease contains a well capable of producing oil or gas in paying quantities; or the lease is receiving or is entitled to receive an allocation of production under the terms of an approved communitization agreement or unit agreement.

The owner of an oil and gas lease also may surrender the lease in whole or in part by filing a written relinquishment with the proper BLM State Office having jurisdiction over the land affected. A relinquishment takes effect on the date it is filed. However, the lessee must plug any abandoned wells, perform other work as may be required by the BLM to place the leasehold in proper condition for abandonment, and bring his/her account into good standing. If the lessee fails to perform the necessary work, the lessee's bond will be used to do so, and the lessee will be prohibited from leasing any additional Federal land.

Development Process

Careful tracking of leasing and development activities will allow the BLM to ensure its planning documents remain valid and the RFD is not exceeded. Due to planning constraints and development limitations, industry will be required to limit surface disturbance to only those acres needed for their exploration and development.

The BLM will require special mitigation measures (such as use of BMPs) or incorporation of Unitization and Plans of Development, as needed. The BLM is required by regulation to provide a comprehensive geologic and engineering review of each drilling permit, and provide drilling fluid, casing and cementing programs that isolate and protect all down-hole formations (groundwater and other mineral-bearing zones).

A lessee shall have the right to use only so much of the leased land as is necessary to explore and drill for, extract, remove, and dispose of oil and gas deposits that may be found in the leased land. Subject to special restrictions as noted above, the leases are granted on the condition that the lessee obtains BLM approval before conducting any surface-disturbing activities. The oil and gas lease conveys the right to develop those resources on the leased land. The BLM is mandated to develop site-specific NEPA analysis reviews and New Mexico BLM guidance requires the field offices to conduct on-site inspections with affected public land users. These on-site inspections have included Otero County Commissioners and other

affected parties that contribute ideas and suggestions of oil and gas well location and access. The BLM will develop an implementation strategy which will provide more specifics for guiding the leasing and development under this RMPA.

Sierra and Otero County Leasing and Development

Based on the large acreage nominated in 1998, there appears to be extensive lease interest in at least a portion of the 2.1 million acre area covered by the RMPA. While the 1986 RMP provided for the vast majority of public land to be open to leasing under Standard Lease Terms and Conditions, the signing of the ROD and the approved RMPA will provide the BLM with a methodical framework in which to issue leases in the two-county area covered by the RMPA. Leasing had been deferred in this two-county area while the RMPA was being developed. BLM will respond to the lease nominations now that the plan for the two-county area has been approved. Prior to the 1998 quarterly lease sale, approximately 250,000 acres in Otero County were nominated for oil and gas leasing.

The BLM will develop a lease strategy that will take into account such factors as industry interest, natural resource concerns, and ongoing exploration and/or development. BLM will offer leases in blocks over time, monitor exploration and production activity and determine the conditions under which additional lease parcels will be offered.

Stipulation Identification

BLM has integrated all decisions and stipulations from the RMPA/EIS and the supplemental EIS into a single GIS coverage. At any time, a specialist will be able to query by either aliquot part or by a UTM coordinate and know what type of stipulation is tied to that lease. Prior to offering lands for lease, the BLM State Office Adjudication Staff reviews the records to identify which lands are available for leasing and determine if stipulations need to be attached to the lease form.

Unitization

Excluding the 35,790 acres of discretionary closures, the remaining Nutt and Otero Mesa desert grassland habitat areas will be open to leasing, but the RMPA requires new lessees to form exploratory units prior to commencing drilling activity. This special protection measure will allow the BLM to manage the surface in an orderly way, as well as to control the rate of reservoir development.

The BLM has the authority to approve Unit Agreements; require specific provisions of Unit Agreements; establish the rate of exploration and development; approve the tract allocation formula; and terminate units that cease production (or where production was never established). The objective is to protect remnant Chihuahuan Desert grassland habitat and associated special status species of wildlife through improved planning of future oil and gas development on a unit.

A simple definition of unitization is the operation of multiple leases as a single lease under a single operator. A Federal Oil and Gas Unit would result in less surface disturbance. Wells would be drilled in the most favorable locations without regard for spacing. The operator and the BLM would establish corridors for access roads and pipelines, and there would be no need for redundant facilities.

There are also lease benefits in that individual leases could be extended beyond their primary term without actual production, as long as there is production on the unit. The Las Cruces Field Office currently has one existing unit (Bennett Ranch Unit), and has identified other areas that would require unitization.

Tracking The 5 Percent Stipulation

Otero Mesa and the Nutt grasslands contain high-quality Chihuahuan Desert grassland habitat. In an effort to limit disturbance on desert grassland habitat, the BLM has implemented a unique stipulation restricting surface disturbance to no more than 5 percent of the exploratory unit at any one time. This limitation applies to all maintenance and operation of producing wells on this lease and any subsequent sublease or other assignments of any type. The BLM is developing an automated tracking system to ensure lessee compliance including the use of satellite imagery, global positioning system mapping, and geographical information systems (GIS) analysis to enforce the 5 percent limitation to the applicable new leases.

Tracking The RFD

The BLM will closely monitor acres disturbed to ensure the RFD is not exceeded. As previously stated, the number of acres projected to be disturbed directly from activities is 1,590 in the short-term (1 to 3 years from implementation of ground-disturbing actions) and 862 over the long-term (up to 30 years). For geothermal resources, the approximate number of acres that are projected to be disturbed from geothermal exploration and development activities is 27.

The BLM has created a GIS tracking database to monitor and track the RFD. At any time, the BLM will be aware of the number of acres disturbed within each lease, acres of disturbance within each unit, and the total of disturbed acres for the entire planning area. The database will also track acres of successful reclamation, both inside and outside the unitized areas.

The BLM is actively seeking greater partnering with Otero County and the local communities to evaluate and monitor the oil and gas activities as has been witnessed by their participation during on-site inspections at surrounding well locations.

Reclamation

It is a statutory mandate of the BLM to ensure reclamation and closure of oil and gas operations be completed in an environmentally sound manner. The BLM's requirements for reclamation are to shape, stabilize, revegetate, or otherwise treat disturbed areas in order to provide a productive use of the land which conforms to the approved land-use plan for the area.

Short-term reclamation requirements are to stabilize disturbed areas and to protect both disturbed and adjacent undisturbed areas from unnecessary and undue degradation. The BLM reclamation practices are derived from the Solid Mineral Reclamation Handbook H-3042-1 and the Surface Operating Standards for Oil and Gas Exploration and Development (Gold Book). These handbooks provide reclamation information and guidance applicable to various situations and conditions.

The Sierra and Otero County RMPA for Fluid Minerals Leasing places great emphasis on successful reclamation. A primary purpose of the BLM's reclamation program is to stabilize the surface against the long-term effects of erosion. Another major objective is to return the site to a productive post-operational use that reflects the pre-disturbance conditions.

A reclamation plan will be part of the Surface Use Plan of Operation (SUPO). The BLM will monitor the effectiveness and success of reclamation activities during exploration, construction, production, and abandonment of oil and gas associated development. Reclamation will be considered successful when healthy, mature perennials are established with a composition and density that closely approximates the surrounding vegetation as prescribed by the BLM, and the reclamation area is free of noxious weeds. All operations are covered by a bond as required by 43 CFR 3104.1.

A number of standard practices which have proven beneficial to successful reclamation have been identified by the Las Cruces Field Office and are summarized below. More detail on BMPs is found in Appendix C. These standards should be incorporated into the operator's reclamation plan as applicable to specific-site conditions.

General Principles:

1. Total surface disturbance will be minimized.
2. Topsoil must be removed and stockpiled at the site prior to construction for reapplication during reclamation.
3. Original topographic contours must be restored prior to reapplication of topsoil.
4. Erosion control measures will be utilized as necessary (water bars, slope reduction, contouring, terracing etc.)
5. Noxious weeds must be controlled at all times.
6. Revegetation success will be evaluated using performance-based standards. Parameters will include the percent basal cover of mature approved species as compared to an adjacent undisturbed area. Operators will be required to use any means necessary to achieve acceptable revegetation including irrigation if rainfall during the growing season proves insufficient.
7. The BLM will continue to engage partners to leverage improved practices including participation at on-site inspections, monitoring development activities, and at final reclamation of disturbed sites.

Well Pad Reclamation:

1. Following completion of a producing well, the well pad will be reduced in size to the minimum area required for actual operation of the well. Seeding will be accomplished prior to the beginning of the growing season.
- 2a. The New Mexico Oil Conservation Division (OCD) has amended the current rule to establish new provisions for the Chihuahuan Desert in most of Sierra and Otero Counties.

Rule #21 prohibits the use of pits in oil and gas well drilling. It requires the use of steel tanks and a closed system for drilling fluids as a means of protecting surface and groundwater resources from contamination by leaks and spills.

2b. Reserve pits, where allowed, must be dry prior to backfilling.

3. Proper disposal of debris and other trash including all toxic products will be followed.

4a. Upon closure of the mud pits, when their use is allowed, they will first be dried, liners folded in, and all cuttings will be covered with at least 3 feet of soil cover. Pits must be mounded to facilitate drainage and allow for settling.

4b. Following the requirements of Rule #21 in the Chihuahuan grasslands area of Sierra and Otero Counties, solids and liquids remaining in the steel tanks will be hauled off site and disposed of in an authorized facility. There will be no mud pits to fill.

5. Seeded areas must be fenced to exclude cattle and sheep for the duration of the revegetation process.

6. The BLM will establish pilot plots to evaluate different reclamation methods and seek improved reclamation techniques.

Road Reclamation:

1. Topsoil must be stockpiled in a suitable area for reapplication upon reclamation.

2. Measures to prevent vehicle travel (such as fencing, barricades and signage) must be utilized on roads during the reclamation process.

Pipeline Reclamation:

1. Disturbed working-area width will be kept to a minimum and outside limits flagged prior to beginning construction.

2. Topsoil must be removed and windrowed for reapplication after backfilling.

3. Backfill will be compacted in lifts and topsoil reapplied to the surface.

Seed Mixes:

1. Operators will use the BLM-prescribed seed mixes, appropriate to soils and ecological site descriptions for the location.

2. BLM will experiment with different mixes to improve chances for successful reclamation.

PUBLIC INVOLVEMENT

The public participation process has been ongoing throughout the development of the RMPA/EIS. In addition to formal public participation activities, informal contacts occur frequently with public land users, industry, and interested persons through meetings, field trips,

telephone calls, or letters. All public participation applicable to the RMPA/EIS has been documented and analyzed as part of the planning process and kept on file in the Las Cruces Field Office.

Identification of Issues

The RMPA/EIS and scoping process officially began on October 15, 1998, with the publication in the Federal Register of the BLM's Notice of Intent to amend the RMP, prepare an EIS, and conduct public scoping meetings. This notice invited the general public as well as Federal, State, and local government agencies to identify issues and submit comments regarding the RMPA/EIS.

In addition to the Notice of Intent, BLM prepared a scoping notice to send to interested parties. The scoping notice included a brief letter from the Las Cruces Field Office Manager, a newsletter, and a comment form. The notice provided background information, announced the preparation of the RMPA and EIS, explained the planning process, project schedule, agency responsibilities, and announced the public scoping meetings and other public participation opportunities. The scoping notice was distributed to approximately 700 agencies, interested organizations, and individuals in early October 1998. The mailing list has been reviewed and updated throughout the RMPA/EIS process.

The BLM issued a media release introducing the project and announcing the scoping meetings on October 21, 1998 to local and regional newspapers, television, and radio.

Three public scoping meetings were held in early November 1998 to obtain input on issues and planning criteria, and to determine the scope of the RMPA/EIS. Table 1 summarizes public meeting attendance and number of oral comments.

**TABLE 1
PUBLIC SCOPING MEETING ATTENDANCE AND COMMENTS**

MEETING DATE	MEETING LOCATION	NUMBER IN ATTENDANCE	NUMBER OF SPEAKERS
November 2, 1998	Roswell, New Mexico	65	18
November 4, 1998	Alamogordo, New Mexico	15	8
November 5, 1998	Truth or Consequences, New Mexico	22	9
Total		102	35

In addition to comments received during the public meetings, a total of 36 comment forms and letters were submitted to BLM. Scoping ended on November 16, 1998; however, additional comments were accepted after that date.

A Summary Scoping Report was issued in January 1999 that described the scoping process and summarized the public comments and issues obtained.

Public Review of the Draft RMPA/EIS

The Draft RMPA/EIS was filed with the U.S. Environmental Protection Agency (EPA) on November 7, 2000. A Notice of Availability (NOA) was published by the BLM and EPA in the

Federal Register on November 16 and 17, 2000, respectively, which marked the beginning of the 90-day public review and comment period.

In late December 2000, during the 90-day period, BLM received a letter written by the Independent Petroleum Association of America requesting an extension of 60 days to the comment period. The extension was granted. Subsequently, based on a request by an Otero County Commissioner, the comment period was extended an additional 45 days, making the total public comment period 195 days long.

At the time the Draft RMPA/EIS was distributed for review, BLM planned to conduct public hearings in January 2001 to listen to the public's comments on the Draft RMPA/EIS. The dates and locations of the hearings were announced in the NOA and the "Dear Reader Letter" at the beginning of the Draft RMPA/EIS. An open house preceded each hearing to provide opportunity to view maps and other informational displays, and to ask questions about the planning process and its results. A hearings officer conducted the hearings allowing individuals to provide formal comments on the Draft RMPA/EIS. The dates, locations, and number of attendees and speakers are shown in Table 2.

**TABLE 2
JANUARY 2001 PUBLIC HEARINGS ATTENDANCE AND COMMENTS**

HEARING DATE	HEARING LOCATION	NUMBER IN ATTENDANCE	NUMBER OF SPEAKERS
January 9, 2001	Roswell, New Mexico	16	9
January 10, 2001	Alamogordo, New Mexico	25	6
January 11, 2001	Truth or Consequences, New Mexico	11	3
Total		52	18

In addition, following the first set of hearings in January 2001, a second set of three public hearings was conducted in April 2001. The dates, locations, and numbers of attendees and speakers are shown in Table 3.

**TABLE 3
APRIL 2001 PUBLIC HEARINGS ATTENDANCE AND COMMENTS**

HEARING DATE	HEARING LOCATION	NUMBER IN ATTENDANCE	NUMBER OF SPEAKERS
April 3, 2001	Roswell, New Mexico	12	6
April 4, 2001	Alamogordo, New Mexico	60	21
April 5, 2001	Truth or Consequences, New Mexico	8	5
Total		80	32

The extensions to the review and comment period and added set of public hearings were intended to provide ample opportunity for public comment on the Draft RMPA/EIS.

The BLM carefully reviewed the numerous written and oral comments. Based on the comments, the BLM developed a modification of Alternative A that was reviewed by and received input from BLM management as well as the New Mexico Resource Advisory Council (RAC). The RAC is a statewide body of citizens, chartered under the Federal Advisory Committee Act (FACA), representing a diversity of interests advising the BLM about public land issues and solutions. Following a recommendation by the RAC, the BLM agreed to fund the services of a professional mediator to allow for further discussions regarding the Otero Mesa area. The mediator, selected by the RAC, was tasked with convening a RAC subcommittee to

develop a consensus for an alternative plan regarding how leasing would take place on Otero Mesa. Following an assessment period, the mediator determined that mediation, as identified by the RAC and the BLM, would not be possible. Even though mediation did not proceed, the BLM has been a part of a number of discussions with the RAC, which have aided in the development of portions of the Proposed Plan.

All written and oral comments received during the cumulative 195-day comment period were compiled, analyzed, and addressed. A summary of the most common comments received is

provided in Section 5.5.1 of the Proposed RMPA/FEIS, and all written and oral comments and responses to those comments are provided in Appendix G (Volume II) of the Proposed RMPA/FEIS.

In addition to comments received during the formal public comment period, the Las Cruces Field Office received additional letters, postcards, and electronic mail messages regarding the RMPA/EIS and future publication of the PRMPA/FEIS. The comments are briefly summarized in Section 5.5.2 of the Proposed RMPA/FEIS.

Protest Period for the Proposed RMPA/Final EIS

The BLM published the NOA in the Federal Register on January 9, 2004. The BLM had distributed the PRMPA/FEIS to all interested individuals, organizations and agencies, and a 60-day Governor's Consistency Review, and a 30-day public protest period followed.

Summary of Protest Issues

The BLM Director received 25 letters regarding the Proposed RMPA/FEIS during the 30-day protest period. The main issues raised during the protest period were:

- Protection of ground water resources
- Substantial changes were made between the Draft and Final RMPA/EIS
- Chihuahuan Desert grassland resources would not be adequately protected
- Concern that the use of the 5 percent limit on surface disturbance and unitization in the Nutt and Otero Mesa Grasslands, would not prove effective
- The BLM Failed to acknowledge the significance of diverse plant species
- Restoration of Chihuahuan Desert grassland would be unachievable
- The BLM failed to address cumulative impacts from drilling in adjacent areas
- Wildlife generally were inadequately protected
- High values of two grasslands are not protected
- Failure to recognize the values of the Chihuahuan Desert scrub
- Changes between Draft and Final RMPA/EIS reduce protection to watershed areas
- To replace DEIS Alternative A with FEIS Mod Alternative A is flawed (changed scope)
- FEIS Environmental Consequences Analysis is flawed
- Scope of the RFD has been reduced
- Proposed plan violates the Endangered Species Act
- The BLM failed to fully consider impacts in violation of NEPA
- Oil and Gas leasing violates FLPMA
- Wilderness values in areas outside of recognized Wilderness Study Areas are not adequately addressed or protected

Protest Resolution

The resolution of protests is the responsibility of the BLM Assistant Director for Renewable Resources and Planning whose decision is the final decision of the Department of the Interior. The Assistant Director received a total of 25 protest letters. Twelve of the protestors did not demonstrate standing by which to protest, meaning they had not previously participated in the planning process. Four letters expressed disagreement with or stated positions regarding the planning effort, but did not define any issues to be resolved.

Letters from protestors whom the BLM determined to have standing were reviewed and protest issues and comments were identified. Each protest issue was responded to in return letters sent to each protestor. Individuals without standing were also sent return letters. Protest letters that identified concerns rather than protest issues will also be sent a letter of response after the issuance of this ROD.

Governor's Consistency Review

The New Mexico Governor provided the BLM New Mexico State Director with a 48-page consistency review (as provided for in 43 CFR 1610.3-2), and a statement of opposition to the BLM's preferred alternative in the RMPA. In that document, the Governor provided his assessment of consistency with officially approved and adopted resource-related policies and programs. The Governor's statements of inconsistency were responded to by the New Mexico State Director on May 19, 2004. Also included in that letter, was the New Mexico State Director's decision to not accept the Governor's proposed alternative.

Governor's Appeal

The New Mexico State Director issued a response rejecting the Governor's recommendations but addressing all issues raised in his Consistency Review. The Governor subsequently appealed the State Director's rejection of his recommendations to the BLM Director. The BLM Director issued a final response (also published in the Federal Register) affirming the State Director and stating the reasons for rejecting the Governor's recommendations. As a result, only minor editorial modifications were made in preparing the RMPA. These modifications corrected errors that were noted during the review of the PRMPA/FEIS and provide further clarification for some of the decisions.

Comments On The Supplement To Proposed RMPA/Final EIS

Comment letters, e-mails and faxes sent to the BLM New Mexico State Director during the 30-day public comment period for the Supplement were reviewed and evaluated. The major comments received are summarized and responded to below.

Governor's Review, Alternative, And NCA Proposal – The main issue raised is that commenters believe that the BLM has not properly addressed the Governor's Consistency Review and have not adequately evaluated the Governor's proposed management alternative. The comments also indicated a belief that the BLM should consider the proposal for designation of a NCA and allow for the public to comment on the Governor's proposal.

Response: The BLM carefully evaluated the Governor's Consistency Review and Proposed Alternative and provided a response to him on May 19, 2004. This response explained why the BLM disagreed with his statements of inconsistency. The BLM also responded to him with an evaluation of the alternative he proposed. The BLM does not believe that his recommendation constitutes a reasonable balance between the Federal interests and State interests, and furthermore does not observe the BLM's fundamental principles of multiple use and sustained yield.

The BLM has already received comments from the public on a proposal very similar to what the Governor proposed, thus there was no need for additional comments. In this instance, the BLM has determined that his alternative was similar to one of the alternatives that was evaluated in the Draft RMPA/EIS, on which the public had an opportunity to comment.

In addition, the Governor's Consistency Review was made available for viewing on the BLM's website.

National Conservation Areas (NCAs) are not designated by the BLM. Congress would have to pass legislation which designates such a NCA as was suggested by the Governor and supported in many of the comments.

Comments Specific To Wording In The Supplement – One commenter was concerned that not all of his previously offered information was used, thereby changing the intent of his statement regarding use of directional or deviated wells. This was regarding a partially quoted statement made in a letter provided by the New Mexico Bureau of Mines and Mineral Resources during the comment period on the Draft RMPA/EIS. Also, this commenter has recommended that the BLM consider applying closure to areas of lower potential and allowing drilling in areas of higher potential.

Response: The full statement referred to is found on Page G-I-45 in Volume II of the PRMPA/FEIS, and had been fully evaluated by the BLM prior to development of the PRMPA/FEIS and the Supplement.

The BLM recognizes that as the petroleum resource is identified, directional and even horizontal well drilling may become more appropriate and economically feasible. As target reservoirs are identified, this may even become preferable by the lessees as it may be that several wells could be drilled from one well pad. This would also reduce the acreage requiring reclamation. The BLM agrees that it may be feasible to conduct limited exploration with deviated wells. However, given the lack of knowledge about possible reservoirs, the added expense, and the limited number of wells expected to be drilled over the next 20 years in Sierra and Otero Counties, the BLM does not believe that requiring the use of directional or deviated wells at this stage is appropriate, and may in fact preclude necessary exploration of potentially important national petroleum resources.

The BLM indicated in the Draft and Final RMPA/EIS, there are areas that have either, low potential or medium potential, and other than a small area around the two wells on the Bennett Unit, there is no indication of high potential of encountering the resource. No information has been offered by industry experts, agency personnel, or other geologic scientists, to support where high probabilities exist of encountering petroleum reservoirs. The BLM believes that this information will only evolve following more exploratory drilling. Without this, there would be no feasible way to apply the approach offered by the commenter. With this in mind, the BLM has

developed necessary mitigations, which includes closing 35,790 acres of the most intact and environmentally sensitive area to leasing. It is important to note that those acres may in fact overlay fluid mineral reservoirs, which will not be developed.

Wilderness – There were many comments from the public regarding a belief that the BLM should provide protection to “pristine wilderness” areas including the area proposed by the New Mexico Wilderness Alliance (NMWA) for designation as wilderness.

Response: Much public discussion has been taking place regarding wilderness issues. The planning area for this RMPA has four Wilderness Study Areas (WSA) that were the result of the BLM’s wilderness inventory in the late 1970’s and early 1980’s. When the NMWA asked the BLM to consider their Citizen’s Wilderness Proposal, the BLM researched the records and determined that no new information was provided in the proposal presented by NMWA.

The BLM has determined that portions of the area described in the Citizen’s Wilderness Proposal, have naturalness, solitude, or primitive/unconfined recreation. Impacts to these resources will be mitigated as part of management of oil and gas activities, through the decisions identified in this ROD/RMPA. Protection will be given to resources such as WSAs, Areas of Critical Environmental Concern (ACEC), Nominated ACECs, cultural resource areas, historic trails, and areas of visual resource importance, as well as minimizing disturbance to the important Chihuahuan Desert grassland habitat.

Aplomado Falcon – There were many comments focused on the aplomado falcon and protections for that endangered species. Many expressed an appreciation of the BLM’s decision to close 35,790 acres of potential habitat, but also expressed concern over how the BLM would manage habitat outside of that area. Other comments expressed concern over the BLM’s conclusion that the Proposed RMPA would not be likely to adversely affect the aplomado falcon. In addition, there were questions raised as to how the BLM selected the 35,790 acres for closure, and whether studies were conducted to evaluate the needs of the falcon (and other species).

Response: Although the endangered aplomado falcon has been sighted on rare occasion in Otero County, neither the Otero Mesa or Nutt grasslands are considered by any scientists to contain “occupied” aplomado falcon habitat. These areas are considered as potential habitat which might be used if aplomado falcon were to move back into Otero County. The BLM designated the 35,790 acres as closed to leasing following an evaluation of data available regarding criteria that make up known requirements of aplomado falcon for habitat.

The three areas identified for closure to leasing (35,790 acres) were identified first by using the model developed by the New Mexico Cooperative Fish and Wildlife Research Unit, then by conducting field visits with wildlife biologists to verify on the ground, the results of the model. The model is in the report titled: “Characterizing and Predicting Suitable Aplomado Falcon Habitat For Conservation Planning in the Northern Chihuahuan Desert”. The result was the identification of one area in Sierra County (Nutt Grassland- 8,094 acres) and two areas in Otero County (Otero Mesa- 27,696 acres), that were the most intact representations of aplomado falcon habitat. Although there is no evidence to indicate that aplomado falcons regularly visit either Sierra or Otero County, and there is no record of the falcon nesting in these two counties, the BLM believes that by setting aside these three areas of best falcon habitat, there will be no impact to the falcon should they start to utilize the area.

The BLM also recognizes that aplomado falcon would possibly use other areas in the grasslands as well. In the remaining Chihuahuan Desert grassland areas, the BLM has provided further management direction in the RMPA that addresses oil and gas activities. In this remaining 85,351 acres of the Otero Mesa and Nutt grassland areas, a stipulation would be applied to future leases that limits the total amount of surface disturbance and requires unitization. This would reduce the overall footprint of surface disturbance from oil and gas related activities.

The decision to close 35,790 acres began as a provision to temporarily withhold those acres from leasing. This was developed as a part of informal consultation with U.S. Fish and Wildlife Service (FWS), and that was part of the final Biological Assessment provided to them. Following further discussion, the BLM determined that the proposed action was “Not Likely to Adversely Affect” the aplomado falcon, and the FWS has provided their concurrence with that determination. Subsequently, the New Mexico Governor has recommended that these acres be further protected by changing the decision from “deferred from leasing” to “closed to leasing”.

There are provisions that apply to any proposal for surface disturbing activities, regardless of whether they have specific stipulations attached to the leases. On every lease issued by the BLM is a standard lease term that requires the operator to avoid impacts to resources including Federally protected species. In addition, the BLM evaluates all projects through an assessment of environmental consequences. This includes an evaluation of the proposal to determine whether there would be any impact to species such as aplomado falcon.

Five Percent and Unitization and Other Stipulations – Numerous comments addressed the change of the stipulation for protection of Chihuahuan Desert Grasslands. Concerns were centered on whether the five percent and Unitization stipulation would work, and how this and other stipulations would be implemented, tracked, and monitored. Also, questions were raised over whether this approach should be applied over a larger area, beyond just the grasslands. In addition, there were questions as to whether a lower percent would be more appropriate.

Response: The change that the BLM has made regarding the lease stipulation to be applied to future leases in the grassland areas was based on feedback received on the Draft RMPA. Due to the comments received, very extensive discussion with a variety of publics, and further analysis by the BLM, it was determined that the most appropriate method of managing the Chihuahuan Desert grassland while allowing for fluid mineral exploration and development, would be through a stipulation to limit surface disturbance to five percent and require the leases to be unitized. The BLM has described the approach for implementation of this stipulation in this RMPA (see Plan Implementation and Monitoring). Furthermore, the BLM will not lease all the grassland areas at the same time, which will allow for this stipulation to be evaluated prior to subsequent leasing taking place. The implementation, tracking and monitoring of plan decisions, which includes the application and compliance with lease stipulations, is also described in the Plan Implementation and Monitoring section.

From the beginning of this planning effort, the BLM has intended to develop management guidance for oil and gas development in the sensitive grassland areas. The implementation of the 5 percent stipulation will allow for controlled development, while limiting the surface disturbance to the least necessary to explore for and develop the mineral resources. The BLM has also developed stringent BMPs, which will guide those development activities. The BMPs (see Appendix C), have been further improved over the course of this planning effort, with input from the public, agencies, and industry.

The BLM has identified the two grassland areas to be managed under the 5 percent stipulation, however the BLM does not believe that this same level of surface disturbance was warranted on the remaining planning area because the same level of resource sensitivity does not exist across all landscapes. The decision to apply a stipulation to a lease is derived from an evaluation of the existing resources and whether standard lease terms and conditions, along with BMPs, are sufficient to provide protection to those other resources. In the case of areas outside of the grassland area, the BLM has determined that the appropriate stipulations are those described in Section C.

The BLM also determined that while the 5 percent stipulation would limit surface disturbance, it would not likely preclude exploration and development. However, the application of a smaller percentage may quite possibly render much of this area uneconomical for development. In addition, the BLM is required to apply the least restrictive stipulation necessary to meet the needs for surface protection, and since the BLM determined that 5 percent was sufficient, a smaller percentage was not necessary and did not follow BLM's guidance.

Restoration/Reclamation – Comments focused on concerns that successful reclamation may not be possible and whether the BLM has analyzed the success of the methods proposed. There were also suggestions for the BLM to provide a better definition of reclamation.

Response: The BLM believes that reclamation is likely on Chihuahuan Desert grassland and there exists evidence of that on most of the older well pads in southern Otero County. The BLM also believes that the criteria developed through this planning effort and with public input, industry will be required to ensure reclamation, even when climatic conditions make it difficult. The BLM is also committed to monitor and evaluate reclamation efforts and incorporate that information into future reclamation practices. This will be an ongoing process and will incorporate industry's successes and failures, as well as any information that is available from ranchers in the area of development and information provided by individuals, academia, or other agencies.

The BLM has recognized the concerns raised over reclamation. A primary purpose of the BLM's reclamation program is to stabilize the surface against the long-term effects of erosion. Another major objective is to return the site to a productive post-operations use that reflects the pre-disturbance conditions.

A reclamation plan will be a part of the Surface Use Plan of Operations (SUPO). The BLM will monitor the effectiveness and success of reclamation activities during exploration, construction, production, and abandonment of oil and gas associated development.

Reclamation will be considered successful when healthy, mature perennials are established with a composition and density that closely approximates the surrounding vegetation as prescribed by the BLM, and the reclamation area is free of noxious weeds.

The BLM will continue to seek partnerships with academic and research institutions to refine and improve rehabilitation techniques and materials for the public lands that are arid or semi-arid. For example, the BLM currently has an agreement with the NRCS Plant Material Center in Los Lunas, New Mexico to produce riparian plant materials.

The Plant Material Center's research and development program has recently improved techniques to grow black grama under farm conditions used by commercial seed producers. Thus, black grama will shortly be available for reseeding on disturbed sites in Sierra and Otero Counties. Black grama is a semi-arid grass common to both Sierra and Otero Counties.

The BLM will tie rehabilitation requirements to the species that are growing adjacent to the disturbed sites. When the BLM determines that a seed source for a particular species such as black grama is scarce or not available, the BLM will develop a source for those needed seeds. For example, the BLM has an existing agreement with the Adelante RC&D Office to grow plant seed that is needed by the BLM, but is not available commercially. Initially, this program will be used to expand the opportunities to make black grama seed available. As others are identified as not being available, the BLM will develop a partnership to improve availability.

Water Issues – This issue was addressed by most of the commenters and focused on concerns over contamination of potential groundwater resources from oil and gas drilling activities. A suggestion has been made that all wells be cemented to their full depth. Also concerns have been raised about the extensive use of sparse groundwater resources.

Response: The BLM takes its responsibilities to protect groundwater very seriously, and there are a number of activities that would preclude contamination. First, the drilling of the shallow hole (where the surface casing will be placed) will be conducted with fresh water and/or air so that if a fresh water aquifer is encountered and infiltrated there will not be any potential for contamination.

In areas with scarce data concerning the occurrence of fresh water, such as Otero Mesa, operators will be required to run resistivity logs in the shallow holes to determine if and where fresh water aquifers occur. This will assist the both federal and state agencies in the search for useable waters for public use.

Fresh water is defined as having up to 250 to 500 parts per million (ppm) total dissolved solids (TDS), by EPA and the State, respectively. Under the Code of Federal Regulations, the BLM protects all useable water having up to 5,000 ppm TDS.

In New Mexico, the BLM geologist has been protecting waters with up to 10,000 ppm chlorides. This is because the State of New Mexico listings do not show TDS, but rather chlorides and Specific Conductance. While the value for chlorides isn't exactly equivalent to TDS, it is a useful indicator in New Mexico because it is the State's biggest issue concerning ground water. The BLM has been using a cutoff of 10,000 ppm chlorides for many years. Waters for irrigation purposes have a much lower limit depending on the crop, but generally around 3,000 ppm chlorides.

Prior to the approval of an Application for Permit to Drill (APD), a BLM geologist will do the following to ensure protection of water quality and quantity:

1. Review the proposed location of the well and determine where fresh water aquifers are located. The BLM geologist will determine the depth of the water using data from the New Mexico State Engineer's office, historic well records within Townships, and/or information from local ranchers.
2. The BLM geologist then determines how deep the surface casing (the first string of casing) will need to be set. [Casing is a metal tube which is put down into the drilled

hole and cemented in place.] The BLM will require that the casing be set in the deepest location below the water aquifer to not interfere with the aquifer. The geologist will pick a depth that is in competent (dense) rock in order to get a good seal around the base of the casing by using data obtained from nearby wells; casing is normally set 25 to 50 feet below the last occurrence of water. This number varies depending on the geologic environment.

3. If an operator does not propose to have the surface casing set deep enough to protect the aquifer, the operator will be informed by the BLM geologist where the surface casing will be set.
4. The following describes how casing is set in a well.
 - The wellbore is drilled larger than the expected casing size to facilitate cementing. Space (known as the annulus) is left between the wall of the hole (known as the borehole or wellbore) and the casing. Cement is then pumped down the casing and up the space between the outside of the casing and the borehole wall to the surface. The cement and casing thus seal up any water zones and prevent migration of fluids from one zone to another.
 - This process is repeated as the hole is deepened. A schematic of the casing in the hole looks like a telescope getting smaller in diameter as the hole gets deeper. Normally there are two to three strings of casing in a well depending on the depth of the hole and the types of problems and/or hazards that may be encountered. In the Otero Mesa area, there will be a minimum of two strings of casing each having the cement circulated to surface.

Another point that has been confused is that there is not anticipated to be very much water used in the exploration and development under the RMPA. The amount of water needed for the total number of wells anticipated, is no more than 75-acre feet. This is likely the total amount of water that would be used over the life of the plan.

NEPA Process/Public Involvement – Most of the issues raised were in regards to how the public was involved and how their comments could be received. Several questioned whether a No Action Alternative was considered and whether the BLM evaluated cumulative impacts. In addition, many questioned the adequacy of the analysis performed in the EIS. Other comments focused on concern that this plan only addressed oil and gas and failed to address other resources.

Response: Immediately upon request, the BLM publicly announced that comments will be accepted via e-mail and facsimile. This was announced in a press release to newspapers, radio, and television stations, as well as on the BLM's website that was established for this planning effort.

The entire planning process has been a very open effort with much involvement from a wide range of interests. The BLM has carefully followed its guidance for compliance with NEPA and BLM planning policy. The BLM carefully considered a No Action Alternative in the Draft and Final EIS. The No Action Alternative was to continue to manage oil and gas leasing under the existing planning decisions found in the 1986 White Sands RMP. In addition, an alternative to close the planning area to new leasing was considered as a possible method of resolving conflicts with other resources and uses. That alternative was eliminated from further analysis

because resource conflicts tend to be located in specific areas that are dispersed over a larger area or region. Closing the entire planning area to new mineral leasing would eliminate mineral development and production in areas where conflict does not exist, thereby placing unreasonable restrictions on such activities.

The BLM has evaluated impacts from development of oil and gas resources based on the Reasonable Foreseeable Development (RFD) described in the Proposed RMPA. The anticipated level of development is very small in comparison with other more productive areas in New Mexico. The RFD is based on all the available information regarding geology, past exploration activities, and the potential to encounter oil and gas resources. The data that is not known is where reservoirs will be found and whether the reservoir will be produced.

Based on the BLM's analysis of available information, it is expected that no more than three small gas fields and three small oil fields that would likely require about 84 wells for production. Although it is unknown where the fields might occur, the BLM analysis did evaluate the impacts of the development occurring in any of the four geographic areas that make up the two-county planning area. The overall surface disturbance from the RFD is no more than 1,600 acres. If the entire 1,600 acres were to occur within the Chihuahuan Desert Grassland areas in Nutt and Otero Mesa (85,351 acres) that are open to leasing, it would account for less than 2 percent of that surface area. In spite of a very small level of disturbance and the inability to identify where the impact will actually occur, the BLM evaluated cumulative impacts to determine the relative contribution of the RFD to other past, present, and reasonably future actions. These impacts are clearly identified in Section 4.3 of the PRMPA.

There was also a concern raised over the fact that this plan only addressed oil and gas activities, and failed to address other resources. The BLM indicated throughout the process, starting with scoping, that this was simply an amendment to the 1986 White Sands RMP, to update the fluid minerals management decisions. The 1986 White Sands RMP still has valid decisions for the other resources that are in effect and being implemented. If the existing plan has decisions where decisions need updating the BLM would amend the plan, which is what happened in the case of the fluid minerals management decisions.

U.S. Fish and Wildlife Service Consultation

Consultation with the U.S. Fish and Wildlife Service (FWS) is required prior to initiation of any project by the BLM that may affect any Federally-listed or proposed species, or designated or proposed critical habitat in accordance with Section 7 of the Endangered Species Act of 1973. The decisions in the RMPA may affect several listed species, and consultation has taken place. On January 5, 1999, the FWS provided a list of Federally listed species that may occur in Sierra and Otero Counties. This letter is on file in the BLM Las Cruces Field Office. An informal consultation meeting was held between the BLM and FWS on February 17, 1999 to discuss the scope of the RMPA/EIS and efforts to address Federally-listed, proposed, and candidate species. A Biological Assessment has been prepared and provided to the U.S. Fish and Wildlife Service for review. The BLM determined that the implementation of the Proposed Plan is "not likely to adversely affect" the 10 species on which the BLM consulted with the FWS. The FWS has concurred with the BLM's determination via memorandum dated October 14, 2003.

Agency Consultation

The New Mexico Department of Game and Fish and the New Mexico Natural Resources Department also have been contacted in regard to State-listed threatened and endangered plant and animal species. This is consistent with legislation protecting State-listed species. Coordination and consultation with the State has continued throughout the planning process, and will continue during implementation of the RMPA.

In addition, the BLM cultural resource management program operates in accordance with 36 CFR, Part 800, as implemented by the BLM's National Programmatic Agreement with the Advisory Council on Historic Preservation and the National Council of State Historic Preservation Officers and the NM BLM-NM SHPO Protocol, which provides specific procedures for consultation between the BLM and State Historic Preservation Office (SHPO). The SHPO has been consulted during the development of the RMPA concerning cultural resources. A copy of the Draft RMPA/EIS was sent to the SHPO for review and comment. This planning amendment, however, does not directly authorize any on the ground implementation activities that could cause potential effects to historic properties. BLM will consult with the SHPO when appropriate as implementation actions are considered in the future. As described in the "Tribal Consultation" section below, BLM is, in its leases, expressly retaining the authority to take such protective measures, at the time surface disturbing activities are proposed, as may be determined following site-specific consultation with the SHPO.

Tribal Consultation

With the issuance of the Supplement, the BLM has made several personal contacts via telephone, with each of the following tribes: Mescalero Apache, San Carlos Apache, White Mountain Apache, Fort Sill Apache, Ysleta del Sur, Comanche Indian Tribe, Isleta Pueblo, Kiowa Tribe, Hopi Tribe, and Navajo Nation. These tribes are listed on the Advisory Council of Historic Places (ACHP) web-site list of tribes by county.

The first contacts were to inform the tribe of the issuance of the Supplement and solicit the tribe's review. The second telephone contacts were to verify the tribes received the Supplement and to answer any questions that may have arisen or to explain the proposed decisions, if so desired. With these second contacts, we encouraged the tribes to review the Supplement, and to contact the BLM with any questions or to request a face-to-face meeting to discuss any concerns or questions they may have. BLM has not received any follow-up requests for further information, clarification, or face-to-face meetings.

In accordance with the National Historic Preservation Act, early efforts were made to identify and consider traditional cultural places. The Las Cruces Field Office contacted the five Native American tribes that have historical ties to the area of concern and that have provided input in the past regarding proposed actions within the Field Office's area of jurisdiction. Not all tribes listed on the Advisory Council on Historic Preservation's website have expressed a desire to be consulted regarding the PRMPA and FEIS for Sierra and Otero Counties or have a past history of expressing any desire to be consulted regarding the BLM undertakings in the area of the Las Cruces Field Office. The BLM sought to consult with those tribes that have historically expressed an interest in consulting regarding planned undertakings in this region.

In May 1999, letters were sent to Ft. Sill Apache, Mescalero Apache, San Carlos Apache, Ysleta del Sur, and White Mountain Apache. These letters described the most likely scenario

for development and offered the tribes the opportunity to raise issues pertaining to resources and places with special traditional cultural significance. It provided an opportunity for tribes to raise such cultural resource issues as the American Indian Religious Freedom Act (AIRFA), traditional cultural properties (TCPs), and sacred sites.

No response was received from either the Ft. Sill or White Mountain Apache, and the BLM interpreted the lack of response to mean the two tribes had no issue with the RMPA in Sierra and Otero Counties. The response from the other three tribes was primarily requesting to continue to be informed of the planning effort.

In 2002, a mediator visited both the Ysleta del Sur and the Mescalero Apache tribes. Based on the mediator's visits, the BLM contacted both tribes. After Ysleta del Sur responded, the BLM conducted several face-to-face meetings with their attorney, a hired ethnographer, and their War Chief. The proposal was explained and feedback sought regarding possible impacts to the tribe or tribal interests. However, input from Ysleta del Sur was limited to the tribe providing a historical report to the BLM. No specific feedback was ever provided from the tribe regarding impacts of the proposed action. The Mescalero Apache never responded to BLM telephone and written contacts that requested feedback on the proposal.

The ACHP list of tribes by county indicates there are five additional tribes with historic ties to Sierra and Otero Counties. Those tribes are the Comanche Indian Tribe, Isleta Pueblo, Kiowa Tribe, Hopi Tribe, and the Navajo Nation. The list of tribes with whom we consult has been based more on the document entitled Cultural Affiliations: Prehistoric Cultural Affiliations of Southwestern Indian Tribes (USDA-Forest Service, April 1996). This publication was prepared by the professional archaeologists of the New Mexico and Arizona BLM as well as Region 3 of the US Forest Service. Though used principally regarding the establishment of cultural affiliation as defined by the Native American Graves and Repatriation Act, the document also is used to identify those Indian Tribes likely to have knowledge of or concerns with historic properties within the areas of political effect of undertakings being approved by the New Mexico BLM.

The Forest Service/BLM document states that the tribes who lived in Otero and Sierra Counties have no claimed cultural affiliations. Using this document and other references as our guide, early in the process the BLM chose to consult with the tribes we knew or believed inhabited the area. Those tribes were the Mescalero Apache, San Carlos Apache, White Mountain Apache, Fort Sill Apache, and the Ysleta del Sur.

The following special cultural lease stipulation will be attached to the leases covered by this plan amendment to cover the possibility that all Traditional Cultural Properties or Sacred Sites, or other historic properties may not have been identified in recent consultation efforts.

“This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, E.O. 13007, or other statutes and executive orders. The BLM will not approve any ground disturbing activities that may affect any such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.”

In the case of existing leases (issued prior to approval of this RMPA), a special cultural lease notice will be issued to inform the lease holders of this requirement.

At the APD stage of development, BLM will ensure that identification strategies are carried out in a manner sufficient to identify historic properties with the areas of potential effect for the proposed undertaking. That identification effort will include again soliciting information from tribes with a historical relationship with the area, but formal consultation will only occur if BLM has reason to believe, as a result of information from tribes or cultural surveys, that traditional cultural properties may be affected by the proposed undertaking.

Appendix A

APPENDIX A AREAS CONSTRAINED FROM OIL AND GAS LEASING

**TABLE A-1
RESOURCE CONCERNS - CLOSED TO LEASING**

Resource Concern	Appendix A Page No.
Non-Discretionary Closures	
Old Air Force Bombing and Gunnery Range	A-2
Air Navigation	A-2
Wilderness Study Areas	A-2
Discretionary Closure	
Areas of Critical Environmental Concern (ACECs) (6)	A-2
Nominated ACECs (8)	A-3
Aplomado Falcon Core Areas (Potential Habitat)	A-4

NON-DISCRETIONARILY CLOSED TO LEASING

Old Air Force Bombing and Gunnery Range

Decision: Non-discretionary closure; subsurface closed until such time as the restriction is removed

Location: Ts. 23, 24 S., Rs. 16, 17, 18 E., NMPM (approximately 8,264 acres)

Objective: To ensure public safety of the former impact areas for the bombing and gunnery range.

Previous Management: Public Land Order 2569, refer to RMP Decision L-2

Justification: Leasing is precluded in this area to ensure protection from previous military activities. Under standard lease terms and conditions, the requirements imposed for this area would remain the same.

Air Navigation Site

Decision: Non-discretionary closure

Location: Sections 17 and 18, T. 13 S., R. 01 W., NMPM (approximately 117 acres)

Objective: To provide public land for use as an air navigation facility.

Previous Management: Secretarial Order, Air Navigation Site Withdrawal No. 125

Justification: Leasing is precluded in this area by Secretarial Order to protect the air navigation facility.

Wilderness Study Areas

Decision: Non-discretionary closure

- **Jornada del Muerto Wilderness Study Area (WSA)**

Location: T. 10 S., Rs. 01, 02 E., NMPM (approximately 4,320 acres)

- **Brokeoff Mountains WSA**

Location: Ts. 22-26 S., Rs. 17-19 E., NMPM (approximately 30,838 acres)

- **Guadalupe Escarpment WSA**

Location: Ts. 17-19 S., R. 10 E., NMPM (approximately 3,197 acres)

- **Sacramento Escarpment WSA**

Location: Ts. 22-23 S., R. 18-19 E. (approximately 6,956 acres)

Objective: To protect the high-quality wilderness values of this area

Previous Management: 1986 RMP Decision OGG-2, Interim Policy and Guidelines for Lands Under Wilderness Review

Justification: The decision that designated WSAs should be closed to leasing is carried forward from the Wilderness Management Policy (BLM 1981).

DISCRETIONARILY CLOSED TO LEASING

Areas of Critical Environmental Concern

Decision: Discretionary closure

- **Three Rivers Area of Critical Environmental Concern (ACEC)**

Location: T. 11 S., R. 9½ E., NMPM (approximately 1,130 acres)

- **Sacramento Escarpment ACEC**
Location: Ts. 17-19 S., R. 10 E., NMPM (approximately 5,365 acres)
- **Cornudas Mountains ACEC**
Location: T. 25 S., R. 14 E., NMPM (approximately 861 acres)
- **Alamo Mountain ACEC**
Location: T. 26 S., R. 13 E., NMPM (approximately 2,525 acres)
- **Wind Mountain ACEC**
Location: T. 26 S., R. 14 E., NMPM (approximately 2,472 acres)
- **Alkali Lakes ACEC**
Location: T. 26 S., R. 18, 19 E., NMPM (approximately 6,904 acres)

Objective: To protect the high-quality resource values that have been identified in these areas.

Previous Management: Otero County ACEC RMPA (BLM 1997)

Justification: The decision to close this area to leasing was made in the Otero County ACEC RMPA (BLM 1997), and these decisions will be carried forward unchanged.

Nominated ACECs

Decision: Discretionary closure

- **Brokeoff Mountains Nominated ACEC**
Location: T. 25 S., R. 19 E., NMPM (approximately 3,834 acres)
- **Caballo Mountains Nominated ACEC**
Location: T. 16 S., Rs. 03, 04 W., NMPM (approximately 2,213 acres)
- **Jarilla Mountains Nominated ACEC**
Location: Ts. 21, 22 S., R. 08 E., NMPM (approximately 7,032 acres)
(Note: A portion of the area is closed to off-road vehicle use on approximately 705 acres to protect cultural resources, 1986 RMP Decision C-5.)
- **Mud Mountain Nominated ACEC**
Location: T. 13 S., Rs. 04, 05 W., NMPM (approximately 2,580 acres)
- **Percha Creek Nominated ACEC**
Location: T. 16 S., R. 07 W., NMPM (approximately 940 acres)
- **Sacramento Mountains Nominated ACEC**
Location: Ts. 13, 14 S., R. 11 E., NMPM (approximately 2,381 acres)
- **Six Shooter Canyon Nominated ACEC**
Location: T. 25 S., Rs. 21, 22 E., NMPM (approximately 1,060 acres)
- **Pup Canyon Nominated ACEC**
Location: T. 22 S., R. 18 E., NMPM (approximately 3,678 acres)

Objective: To protect the known and/or potential biological communities at each ACEC.

Previous Management: Case-by-case environmental analysis.

Justification: Closure is deemed necessary based on BLM guidance that calls for the need to provide protection of the significant resource values until the areas are fully evaluated and a determination on whether to designate them as ACECs has been made.

Aplomado Falcon Core Areas (Potential Habitat)

Decision: Discretionary closure

Location: Three areas comprised of two Otero Mesa grassland complexes (11,483 acres and 16,213 acres), and one Nutt grassland complex (8,094 acres), totaling 35,790 acres.

Objective: To maintain habitat that could potentially be utilized by aplomado falcon

Previous Management: General Management Guidance

Justification: Closure is deemed necessary based on BLM evaluation of the need to adequately protect areas for potential use by the endangered aplomado falcon.

Appendix B

APPENDIX B

AREAS OPEN TO OIL AND GAS LEASING WITH STIPULATIONS OR NOTICES

**TABLE B-1
RESOURCE CONCERNS OPEN TO LEASING WITH STIPULATIONS
OR LEASE NOTICES**

Resource Concern	Appendix B Page No.
No Surface Occupancy	
Protected Cultural Resource Areas (3)	B-2
Recreation And Public Purpose Patents And Leases (R&PPs)	B-2
Community Pit 7 (Escondido)	B-2
Riparian/Other Wetlands/Playas	B-3
Ecological Study Plots (6)	B-3
Tularosa River Recreation Area	B-4
Lake Valley Historic Townsite	B-4
Lake Valley Backcountry Byway	B-4
Controlled Surface Use	
Berrendo Administrative Camp Site	B-5
Highly Erosive And Fragile Soils	B-5
Desert Grassland Habitat Areas (Nutt And Otero Mesa)	B-6
Designated Historic Trails (Mormon Battalion, Butterfield, And Jornada Del Muerto)	B-6
Visual Resource Management (VRM) Class II Areas	B-7
Special Status Species Habitats	B-7
Lease Notices	
White Sands Missile Range Safety Evacuation Zone	B-8
Cuchillo Mountains Piñon Nut Collection Area	B-8
Red Sands Off-Road Vehicle Area	B-9

OPEN TO LEASING WITH NO SURFACE OCCUPANCY

Protected Cultural Resource Areas

Stipulation: No surface occupancy

- **Rattlesnake Hill**

Location: Parts or all of Sections 21, 22, 26, 27, 28, 33, 34, 35. T. 22 S., R. 8 E., NMPM (3,365 acres)

- **Lone Butte**

Location: Section 6, T. 19 S., R. 09 E., NMPM (352 acres)

- **Jarilla Mountains**

Location: T. 20 S., R. 08 E., NMPM (803 acres)

Objective: To protect cultural resources

Previous Management: 1986 RMP Decisions: C-2, C-4, C-5, OGG-5, and OGG-6.

Waiver: None

Exception: None

Modification: A modification of this stipulation of no surface occupancy may be granted if the leaseholder opts to conduct a full cultural survey of the parcel and particular locations can be found that lack cultural resources.

Justification: The areas that are stipulated for no surface occupancy are subject to existing cultural resource regulations due to their listing in the State Register of Cultural Properties and/or eligibility for listing in the National Register of Historic Places.

Recreation and Public Purpose Patents or Leases

Stipulation: No surface occupancy

Location: Various (approximately 1,799 acres total)

Objective: To ensure compatibility with the existing land uses in recreation and public purpose (R&PP) lease or patent areas

Previous Management: 1986 RMP Decision OGG-10

Waiver: May be granted if fluid mineral development is considered compatible with the land use in a specific R&PP area

Exception: Same

Modification: None

Justification: The more restrictive stipulation of no surface occupancy was determined to be appropriate in order to address the possibility for land use conflicts (i.e., R&PP). The ability to grant waivers provides flexibility for less significant land use conflicts. Under standard lease terms and conditions, the management of these areas would be the same.

Community Pit 7 (Escondido)

Stipulation: No surface occupancy

Location: Section 9, T. 20 S., R. 09 E., NMPM (approximately 30 acres)

Objective: To permit the continued use of this area by the public for mineral material extraction.

Previous Management: Standard lease terms and conditions

Waiver: None

Exception: May be granted if BLM determines that surface lease operations would not cause unnecessary effects on the use of the area

Modification: None

Justification: Stipulating no surface occupancy is needed to protect the mineral materials that are extracted by the public, and regulate the area in order to minimize unnecessary degradation. Under standard lease terms and conditions, the requirements described above would be similar; however, the no surface occupancy stipulation informs the lessee of the resource concern at the time the lease is acquired.

Riparian/Other Wetlands/Playas

Stipulation: No surface occupancy within 0.25 mile.

Location: Various (approximately 10,497 acres)

- BLM Las Cruces Field Office Riparian Database = 16 miles of riparian area (5,120 acres) and 12 springs (1,920 acres)
- Mapped playas = 3,457 acres

Objective: To minimize impacts on wetlands in compliance with Section 404 of the Clean Water Act and on riparian habitats in accordance with BLM guidelines.

Previous Management: Section 404 of the Clean Water Act, general management guidance regarding riparian areas.

Waiver: May be granted if an on-site inspection reveals that the area does not qualify as riparian or wetland.

Exception: None

Modification: May be granted to allow some activities within 0.25 mile if it is determined from BLM analysis that there would be no adverse effect and that the area may be reclaimed effectively.

Justification: Stipulating no surface occupancy is deemed necessary for areas that would not be avoided or protected under standard lease terms and conditions in compliance with the Clean Water Act. Closing such areas to leasing is deemed overly restrictive.

Ecological Study Plots

Stipulation: No surface occupancy

- **Engle Ecological Study Plot**

Location: Section 35, T. 13 S., R. 02 W., NMPM (approximately 40 acres)

- **Cuchillo Ecological Study Plot**

Location: Sections 10, 11, 14, T. 12 S., R. 05 W., NMPM (approximately 1,471 acres)

- **Nordstrom Ecological Study Plot**

Location: Sections 27, 28, 33, 34, T. 16 S., R. 05 W., NMPM (approximately 1,391 acres)

- **Trujillo Ecological Study Plot**

Location: Section 3, T. 12 S., R. 06 W., NMPM (approximately 39 acres)

- **Danley Ecological Study Plot**

Location: Section 18, T. 13 S., R. 09 E., NMPM (approximately 179 acres)

- **Lee Ecological Study Plot**

Location: Section 21, T. 23 S., R. 13 E., NMPM (approximately 40 acres)

Objective: To protect the existing ecological resources in these areas for research and scientific purposes.

Previous Management: 1986 RMP Decision OGG-4, Public Land Order 4038

Waiver: May be granted if the withdrawal is dropped and the study plot will no longer require this level of protection.

Exception: May be granted if it is determined that proposed development will not affect the resources that are being studied at the plots.

Modification: None

Justification: Stipulating no surface occupancy is deemed necessary to protect the existing ecological resources. Under standard terms and conditions, the requirements for protecting these areas would be the same.

Tularosa River Recreation Area

Stipulation: No surface occupancy (213 acres of acquired land not open to leasing)

Location: Sections 29, 31, and 31, T. 13 S., R. 11 E., NMPM (approximately 119 acres).

Objective: To protect recreational opportunities along the Tularosa River.

Previous Management: 1986 RMP Decision OGG-8, Tularosa Land Exchange.

Waiver: None

Exception: None

Modification: None

Justification: Stipulating no surface occupancy is deemed necessary to protect recreational opportunities along the river. Closing the area to leasing is deemed overly restrictive in addition to the resource stipulations that would apply to this area.

Lake Valley Historic Townsite

Stipulation: No surface occupancy

Location: T. 18 S., R. 07 W., NMPM (approximately 140 acres)

Objective: To preclude surface occupancy and new surface-disturbing activities within this recreational and cultural site.

Previous Management: Existing cultural resources regulations

Waiver: None

Exception: None

Modification: None

Justification: Stipulating no surface occupancy is deemed necessary to protect the townsite and schoolhouse, which are subject to existing cultural resource regulations since both are listed on the State Register of Cultural Properties (as Site LA 50088) and are eligible for inclusion on the National Register of Historic Places. Closing the Lake Valley Historic Townsite to leasing is not considered necessary since impacts from operations can be mitigated by requiring no surface occupancy.

Lake Valley Backcountry Byway

Stipulation: No surface occupancy

Location: Ts. 15-19 S., Rs. 05-07 W., NMPM - on public lands within 0.5 mile of the Byway, which is approximately 44 miles long (9,352 acres). No surface disturbance will be authorized within 0.5 mile of either side of the road. For proposed disturbances between 0.5 mile to 1 mile from either side of the Byway, operators also may be required to provide mitigation to proposed development activities such as siting facilities to be less visually intrusive where possible, or otherwise providing visual screening.

Objective: To protect the scenic resources along the Byway

Previous Management: Case-by-case evaluation of proposed actions along the Byway corridor.

Waiver: None

Exception: None

Modification: None

Justification: Stipulating no surface occupancy is deemed necessary to protect visual resources along the Byway. Closing the area along the Byway to leasing is deemed overly restrictive because the visual intrusion can be mitigated by requiring no surface occupancy adjacent to the Byway and providing visual screening at distances beyond that.

OPEN TO LEASING WITH CONTROLLED SURFACE USE STIPULATION

Berrendo Administrative Camp Site

Stipulation: Controlled surface use

Location: Section 9, T. 23 S., R. 15 E., NMPM (approximately 40 acres).

Objective: To protect the BLM administrative camp site; no fluid minerals activities will be allowed within the fenced area and within 350 feet of the center of the helipad.

Previous Management: Public Land Order 6060, September 2, 1992; expires September 21, 2012.

Waiver: None

Exception: None

Modification: May be granted to allow some activities if it is determined that there would be no adverse effect on administrative site facilities.

Justification: Controlled surface use is deemed necessary to avoid land use conflicts and protect BLM administrative site facilities (structure and helipad).

Highly Erosive/Fragile Soils

Stipulation: Controlled surface use. Surface-disturbing activities on fragile or highly erosive soils must incorporate applicable mitigation measures described in the best management practices section of the RMPA (**Appendix C**). Proposed siting of well locations or access routes, on fragile or highly erosive soils, may be moved at the discretion of the Authorized Officer in order to avoid steep slopes (greater than 10 percent).

Location: Highly Erosive and Fragile Soils: Includes areas that have been mapped by the NRCS as *Alamogordo-Gypsum Land-Aztec; Nickel-Bluepoint; Holloman-Gypsum Land-Yesum; or Prelo-Tome-Largo* soil types (approximately 310,367 acres total).

Objective: To manage highly erosive or fragile soils to maintain productivity and minimize erosion, and to protect watershed values in accordance with 1986 RMP Decisions W-1 W-2, W-3, W-4, W-5, (improve watershed values by reducing peak runoff rates, reducing sediment yields, improve water quality, and receive better on-site utilization of runoff in the long term).

Previous Management: General guidelines to manage soils in areas of high erosion potential to minimize surface disturbance to the extent possible (1986 RMP Decisions W-1 W-2, W-3, W-4, and W-5).

Modification: May be granted if an on-site inspection demonstrates that these soils are not present on the specific site, slopes are low, and reclamation will be effective in mitigating impacts. In addition, a modification may be granted when it can be demonstrated that resource values will not be jeopardized and reclamation will be effective in mitigating impacts.

Justification: Surface-disturbing activities in these areas could cause accelerated erosion or increased instability, necessitating the stipulation of controlled surface use. This also will protect the watershed values and ensure minimal effect on the integrity and long-term appearance of the watershed areas, including the scenic quality and opportunities for recreation. Closing the area to leasing or stipulating no surface occupancy is deemed overly restrictive since BLM allows other surface-disturbing activities within the area.

Desert Grassland Habitat

Stipulation: Controlled surface use. Surface-disturbing activities will not be authorized on the leasehold until the lessee has formed (or joined an existing) exploratory unit. The combined unreclaimed and unvegetated surface disturbance from exploration, drilling, production and other activities associated with lease operations cannot exceed 5 percent of the exploratory unit at any one time. Surface disturbance is considered to be any surface altering activity that the operator proposes to conduct, from the time that a lease is issued, through the time that the lease expires. This limitation applies to all maintenance and operation of producing wells on this lease and any subsequent sublease or other assignments of any type

Location:

- **Otero Mesa Desert Grassland Area** – Ts. 23-26 S., Rs 10-14 E., NMPM (approximately 77,179 acres)
- **Nutt Desert Grassland Area** – T. 19 S., Rs. 05-06 W., NMPM (approximately 8,172 acres)

Objective: To protect the desert grasslands on Otero Mesa and Nutt and the associated threatened or endangered wildlife species.

Previous Management: General management guidance

Waiver: None

Exception: None

Modification: May be modified only in the case of temporary surface disturbances that will be substantially unnoticeable within one year of initial disturbance (e.g., geophysical exploration) or in the case of demonstrated need for health or safety.

Justification: The Otero Mesa and Nutt areas contain large blocks of generally undisturbed Chihuahuan Desert Grassland habitat that are important to the maintenance of numerous desert grasslands species that inhabit them. A stipulation of controlled surface use is necessary to manage the amount of disturbance within these remaining areas (the areas in particular are two relatively large blocks of desert grassland habitat remaining in the region on public land).

Designated Historic Trails (Mormon Battalion, Butterfield, and Jornada del Muerto)

Stipulation: Controlled surface use

Locations:

- Mormon Battalion Trail – Ts. 18 and 19 S., Rs. 05-07 W., NMPM (approximately 17,724 acres)
- Butterfield Trail – Ts. 25 and 26 S., Rs. 12-14 E., NMPM (approximately 4,333 acres)
- Jornada del Muerto Trail – Ts. 13-20 S., Rs. 01 and 02 W., NMPM (approximately 14,018 acres)

New disturbance will be minimized as follows:

- No surface-disturbing activities within 0.25 mile from each side of the trails (entire length)
- Existing disturbance points could be used to cross the trails

Objective: To provide protection for existing cultural and scenic values associated with these trails.

Previous Management: Protection of Mormon Battalion Trail through existing cultural resources regulations. Butterfield Trail protected by RMP Decision C-6 and Jornada del Muerto Trail protected by 1986 RMP Decision C-7. These decisions stipulate no surface disturbance within 0.25 mile (400 meters) of well-preserved sections of trail.

Waiver: None

Exception: Granted if it is demonstrated in a surface use plan of operations that no surface-disturbing activities will be visible from the trails, and that existing disturbed points/areas would be used to cross the trail.

Modification: None

Justification: Stipulating controlled surface use is deemed necessary to minimize impacts on cultural resources. Closing the trails and a 0.25-mile buffer on either side of the trails to leasing or stipulating no surface occupancy is not considered necessary since impacts can be mitigated by requiring controlled surface use.

Visual Resource Management Class II Areas

Stipulation: Controlled surface use

Location: Various (254,112 acres)

New disturbance will be minimized as follows:

- Short-term impacts allowed as long as the longer-term impacts (one year) are consistent with the VRM Class II objectives
- Reclamation must occur as soon as possible
- Conditions of approval will be imposed such as paint color, judicious siting, and maximized use of existing roads and utility corridors
- Proposed disturbances may be moved more than 200 meters to meet VRM Class II objectives.

Objective: To minimize contrasts to the characteristic landscape of each area

Previous Management: BLM VRM objectives

Waiver: None

Exception: None

Modification: None

Justification: Stipulating controlled surface use is deemed necessary based on the need to protect visual resources in these areas. The objectives for VRM Class II areas are to manage activities so that the changes in any of the basic visual elements (form, line, color, texture) are not evident in the landscape. A contrast may be seen but should not attract attention. Closing these areas to leasing or stipulating no surface occupancy is deemed overly restrictive since BLM allows other surface-disturbing activities within these areas.

Special Status Species Habitats (including those not protected by the Endangered Species Act; that is, species proposed for Federal listing, Federal candidates, BLM sensitive species, and State-listed species)

Stipulation: Controlled surface use. Operations will be designed to avoid known populations of special status species. Each exploration and development project will be scrutinized carefully for potential effects on known populations of special status species. In known population areas, surface-disturbing activities may be relocated beyond 0.125 miles, but not more than 0.25 miles from occupied habitat, depending on the species requirements. Seasonal restrictions may apply, depending on the need of the identified species. There will be a 0.25 mile buffer between surface disturbance activities and black-tailed prairie dog colonies. This stipulation applies solely to the planning area because unlike other black-tailed prairie dog habitat in the western states, suitable habitat within the planning area is limited to small grassy swales where the soil depth is adequate for prairie dogs to establish their burrows. The upland grass areas adjacent to these swales occur over a shallow layer of limestone and do not provide the suitable habitat characteristics for black-tailed prairie dogs.

Location: Species-specific. Stipulation applies to all known and later discovered locations of special status species throughout the entire planning area. Known affected areas will be identified prior to a lease sale. Currently this would apply to habitats for the following known species:

Plants: Desert night-blooming cereus; Guadalupe rabbitbrush; Grama grass cactus; Guadalupe Mountains mesquite; Sheer's cory cactus.

Animals: Arizona black-tailed prairie dog; Mountain plover; Western burrowing owl.

Objective: To avoid adverse impacts on individual species and their associated habitats.

Previous Management: Endangered Species Act, New Mexico Plant Species Act (9-10-10 NMSZ) and attendant Regulation 19 NMAC 21.2, Wildlife Conservation Act (NMSA 17-2-37 through 17-2-46), general management guidance

Waiver: None

Exception: May be granted if surveys determine that no species occupy the leasehold.

Modification: None

Justification: Stipulating controlled surface use is deemed necessary to minimize adverse impacts on special status species and their habitats, as required by BLM guidance. Closing these areas to leasing or stipulating no surface occupancy is deemed overly restrictive since BLM allows other surface-disturbing activities within the area. Under standard lease terms and conditions, the requirements described above would be the same; however, the stipulation for controlled surface use informs the lessee of the resource concern at the time the lease is acquired.

OPEN TO LEASING WITH A LEASE NOTICE

White Sands Missile Range Safety Evacuation Zone

Lease Notice

Location: Ts. 10-17 S., Rs. 01, 02 E. and 01 W., NMPM (approximately 311,410 acres).

Objective: To provide notice to lessees that they may be required to periodically evacuate this area when White Sands Missile Range conducts its missile firings.

Previous Management: 1986 RMP Decision OGG-1.

Justification: To ensure that the lessee is aware that White Sands Missile Range conducts testing of missiles during which times White Sands Missile Range requires that the area be evacuated. Closing the area to leasing or attaching a stipulation to this lease is deemed overly restrictive since the area is viable for fluid minerals development during other times. Prior to beginning exploration activities, the lessee must contact the U.S. Army Corps of Engineers in Albuquerque and the Master Planning Branch at White Sands Missile Range to be advised of the terms of the safety evacuation agreement and missile-firing schedules.

Cuchillo Mountains Piñon Nut Collection Area

Lease Notice

Location: Ts. 10-12 S., Rs. 07, 08 W., NMPM (approximately 14,863 acres).

Objective: To maintain the current use of the stands of piñon pine trees as a public and commercial nut collection area. Avoiding destruction of piñon pine trees within this area. Operators will be required to implement necessary mitigations to reduce damage to piñon pine trees, such as rerouting of access roads and modification of pad locations.

Previous Management: 1986 RMP Decision R-2.

Justification: A lease notice is deemed necessary to ensure continued use of the nut collection area. Closing the area to leasing or stipulating no surface occupancy or controlled surface use is deemed overly restrictive since the BLM allows other surface-disturbing activities within these areas.

Red Sands ORV Area

Lease Notice

Location: Ts. 19-21 S., Rs. 08 –09 E., NMPM (approximately 33,600 acres)

Objective: To provide notice to lessees that this is an area which has been identified for use by motorcycle riders. The area contains a number of trails and has been used annually for an enduro race, the Tarantula 100, as well as being frequently used on weekends.

Previous Management: General Management Guidance.

Justification: To ensure that the lessee is aware that there are a number of people that frequent this area for motorcycle recreation use and that the operator may be required to place signs indicating their oil and gas activities at the main entry ways, prior to starting any drilling.

Appendix C

APPENDIX C

SURFACE USE AND BEST MANAGEMENT PRACTICES

INTRODUCTION

The locations of well sites are dictated by the geologic target to be drilled and the need to avoid unnecessary surface disturbance. Environmentally “ideal” locations for construction activities are not always coincident with the geologic target and avoidance of damage to surface resources is not always possible. However, where well sites cannot be otherwise modified, special practices or construction techniques will be employed to minimize those impacts.

This appendix describes various types of practices that are designed to minimize surface disturbance and effects on other resources and retain the reclamation potential of the disturbed area. These practices may be general and apply nationwide, agency-wide, or regionally, or may be more specific and apply to a particular area or site. The practices represent effective and practical means of accomplishing the requirements of Bureau of Land Management (BLM) and should be used as a guide when preparing plans and details that are specific to individual projects.

Generally, the practices described in this appendix have been accepted and employed by industry for similar projects and/or have been derived from this Resource Management Plan Amendment (RMPA) analysis in response to issues identified during scoping and to address impacts identified during analysis.

The standard practices in this appendix should not be construed as rigid requirements that will be applicable to every situation. Rather, the ideas presented in this appendix communicate philosophy, approach, and examples that have been successful from which site-specific applications can be developed. The operator and surface-management agency working together can develop the best approach to achieve the management objectives in each situation.

While operations of Federal fluid mineral leases are managed by the BLM, the operations are managed in cooperation with the surface-management agency or surface owner, if it is other than the BLM, in order to guide surface use and management. Where the surface is privately owned, the operator is responsible for reaching an agreement with the private surface owner (refer to Chapter 2, Section 2.2.1).

Surface use guidance and best management practices relevant to Federal fluid minerals are described briefly below.

SURFACE USE GUIDANCE

Onshore Oil and Gas Orders

Every oil and gas operation authorized under a Federal fluid minerals lease must comply with Federally mandated regulations and orders. Procedures are established for exploration of Federal oil and gas reserves in a series of Onshore Oil and Gas Orders, which are authorized

by Title 43, Code of Federal Regulations (CFR) Parts 3160 and 3180. These orders detail uniform national standards for minimum levels of performance expected from lessees and operators when conducting oil and gas activities on Federal and American Indian lands. Two orders are particularly relevant to determining the potential for environmental impacts associated with a proposed project. These are Onshore Oil and Gas Order Nos. 1 and 2.

Onshore Order No. 1 requires lessees and operators to conduct their exploration, development, production, and abandonment operations in a manner as follows:

- conform with applicable Federal laws and regulations and with State and local laws and regulations to the extent that such State and local laws are applicable to operations on Federal or American Indian leases
- conform with the lease terms, lease stipulations, and conditions of approval
- ensure diligent development and efficient resource recovery
- protect the lease from drainage
- afford adequate safeguards for the environment
- ensure proper reclamation of disturbed lands
- conform with currently available technology and practice
- ensure that underground sources of fresh water will not be endangered by any fluid-injection operation
- otherwise ensure the protection of public health and safety

The order holds the lessee “fully accountable for their contractors’ and subcontractors’ compliance with the requirements of the approved permit and/or plan.”

Onshore Order No. 1 specifically requires survey work and a related report if the surface-management agency has reason to believe that properties listed, or eligible for listing, in the National Register of Historic Places are present in the area of potential effect. The order also requires the surface-management agency to identify any threatened and endangered species and/or critical habitat problems and other environmental concerns (e.g., wilderness and wilderness study areas, known or potential surface geological hazards, etc.).

BLM Manual 3160 provides guidelines and procedures for processing Applications for Permits to Drill (APDs) and subsequent operations. BLM Manual Handbook 3160-1 provides guidelines for review of technical and environmental considerations for APDs and subsequent activities.

Onshore Order No. 2 establishes specific and detailed requirements along with minimum standards for the following:

- well control during drilling
- casing and cementing
- drilling mud and circulating system
- drill-stem testing
- special drilling operations
- blowout preventer equipment to prevent the uncontrolled release of formation fluids to the surface
- related surface use
- abandonment of drilling operations

In some instances, Onshore Order No. 2 relies on existing standards prepared by the American Petroleum Institute, Occupational Safety and Health Administration, and other organizations or agencies.

Onshore Order No. 6 addresses operations with hydrogen sulfide (H₂S) associated when drilling, completing, testing, reworking, producing, injecting, gathering, storing, or treating operations are being conducted in zones that are known or reasonably could be expected to contain H₂S or that when flared, could produce sulfur dioxide (SO₂) in such concentrations that, upon release, could constitute a hazard to human life.

Geothermal Resources Operations

The Geothermal Resources Leasing and Operations Rule (43 CFR Part 3200, et al.) provides direction for conducting exploration operations (Subpart 3252), drilling operations (Subpart 3262), and abandonment (Subpart 3263).

Standard Lease Terms

Standard lease terms, which are disclosed on the standard lease forms, indicate that the operator is responsible for diligent development and for conducting operations in a manner that minimizes adverse impacts on resources anywhere within the leasehold. Copies of Standard Form 3100-11, Offer to Lease and Lease for Oil and Gas, and Form 3200-24, Offer to Lease and Lease for Geothermal Resources are available at the BLM offices.

In addition to the standard lease terms and conditions, the BLM Authorized Officer may require site-specific mitigation at the time of an APD at a specific site. These mitigation measures would be attached to the APD as conditions of approval (described below).

Lease Stipulations

Constraints in the form of stipulations are conditions included in a lease when environmental and planning analyses have demonstrated that additional and more stringent environmental protection is needed. Stipulations are provisions that modify the standard lease rights and are attached and made part of the lease. The operator would be expected to comply with the stipulations specific to resource concerns that are attached to a lease (as described in Chapter 2 and Appendix D).

Surface Operating Standards

Minimum standards for design, construction, and operations, primarily in the Rocky Mountain states, are set forth in the Surface Operating Standards for Oil and Gas Exploration and Development "Gold Book" prepared by the BLM and U.S. Forest Service Rocky Mountain Regional Coordinating Committee (January 1989). The Gold Book was developed to aid the operator in obtaining permit approval and conducting oil and gas operations on Federal lands during exploration, development, production, and abandonment. It is intended to give the operator general informational guidance on compliance with the operating requirements given in 43 CFR 3000, 36 CFR 228E, and Notice to Lessees that have, or will be, promulgated or issued. Information is provided for the preparation of surface use and drilling programs and includes the following information and guidelines:

- responsibilities for geophysical operations on Federal lands
- procedures for oil and gas operations
- siting and construction procedures for well sites
- planning, location, design, construction, maintenance, and operations of roads and access ways
- design and construction of drainage structures
- drilling operations and related surface-disturbing activities
- production operation standards and objectives, approvals, reporting, notification, disposal of produced water, pollution control, hazardous waste management, inspections, and enforcement
- reclamation of pits, well pads, flowlines and pipelines, and roads
- abandonment inspection, approval, and release of bonds

Copies of the Gold Book are available in limited quantities from the BLM New Mexico State Office, and is also available online from the BLM website:

<http://www.blm.gov/nhp/300/wo310/O&G/Ops/GoldBook.pdf>

Conditions of Approval

Additional constraints may be necessary if the authority to manage the activity on the lease does not already exist under laws, regulations, or orders.

Constraints in the form of conditions of approval of an APD are site-specific requirements or measures imposed to protect resources or resource values. Conditions of approval must be reasonable and consistent with lease rights. The Authorized Officer has the authority to relocate facilities and impose other mitigation under Sections 2 and 6 of the standard lease terms (BLM Forms 3100-11 and 3200-24). Potential mitigation measures that could be conditions of approval are addressed in Chapter 4 of this RMPA/EIS. The Authorized Officer has the right to relocate proposed facilities, control timing of operations, and impose other mitigation in accordance with Sections 2 and 6 of the standard oil and gas lease terms.

Best Management Practices

More specific to a region or area, a surface-management agency may have standards, or best management practices, to which an operation should conform. While the goals and philosophies regarding surface management are similar in intent, the operator must be responsible for understanding the requirements of the pertinent surface-management agency. Knowledge of the management plans of the surface-management agency, as well as agency operational standards, procedures, and environmental protection requirements, will help an operator meet these standards. The best management practices described below were developed by the LCFO of BLM for this RMPA/EIS.

BLM BEST MANAGEMENT PRACTICES

The best management practices described below apply to any fluid minerals project on public land within the Planning Area, and supplement the standards and guidelines from sources described above.

Preliminary Investigations

Activities occurring during preliminary investigations may include remote sensing; mapping of rock outcrops and seeps (either of which result in little or no surface disturbance); and seismic, gravity, and magnetic surveys.

A lease is not required to conduct such preliminary investigations. However, the geophysical operator is required to file a completed Form 3150-4, "Notice of Intent to Conduct Oil and Gas Exploration Operations for all operations on public lands.

In general, the BLM requires an examination of resource values and development of appropriate surface protection and reclamation measures prior to the geophysical contractor beginning surface disturbing activities associated with preliminary investigations. The BLM will solicit involvement from public land users (e.g., grazing allottees) to develop site-specific protection measures and reclamation specifications. Compliance monitoring should occur during and after seismic exploration activities when or if necessary. Compliance inspections during the operation ensure that requirements and guidelines are being followed. Compliance inspections upon completion of work ensure that the lines are clean and drill holes are plugged properly.

The frequency of authorized seismic exploration will be dependent upon resource conditions and seasonal restrictions (timing limitations) that may be imposed to reduce conflicts with watershed conditions, wildlife, and hunting. Management practices specific to wildlife and vegetation resources include the following:

- Prior to surveying/flagging routes for geophysical surveys or other preliminary activities during the raptor-breeding season, the project area shall be surveyed for raptor nests. Surveys will be conducted by professional biologists approved by the Authorized Officer. The Universal Transmercator grid (UTM) locations of all raptor nests will be reported to the Authorized Officer. All active raptor nests will be avoided by the required distances described under the Well Sites section. An "active raptor nest" is defined as any raptor or corvid nest being during the current nesting season.
- In areas that constitute occupied or potential aplomado falcon habitat, a protocol survey for this species will be conducted along with the general raptor nest survey described above, prior to surveying/flagging lines during the breeding season.
- During operations at any time, large (greater than 6 feet in height) trees or shrubs containing or capable of containing a raptor nest will be avoided by vehicular traffic or other activities likely to destroy them.
- Time activities to avoid wet periods.
- In areas that allow for off-road travel, minimize the off-road impact of large vehicles. Use wide, flat-tread, balloon tires (especially on seismic thumper trucks) where possible. Use all-terrain vehicles rather than large vehicles where possible.
- Occupied habitat for special status species will be avoided in a manner similar to surface use requirements (avoid occupied habitat up to 0.25 miles) unless impacts adequately mitigated.

Administrative Requirements

The operator and its contractors and subcontractors will conduct all operations in full compliance with all applicable Federal, State, and local laws and regulations; applicable lease

stipulations; and guidelines specified in the APD unless a written modification, waiver, or exception from the Authorized Officer has been granted.

Prior to commencing construction activities, the operator and its contractors and subcontractors may conduct a preconstruction conference with the BLM Authorized Officer. Environmental and safety training will be part of the operator, contractor, and subcontractor training prior to construction. All employees will be familiarized with the resource protection policies of the BLM, requirements, and mitigating measures incorporated into each project.

The Authorized Officer will guide the project during all stages of the project including construction of roads and well pad, drilling and completion of the well, reclamation, preparation for production, and abandonment.

Surface Use

Roads and Access Ways

The BLM requires the use of existing roads to the maximum extent practical and minimizing new roads in unroaded areas. If existing roads are used/damaged they will be maintained at the appropriate level by the responsible parties.

- Where new roads are needed, construction, maintenance, rehabilitation, abandonment, and closure of the roads on public land will be in accordance with the BLM Manual 9113 - ROADS, and BLM "Goldbook" Surface Operating Standards for Oil and Gas Exploration and Development, Chapter 3: Surface Use, Roads and Access Ways.

Road Classes

BLM Temporary Roads

These are low volume, single-lane roads built for a specific purpose or use. They normally have a 12-foot-wide travel way and are located, designed, and constructed for temporary use. In many cases they may be constructed with little or no grading or blade use. They are usually built for dry weather use, but may be surfaced, drained, and maintained for all-weather use if the Authorized Officer concurs. Such roads are to be made impassable to vehicle travel and returned to a near natural condition upon completion of use.

BLM Resource Roads

These are low volume, single-lane roads, which may be reclaimed after a particular use terminates. These roads normally have a 12- to 14-foot travel way with intervisible turnouts. They are usually used for dry weather, but may be surfaced, drained, and maintained for all-weather use. These roads connect terminal facilities, such as a well site, to collector, local, arterial, or other higher-class roads. They serve low average daily traffic and are located on the basis of the specific resource activity need rather than travel efficiency. They may be developed for either long- or short-term service and operated either closed or open to use as determined by the Authorized Officer.

BLM Local Roads

These roads may be single- or double-lane with travel ways 12 to 24 feet in width, with intervisible turnouts. They are normally graded, drained, and surfaced and are capable of carrying highway loads. These roads provide access to large areas and for various uses. They collect traffic from resource or local roads or terminal facilities and are connected to arterial roads or public highways. The location and standard are based on both long-term resource needs and travel efficiency. They may be operated for either constant or intermittent service, depending on land use and resource management objectives for the area being served.

BLM Collector Roads

These roads are usually double-lane, graded, drained and surfaced, with a 20- to 24-foot travel way. They serve large land areas and are the major access route into development areas with high average daily traffic rates. The locations and standards often are determined by a demand for maximum mobility and travel efficiency rather than a specific resource management service. They usually connect with public highways or other arterials to form an integrated network of primary travel routes and are operated for long-term land and resource management purposes and constant service.

Design Specifications

BLM Temporary Roads

- Design speed is 15 miles per hour or less.
- Travel width is normally 12 feet.
- Recommended minimum horizontal curve radius, 100 feet. Where terrain will not allow 100-foot-curve radii, curve widening is necessary.
- Normal road gradients should not exceed 8 percent except for short pitches of 300 feet or less. In mountainous terrain, grades greater than 8 percent may be allowed, on a case-by-case basis.
- Turnouts are generally naturally occurring, such as additional widths on ridges or other available areas on flat terrain.
- Drainage must be provided over the entire road. Usually this is accomplished by use of drainage-dips, in- or out-sloping, and naturally rolling topography. Ditches and culverts may be required in some situations, but are not expected as the norm.
- Generally, gravel surfacing is not required, but if all-weather access is needed, it may be necessary.

BLM Resource Roads

- Design speed 15 miles per hour.
- Travel way width—minimum 12 feet with turnouts.
- Recommended minimum horizontal curve radius, 100 feet. Where terrain will not allow 100-foot-curve radii, curve widening is necessary.
- Normal road gradients should not exceed 8 percent except for pitch grades (i.e., 300 feet or less in length). In mountainous terrain, grades greater than 8 percent may be possible, on a case-by-case basis.

- Turnouts are required on all single lane roads (travel way of 12 to 14 feet). Turnouts must be located at 1,000-foot intervals or be intervisible, whichever is less.
- Drainage control shall be ensured over the entire road through the use of drainage dips, in sloping, natural rolling topography, ditch turnouts, or culverts. Culverts, drainage crossings, and other controls should be designed for a 10-year frequency or greater storm, with an allowable head of one foot at the pipe inlet.
- Roadbed culverts should be used to drain inside road ditches when drainage dips are not feasible.
- Surfacing with an appropriate amount of gravel should be required where all weather access is needed.

BLM Local Roads

- Design speed 15 to 25 miles per hour.
- Traveled way minimum 12 feet (single lane), maximum 24 feet (double lane) with intervisible turnouts as may be required.
- Recommended minimum horizontal curve radius 100 feet. Where terrain will not allow 100-foot-curve radii, curve widening is necessary.
- Maximum grades should not exceed 8 percent. Pitch grades for lengths not to exceed 300 feet may be allowed to exceed 8 percent in some cases, to be determined by the BLM.
- All culverts must be sized in accordance with accepted engineering practices and any special environmental concerns. The minimum size culvert in any installation must be 18 inches.
- Turnouts will be required on all single-lane roads. Turnouts must be located at 750-foot intervals or be intervisible, whichever is less. The length should not be less than 100 feet with additional 25-foot transitional tapers at each end.
- Surfacing is required for all weather access. Aggregate size, type, amount, and application method would be specified by the Authorized Officer. Subgrade analysis may be required to determine load-bearing capacities.

BLM Collector Roads

- Design speed 20 miles per hour minimum unless otherwise directed.
- Travel width - minimum 20 feet, maximum 24 feet.
- Minimum horizontal curve radius, 200 feet width unless shorter radius is approved.
- Design vertical curves for a maximum change of 2 percent per 50 feet of road length.
- Maximum grade 8 percent (except pitch grades not exceeding 300 feet in length and 10 percent in grade).
- All culverts would be designed for a minimum 25-year frequency storm with an allowable head of one foot at the pipe inlet. However, the minimum acceptable size culvert diameter is 18 inches. Show all culverts planned to accurate vertical scale on plan profile sheets.

Well Sites

In siting facilities at the well site, the following measures must be followed:

- Disturbance will be minimized to existing fences and other improvements on public land.
- Residences, livestock facilities, and wildlife water supplies will be avoided by 0.25 mile.
- Prior to surveying/flagging locations for pads, routes for roads, and other preliminary activities, during the raptor-breeding season, the project area will be surveyed for raptor nests. Surveys will be conducted by professional biologists approved by the Authorized Officer. All active raptor nests will be avoided during the dates and by the distances listed below. An active raptor nest is defined as any raptor or corvid nest being used during the current nesting season.

Distance:

- Eagle - 0.5 mile
- Peregrine falcon – 0.5 to 4.25 miles
- All other raptor species - 0.25 mile

Timing:

- Peregrine falcon - variable March 1 through October 16
 - Aplomado falcon - January 1 through July 31
 - All raptor species during observed nest establishment through fledgling
- Conditions of approval will be applied as a result of BLM and U.S. Fish and Wildlife Service consultation.
 - In areas that constitute occupied or potential aplomado falcon habitat, a protocol survey for this species will be conducted along with the above general raptor nest survey prior to surveying/flagging locations during the breeding season (January 1 through July 31).
 - During operations at any time, large trees or shrubs (greater than 6 feet in height) containing or capable of containing a raptor nest will be avoided by vehicular traffic or other activities likely to destroy them.
 - Facilities will be sited to minimize in-channel excavation.
 - Sites will be selected that provide topographic and vegetative screening when feasible.
 - Well pads will not be located within 100-year floodplains.
 - Pits containing oil, other hydrocarbons, salt water, or any toxic substances will not be allowed in a floodplain.
 - Fluid containers will be located on the upslope side of drilling pads whenever possible to facilitate early detection of leaks and spills—produced or drilling fluids could cause long-term damage to soils, ground water, and vegetation.
 - Reserve pits will be netted to exclude birds and bats.

In constructing the site:

- Construction will conform to the approved well site and layout plan in the Surface Use Plan of Operations (SUPO).
- Tree and vegetation clearing will be limited to the minimum area required.
- Construction activities will be timed to avoid wet periods.
- All reserve pits will be constructed in 100 percent cut material.

- All reserve pits will be lined with approved materials.
- Reserve pits will not be breached, to facilitate drying.
- Reserve pits will be surrounded by a BLM-standard four-strand barbed-wire fence.
- Aboveground structures will be painted to blend with the natural color of the landscape.
- Power lines will be constructed to standards outlined in the most recent version of “Suggested Practices for Raptor Protection on Power Lines” published by the Edison Electric Institute/Raptor Research Foundation, unless otherwise agreed to by the Authorized Officer. The holder is responsible for demonstrating that power pole designs not meeting these standards are raptor safe. Such proof will be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modifications or additions to power line structures constructed under this authorization, should they be necessary to ensure the safety of large perching birds. The modifications and/or additions will be made by the holder without liability or expense to the United States.

Pipeline Siting

- Location of pipeline routes will not be adjacent to live watercourses or in proximity to steep hillsides to the extent practical to minimize the risk of petroleum spills and silt from construction entering streams.
- Pipelines will be located along, but not in existing linear facilities (other pipelines and roads) to the maximum extent practical. Minimize pipeline crossing of undisturbed areas.
- Uprooted vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered over the project area and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer, except that an earthen berm will be left over the ditch line to allow for settling back to grade.

Surfacing Material Source

- The caliche/gravel pit will be constructed so that runoff and sediment does not drain into streams. This may require the installation of sediment traps or barriers (slash or straw bales) to ensure that runoff is adequately filtered.
- During reclamation, the caliche/gravel pit will be regraded to meet preconstruction conditions and revegetated.

Noxious Weed Control

- The BLM will determine the size and density of the noxious weed infestations requiring implementation of a control program.
- Mechanical, chemical, biological, or other methods approved by the BLM will be used to control infestations of noxious weed in disturbed areas.
- The operator will include provisions for noxious weed prevention and treatment in the SUPO. These may include removal of weed sources that could be picked up and transported by passing vehicles; limit seed transport into relatively weed-free areas, and/or retain shade to suppress weeds.

Pollution Control and Hazardous Substances Management

- Leaking equipment will be promptly repaired or removed from the site to prevent contamination from spills. Any soil or water that has been contaminated will be placed in appropriate containers and removed from the site. Disposal of vehicle fluids on public lands will not be authorized.
- Copies of spill prevention, control, and countermeasure plans are required, and will be provided to the authorized officer.
- Use of pesticides and herbicides will comply with applicable Federal and State laws. Prior to use of pesticides, the BLM authorized officer will approve a plan for its use.
- Storage tanks will have a berm constructed around them, of sufficient dimensions to contain the contents of the largest tank, to serve as secondary containment should a spill occur.
- The concentration of hazardous substances in the reserve pit at the time of pit backfilling will not exceed the standards set forth in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).
- All drilling-related CERCLA hazardous substances removed from the location and not reused at another drilling location will be disposed of in accordance with applicable Federal and State regulations.
- All pits and tanks containing liquids or semi-liquids will be covered to prevent the entrapment or contamination of wildlife.

Drilling Operations

All proposed drilling operations and related surface-disturbing activities, as well as any change from an approved APD, will be approved before such activities are conducted. Approval occurs in accordance with (1) appropriate Onshore Oil and Gas Orders or Geothermal Resources Rule, (2) 43 CFR 3160, (3) Notices to Lessees, and (4) lease terms and conditions of approval.

Producing Operations

Portable and temporary facilities located on the drill pad are used to initiate the production from the reservoir. As drilling proceeds and reservoir limits are established, permanent production facilities are designed and installed. The type, size, and number of the facilities are determined by the number of producing wells, expected production rates, volumes of gas and water expected to be produced with the oil, and the number of separate leases involved. Any construction of new, permanent production facilities will conform to the best management practices described above and also must comply with the regulations (CFR), onshore orders, and applicable Notices to Lessees.

Additional considerations may arise from power systems that may be required for pumping (gas or electric) and generate noise; the siting and operation of facilities to separate water from oil, treatment and storage facilities; and the need to dispose of wastewater that may be saline via evaporation pits or fluid injection.

Fluid minerals operations are subject to the applicable laws, regulations, lease terms and stipulations, orders, notices, and instructions of the BLM Authorized Officer. These include, but are not limited to, conducting operations in a manner that ensures the proper handling,

measurement, disposition, and site security of leasehold production; and protecting other natural resources (including groundwater and other mineral deposits, i.e. potash, coal), environmental quality, life, and property:

- All production equipment installed on Federal leases will be constructed to prevent birds and bats from entering them and, to the extent practical, to discourage perching and nesting.
- All unused portions of the drill pad (which are the disturbed areas no longer needed for production operations, normally outside the rig anchors), will be reclaimed.
- Vegetation reclamation will be considered successful when healthy, mature perennials are established with a composition and density that closely approximates the surrounding vegetation as prescribed by the BLM, and the reclamation area is free of noxious weeds.

Abandonment and Reclamation (Well pads and roads)

A reclamation plan will be part of the SUPO. Additional reclamation measures may be required based on the conditions existing at the time of abandonment, and included as part of the conditions of approval of the Notice of Intent to Abandon.

- Wells will be plugged in accordance with BLM requirements.
- Wells will be plugged in a manner to prevent fluid migration and per State requirements.
- All surface structures including roads, tanks, poles, lines, transformers, etc., will be removed upon abandonment, relinquishment or termination of use for a service facility.
- Proper disposal of debris and other trash including all toxic products will be followed. Upon closure of the mud pits, they will be dried, liners folded and all cuttings covered with at least 3 feet of soil cover.
- All materials and equipment used in reclamation will be free of noxious weed seeds.
- The areas disturbed will be contoured to the original contour or a contour which blends with the surrounding topography and minimizes erosion. The soil will be free of contaminants and will have adequate depth, texture and structure to provide for successful vegetation reclamation.
- Reestablishment-of-vegetation activities will be initiated prior to or during the next growing season after abandonment.
- Additional agronomic practices such as imprinting, mulching and irrigation will be required until reclamation is successful for areas where natural rainfall or other characteristics such as soil depth and structure are expected to limit seedling establishment.
- Vegetation reclamation will be considered successful when healthy, mature perennials are established with a composition and density that closely approximates the surrounding vegetation as prescribed by the BLM, and the reclamation area is free of noxious weeds.
- After reclamation of a well pad, a BLM-standard four-strand barbed wire fence on cattle allotments and a woven wire fence on sheep allotments will be constructed to exclude livestock for a minimum of two successful growing seasons.
- The SUPO will include a restoration plan for habitat of special status species when the BLM determines it is appropriate. The restoration plan will be developed in consultation with the BLM and approved by the BLM. The NM BLM guidance is that affected parties and the grazing permittee will be invited when developing abandonment procedures.

The BLM will consider other BMP's on a case by case basis depending on their effectiveness, the balancing of increased operating costs vs. the benefit to the public and resource values, the availability of less restrictive mitigation alternatives, and other site specific factors. Examples of typical case-by-case BMPs include, but are not limited to the following:

- Installation of raptor perch avoidance;
- Burying of distribution power lines and/or flow lines adjacent to access roads;
- Centralizing production facilities;
- Submersible pumps;
- Belowground wellheads;
- Drilling multiple wells from a single pad;
- Noise reduction techniques and designs;
- Wildlife monitoring;
- Seasonal restriction of public vehicular access;
- Avoiding placement of production facilities on hilltops and ridgelines;
- Screening facilities from view;
- Bioremediation of oil field wastes and spills; and
- Use of common utility or right-of-way corridors.