

**DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
FARMINGTON FIELD OFFICE**

Project: April 2013 Competitive Oil and Gas Lease Sale

EA Log Number: DOI-BLM- NM- F010- 2013-0046-EA

Location: Locations in Rio Arriba, San Juan County, & Sandoval County, New Mexico.

Finding of No Significant Impact

Based on the analysis of potential environmental impacts contained in the attached Environmental Assessment (EA), I have determined the Proposed Action Alternative (Alternative B) is not expected to have significant impacts on the environment. The impacts of leasing the fluid mineral estate in the areas described with this EA have been previously analyzed in the 2003 Farmington RMP, the 2002 Biological Assessment, and the Final Environmental Impact Statement (FEIS) for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest; and the lease stipulations that accompany the tracts proposed for leasing would mitigate the impacts of future development on these tracts. Therefore, preparation of an Environmental Impact Statement is not warranted.

Reviewed by:

Date _____
Gary Torres, Farmington Field Office Manager

Approved by:

Date _____
Jesse Juen, New Mexico State Director

**BUREAU OF LAND MANAGEMENT
FARMINGTON FIELD OFFICE**

**ENVIRONMENTAL ASSESSMENT FOR
April 2013 COMPETITIVE OIL AND GAS LEASE SALE
DOI-BLM- NM- F010- 2013- 0046 -EA**

INTRODUCTION

It is the policy of the Bureau of Land Management (BLM) as derived from various laws, including the Mineral Leasing Act of 1920 (MLA), as amended [30 U.S.C. 181 *et seq.*], and the Federal Land Policy and Management Act of 1976 (FLPMA), as amended, to make mineral resources available for disposal and to manage for multiple resources which include the development of mineral resources to meet national, regional, and local needs.

The BLM New Mexico State Office (NMSO) conducts a quarterly competitive lease sale to offer available oil and gas lease parcel(s) in New Mexico, Oklahoma, Texas, and Kansas. A Notice of Competitive Lease Sale (NCLS), which lists lease parcel(s) to be offered at the auction, is published by the NMSO at least 90 days before the auction is held. Lease stipulations applicable to each parcel(s) are specified in the Sale Notice. The decision as to which public lands and minerals are open for leasing and what leasing stipulations are necessary, based on information available at the time, is made during the land use planning process. Surface management of non-BLM administered land overlaying federal minerals is determined by the BLM in consultation with the appropriate surface management agency or the private surface owner.

In the process of preparing a lease sale the NMSO sends a draft parcel list to any Field Offices in which parcel(s) are located. Field office staff then review the legal descriptions of the parcel(s) to determine if they are in areas open to leasing; if new information has become available which might change any analysis conducted during the planning process; if appropriate consultations have been conducted; what appropriate stipulations should be included; and if there are special resource conditions of which potential bidders should be made aware. The parcels nominated for this sale, along with the appropriate stipulations from the 2003 Farmington Resource Management Plan (RMP), subsequent amendments, and the FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest are posted online for a two week public scoping period. Comments received are reviewed and incorporated into the Environmental Assessment (EA).

Once the draft parcel review is completed and returned to the NMSO, a list of nominated lease parcel(s) with specific, applicable stipulations is made available online to the public through a NCLS. On rare occasions, additional information obtained after the publication of the NCLS may result in deferral of certain parcel(s) prior to the lease sale.

This EA documents the Farmington Field Office (FFO) review of fifty three (53) parcels nominated for the April 2013 Competitive Oil and Gas Lease Sale. Fourteen (14) of the 53 are located on surface estate administered by the by the Jicarilla Ranger District, Carson National Forest and Federal mineral estate administered by the FFO. It serves to verify conformance with

the approved land use plan, provides the rationale for deferring or dropping parcel(s) from a lease sale, as well as providing rationale for attaching additional notice to specific parcel(s). Where the surface is administered by the Forest Service and the mineral estate is also federally owned, the Forest Service and BLM share the responsibility for enforcing mineral leasing policies and regulations. Forest Service regulations under 36 CFR 228.102(e) allow the agency to authorize the BLM to lease individual, specified areas of land administratively available for lease and include the stipulations determined to be necessary.

The BLM issues and administers oil and gas leases on Forest Service lands only after the Forest Service authorizes leasing for specific lands. Once a Federal lease is issued on Forest Service lands, the Forest Service has the full responsibility and authority to approve and regulate all surface disturbing activities associated with oil and gas exploration and development through analysis and approval of the surface use plan of operation (SUPO) component of an Application for Permit to Drill (APD). The BLM has the authority and responsibility to provide final approval of all APDs including those for operations on Federal leases on Forest Service lands. Each APD includes a SUPO and a drilling plan. The BLM has the authority and responsibility to regulate all downhole operations and directly related surface activities and use, and provide approval of the drilling plan and final approval of the APD on Forest Service lands (USDA/USDI 2006).

The parcels and applicable stipulations were posted online for a two week public scoping period starting on October 29th, 2012. No comments were received. In addition, this EA will be made available for public review and comment for 30 days beginning December 3, 2012. Any comments provided prior to the lease sale will be considered and incorporated into the EA as appropriate.

Purpose and Need

The purpose is to consider opportunities for private individuals or companies to explore for and develop oil and gas resources on public lands through a competitive leasing process.

The need of the action is established by the BLM's responsibility under the MLA, as amended, to promote the exploration and development of oil and gas on the public domain. The MLA also establishes that deposits of oil and gas owned by the United States are subject to disposition in the form and manner provided by the MLA under the rules and regulations prescribed by the Secretary of the Interior, where consistent with the FLPMA, the National Environmental Policy Act (NEPA) of 1969, as amended (Public Law 91-90, 42 USC 4321 et seq.), and other applicable laws, regulations, and policies.

The BLM will decide whether or not to lease the nominated parcel(s) and, if so, under what terms and conditions.

Conformance with Applicable Land Use Plan and Other Environmental Assessments

The applicable land use plan for this action is the 2003 Farmington RMP. The RMP designated approximately 2.59 million acres of federal minerals open for continued oil and gas development

and leasing under Standard Terms and Conditions. The RMP describe specific stipulations that would be attached to new leases offered in certain areas. Therefore, it is determined that the alternatives considered conform to fluid mineral leasing decisions in the 2003 Farmington RMP and subsequent amendments and are consistent with the goals and objectives for natural and cultural resources.

Pursuant to 40 Code of Federal Regulations (CFR) 1508.28 and 1502.21, this EA is tiered to and incorporates by reference the information and analysis contained in the 2003 Farmington RMP its Final Environmental Impact Statement (FEIS) along with the FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest. Additionally, pursuant to CFR 1506.3(a), BLM has adopted the decisions and analysis made in the above Forest Service FEIS by publishing a Record of Decision. While it is unknown precisely when, where, or to what extent well sites or roads would be proposed, the analysis of projected surface disturbance impacts, should a lease be developed, is based on potential well densities listed in the Reasonable Foreseeable Development (RFD) Scenario included in the 2003 Farmington RMP (this RFD was also used in the Forest Service FEIS) Engler et al. 2001. While an appropriate level of site-specific analysis of individual wells or roads would occur when a lease holder submits an APD, assumptions based on the RFD scenario may be used in the analysis of impacts in this EA.

FLPMA established guidelines to provide for the management, protection, development, and enhancement of public lands (Public Law 94-579). Section 103(e) of FLPMA defines public lands as any lands and interest in lands owned by the U.S. For split-estate lands where the mineral estate is an interest owned by the U.S., the BLM has no authority over use of the surface by the surface owner; however, the BLM is required to declare how the federal mineral estate will be managed in the RMP, including identification of all appropriate lease stipulations (43 CFR 3101.1 and 43 CFR 1601.0-7(b); BLM Manual Handbook 1601.09 and 1624-1).

Federal, State or Local Permits, Licenses or Other Consultation Requirements

Purchasers of oil and gas leases are required to comply with all applicable federal, state, and local laws and regulations, including obtaining all necessary permits required should lease development occur.

Farmington Field Office biologists reviewed the proposed action and determined it would be in compliance with threatened and endangered species management guidelines. The Carson National Forest, Jicarilla Ranger District requested an informal consultation with the U.S. Fish and Wildlife Service on the FEIS for Surface Management of Gas Leasing and Development on the proposed action. The proposed action would be in compliance with (Cons. # 22420-2008-1-0095). No further consultation with the U.S. Fish and Wildlife Service (USFWS) is required at this stage.

Compliance with Section 106 responsibilities of the National Historic Preservation Act (NHPA) are adhered to by following the Protocol Agreement between New Mexico BLM and New Mexico State Historic Preservation Officer (Protocol Agreement), which is authorized by the National Programmatic Agreement between BLM, the Advisory Council on Historic

Preservation, and the National Conference of State Historic Preservation Officers, and other applicable BLM handbooks. When draft parcel locations are received by the FFO, cultural resource staff reviews the locations to determine if any are within known areas of concern.

Native American consultation is conducted by certified mail regarding each lease sale activity. If Traditional Cultural Properties (TCP) or heritage-related issues are identified, such parcel(s) are withheld from the sale while letters requesting information, comments, or concerns are sent to the Native American representative. If the same draft parcel(s) appear in a future sale, a second request for information is sent to the same recipients and the parcel(s) will be held back again. If no response to the second letter is received, the parcel(s) are allowed to be offered in the next sale (third sale).

If responses are received, BLM cultural resources staff will discuss the information or issues of concern with the Native American representative to determine if all or portions of a parcel need to be withdrawn from the sale, or if stipulations need to be attached as lease stipulations. If the nominated parcels are private surface owners, no Tribal Consultation is necessary.

In Section 1835 of the Energy Policy Act of 2005 (43 U.S.C. 15801), Congress directed the Secretary of the Interior to review current policies and practices with respect to management of federal subsurface oil and gas development activities and their effects on the privately owned surface. The Split Estate Report, submitted in December 2006, documents the findings from consultation on the split estate issue with affected private surface owners, the oil and gas industry, and other interested parties.

In 2007, the Legislature of the State of New Mexico passed the Surface Owners Protection Act. This Act requires operators to provide the surface owner at least five business days' notice prior to initial entry upon the land for activities that do not disturb the surface; and provide at least 30 days' notice prior to conducting actual oil and gas operations. At the New Mexico Federal Competitive Oil and Gas Lease Sale conducted on October 17, 2007, the BLM announced the implementation of this policy. Included in this policy is the implementation of a Notice to Lessees (NTL), a requirement of lessees and operators of onshore federal oil and gas leases within the State of New Mexico to provide the BLM with the names and addresses of the surface owners of those lands where the Federal Government is not the surface owner, not including lands where another federal agency manages the surface.

The BLM NMSO office would then contact the surface owners and notify them of the expression of interest and the date the oil and gas rights would be offered for competitive bidding. The BLM would provide the surface owners with its website address so they may obtain additional information related to the oil and gas leasing process, the imposition of any stipulations on that lease parcel(s), federal and state regulations, and best management practices (BMPs). The surface owners may elect to protest the leasing of the minerals underlying their surface.

If the BLM receives a protest, the parcel(s) would remain on the lease sale; however, the BLM would resolve any protest prior to issuing an oil and gas lease for that parcel(s). If the protest is upheld, the BLM would return the payments received from the successful bidder for that

parcel(s). After the lease sale has occurred, the BLM would post the results on its website and the surface owner may access the website to learn the results of the lease sale.

Identification of Issues

An internal review of the Proposed Action was conducted by an interdisciplinary team (ID Team) of the FFO resource specialists in October 2012 to identify and consider potentially affected resources and associated issues. Both USFWS and Forest Service representatives were a part of the ID Team meeting. During the meeting, the ID Team verified there were no new circumstances that would require additional analysis beyond that contained in the FS FEIS.

The parcels included in the Proposed Action, along with the appropriate stipulations from the FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest, were posted online at:

http://www.blm.gov/nm/st/en/prog/energy/oil_and_gas/oil_and_gas_lease.html

for a two week public scoping period beginning October 29, 2012 through November 13, 2012. No scoping comments were received.

Based on these efforts the following issues have been determined relevant to the analysis of this action:

- *What effects will the proposed action have on the wildlife and special status species?*
- *What effects will the proposed action have on Air Quality and Climate?*
- *What effects will the proposed action have on Water Quality?*
- *What effects will the proposed action have on soil resources?*
- *What effects will the proposed action have on visual resources?*
- *What effects will the proposed action have on cultural resources?*
- *What effects will the proposed action have on wild and scenic rivers?*

The United States Department of Agriculture Final Environmental Impact Statement for Surface Management of Gas Leasing and Development, August 2008 analyzed the environmental effects associated with leasing all Forest Service surface parcels identified in this document. Resource areas that have been analyzed include: energy minerals; soils, watershed management and water resources; air quality; vegetation; wildlife; cultural resources; visual resources; wild and scenic river eligibility; social and economic resources; environmental justice; recreation; rangeland and livestock grazing; public health; climate; geology; lithology and cumulative effects. After a review conducted by the FFO staff in the fall of 2012, the FFO concluded that there have not been any changed circumstances that would render the analysis invalid.

PROPOSED ACTIONS AND ALTERNATIVES

Alternatives Including the Proposed Action

Alternative A - No Action

In the case of a lease sale, an expression of interest to lease (parcel nomination) would be denied or rejected, and the fifty three (53) parcels would not be offered for lease during the April 2013 Competitive Oil and Gas Lease Sale. Surface management and any ongoing oil and gas

development on surrounding federal, private, and state leases would continue under current guidelines and practices. Selection of the no action alternative would not preclude these parcels from being nominated and considered in future lease sale.

Alternative B – Proposed Action Alternative

The Proposed Action is to lease fourteen (14) nominated parcels of federal minerals administered and managed by the Bureau of Land Management, Farmington Field Office, covering 10,873.6 surface acres administered by USDA Forest Service Jicarilla Ranger District, Carson National Forest. Standard terms and conditions as well as lease stipulations listed in the BLM FFO RMP (as amended) and the USDA Jicarilla Ranger District, Carson National Forest FEIS for Surface Management of Gas Leasing and Development would apply.

Once sold, the lease purchaser has the exclusive right to use as much of the leased lands as is reasonably necessary to explore and drill oil and gas within the lease boundaries, subject to the stipulations attached to the lease (Title 43 CFR 3101.1-2).

Oil and gas leases are issued for a 10-year period and continue for as long thereafter as oil or gas is produced in paying quantities. If a lessee fails to produce oil and gas, does not make annual rental payments, does not comply with the terms and conditions of the lease, or relinquishes the lease, exclusive right to develop the leasehold reverts back to the federal government and the lease can be reoffered in another sale.

Drilling of wells on a lease is not permitted until the lease owner or operator secures approval of a drilling permit and a surface use plan specified under Onshore Oil and Gas Orders listed in Title 43 CFR 3162. A permit to drill would not be authorized until site-specific NEPA analysis is conducted.

Site specific mitigation measures and Best Management Practices (BMPs) would be attached as Conditions of Approval (COAs) for each proposed exploration and development activity authorized on a lease.

The parcels recommended for leasing under the Proposed Alternative are presented below in Table 1.

Table 1. Alternative B: Proposed Action

Lease Parcel #	Legal Description	Acres	Lease Stipulations*
NM-201304-014	T.0290N, R.0040W, 23 PM, NM; Sec. 024 ALL Rio Arriba County – Farmington Field Office Minerals/ Carson NF Jicarilla Ranger District Surface	640	FS1 (NM) – Jicarilla FS3 (NM)- LN-2 FS3 (NM)- NSO-9 FS3 (NM)- CSU-5 FS3 (NM) TLS-4
NM-201304-015	T.0290N, R.0040W, 23 PM, NM; Sec. 021 ALL Rio Arriba County – Farmington Field Office Minerals/ Carson NF Jicarilla Ranger District Surface	640	FS1 (NM) Jicarilla FS3 (NM) LN-2 FS3 (NM) CSU-5 FS3 (NM) NSO-10 FS3 (NM) TLS-4
NM-201304-016	T.0300N, R.0040W, 23 PM, NM; Sec. 011 Lots 1-12; N2NE, W2SW	433.11	FS1 (NM) Jicarilla FS3 (NM) LN-2

	Rio Arriba County – Farmington Field Office Minerals/ Carson NF Jicarilla Ranger District Surface		FS3 (NM) CSU-5 FS3 (NM) TLS-4
NM-201304-017	T.0300N, R.0040W, 23 PM, NM; Sec. 035 NESE Rio Arriba County – Farmington Field Office Minerals/ Carson NF Jicarilla Ranger District Surface	40	FS1 (NM) Jicarilla FS3 (NM) LN-2 FS3 (NM) CSU-5 FS3 (NM) TLS-4
NM-201304-018	T.0310N, R.0040W, 23 PM, NM; Sec. 034 ALL Rio Arriba County – Farmington Field Office Minerals/ Carson NF Jicarilla Ranger District Surface	640	FS1 (NM) Jicarilla FS3 (NM) LN-2 FS3 (NM) NSO-8
NM-201304-019	T.0310N, R.0040W, 23 PM, NM; Sec. 035 N2 Rio Arriba County – Farmington Field Office Minerals/ Carson NF Jicarilla Ranger District Surface	320	FS1 (NM) Jicarilla FS3 (NM) LN-2 FS3 (NM) CSU-5 FS3 (NM) NSO-8 FS3 (NM) TLS-4
NM-201304-020	T.0320N, R.0040W, 23 PM, NM; Sec. 007 LOTS 5-9; SESW, S2SE Rio Arriba County – Farmington Field Office Minerals/ Carson NF Jicarilla Ranger District Surface	262.54	FS1 (NM) Jicarilla FS3 (NM) LN-2 FS3 (NM) NSO-4
NM-201304-021	T.0320N, R.0040W, 23 PM, NM; Sec. 032 S2 Rio Arriba County – Farmington Field Office Minerals/ Carson NF Jicarilla Ranger District Surface	320	FS1 (NM) Jicarilla FS3 (NM) LN-2 FS3 (NM) CSU-5 FS3 (NM) NSO-3 FS3 (NM) TLS-4
NM-201304-022	T.0290N, R.0050W, 23 PM, NM; Sec. 001 LOTS 1-7; SWNE, S2NW, SW, W2SE Rio Arriba County – Farmington Field Office Minerals/ Carson NF Jicarilla Ranger District Surface	555.22	FS1 (NM) Jicarilla FS3 (NM) LN-2 FS3 (NM) NSO-3 FS3 (NM) TLS-4
NM-201304-023	T.0310N, R.0050W, 23 PM, NM; Sec. 001 LOTS 1-2; SE Rio Arriba County – Farmington Field Office Minerals/ Carson NF Jicarilla Ranger District Surface	183.95	FS1 (NM) Jicarilla FS3 (NM) LN-2 FS3 (NM) CSU-5 FS3 (NM) NSO-5 FS3 (NM) TLS-4
NM-201304-024	T.0320N, R.0050W, 23 PM, NM; Sec. 009 LOTS 1-3; S2NE, SENW, E2SW, SE Rio Arriba County – Farmington Field Office Minerals/ Carson NF Jicarilla Ranger District Surface	418.78	FS1 (NM) Jicarilla FS3 (NM) LN-2 FS3 (NM) CSU-5 FS3 (NM) TLS-4
NM-201304-025	T.0320N, R.0050W, 23 PM, NM; Sec. 021 E2W2 Rio Arriba County – Farmington Field Office Minerals/ Carson NF Jicarilla Ranger District Surface	160	FS1 (NM) Jicarilla FS3 (NM) LN-2 FS3 (NM) CSU-5 FS3 (NM) TLS-4
NM-201304-026	T.0320N, R.0050W, 23 PM, NM; Sec. 028 E2 Rio Arriba County – Farmington Field Office Minerals/ Carson NF Jicarilla Ranger District Surface	320	FS1 (NM) Jicarilla FS3 (NM) LN-2 FS3 (NM) CSU-5 FS3 (NM) NSO-7 FS3 (NM) TLS-4
NM-201304-027	T.0320N, R.0050W, 23 PM, NM; Sec. 034 S2; 035 SW Rio Arriba County – Farmington Field Office Minerals/ Carson NF Jicarilla Ranger District Surface	480	FS1 (NM) Jicarilla FS3 (NM) LN-2 FS3 (NM) NSO-7

* See Appendix A for a summary of stipulations

Alternatives Considered but Eliminated from Detailed Analysis

The alternatives considered but eliminated from detailed analysis identify those parcels that are not in conformance with the current land use plans or need more time for evaluation. Therefore this alternative will not be carried through the remainder of this environmental assessment.

Table 2 below identifies and describes why 39 nominated parcels were not carried forward into the proposed action. All of these parcels are currently undergoing Native American Tribal consultation, and no responses have been received from the Tribes consulted. See page 3 of this EA under Federal, State or Local Permits, Licenses or Other Consultation Requirements for more information on the consultation process. 37 parcels are in their second Lease Sale review, and will be considered for sale in the July 2013 Lease Sale if no responses are received. 2 parcels (NM-201304-065 and NM-2012304-066) are in their first review and most likely will not be considered for sale until the October 2013 Lease Sale.

Table 2. Alternatives Considered but Eliminated from Detailed Analysis

Lease Parcel #	Alternative	Legal Description	Acres	County	Reason for Elimination
NM-201304-028	Lease	T.0220N, R.0060W, 23 PM, NM; Sec. 026 NW	160.00	San Juan	Tribal Consultation in Progress
NM-201304-029	Lease	T.0220N, R.0060W, 23 PM, NM; Sec. 030 E2SE	80	Sandoval	Tribal Consultation in Progress
NM-201304-030	Lease	T.0230N, R.0060W, 23 PM, NM; Sec. 001 LOTS 3,4; 001 S2NW, SW	320.96	Rio Arriba	Tribal Consultation in Progress
NM-201304-031	Lease	T.0230N, R.0060W, 23 PM, NM; Sec. 004 LOTS 1-4; 004 S2N2, S2	639.12	Rio Arriba	Tribal Consultation in Progress
NM-201304-032	Lease	T.0230N, R.0060W, 23 PM, NM; Sec. 011 E2E2, SWSE; 012 W2W2	360	Rio Arriba	Tribal Consultation in Progress
NM-201304-033	Lease	T.0210N, R.0080W, 23 PM, NM; Sec. 022 E2, NW	480	San Juan	Tribal Consultation in Progress
NM-201304-034	Lease	T.0220N, R.0090W, 23 PM, NM; Sec. 004 LOTS 1-2; 004 S2NE, SW	321.83	San Juan	Tribal Consultation in Progress
NM-201304-035	Lease	T.0220N, R.0090W, 23 PM, NM; Sec.005 LOTS 1-4; 005 S2N2, SW; 008 N2, N2SW;	882.87	San Juan	Tribal Consultation in Progress
NM-201304-036	Lease	T.0220N, R.0090W, 23 PM, NM; Sec. 007 LOTS 1-4; 007 NE, E2W2, N2SE, SWSE	599.50	San Juan	Tribal Consultation in Progress
NM-201304-037	Lease	T.0220N, R.0090W, 23 PM, NM; Sec. 009 NE, SW	320	San Juan	Tribal Consultation in Progress
NM-201304-038	Lease	T.0220N, R.0090W, 23 PM, NM; Sec. 014 N2, SE	480	San Juan	Tribal Consultation in Progress
NM-201304-039	Lease	T.0220N, R.0090W, 23 PM, NM; Sec. 015 ALL	640	San Juan	Tribal Consultation in Progress
NM-	Lease	T.0220N, R.0090W, 23 PM,	400.27	San Juan	Tribal Consultation in

201304-040		NM; Sec. 018 LOTS 3-4;018 W2NE,E2SW,SE			Progress
NM-201304-041	Lease	T.0220N, R.0090W, 23 PM, NM Sec. 020 ALL	640	San Juan	Tribal Consultation in Progress
NM-201304-042	Lease	T.0220N, R.0090W, 23 PM, NM; Sec. 02 NE, SW	320	San Juan	Tribal Consultation in Progress
NM-201304-043	Lease	T.0220N, R.0090W, 23 PM, NM; Sec.022 ALL	640	San Juan	Tribal Consultation in Progress
NM-201304-044	Lease	T.0220N, R.0090W, 23 PM, NM; Sec.023 ALL	640	San Juan	Tribal Consultation in Progress
NM-201304-045	Lease	T.0220N, R.0090W, 23 PM, NM; Sec.029 ALL	640	San Juan	Tribal Consultation in Progress
NM-201304-046	Lease	T.0220N, R.0090W, 23 PM, NM; Sec.030 LOTS 1-4; 030 E2,E2W2	640.48	San Juan	Tribal Consultation in Progress
NM-201304-047	Lease	T.0220N, R.0090W, 23 PM, NM; Sec. 031 LOTS 1-4; 031 E2,E2W2	640.15	San Juan	Tribal Consultation in Progress
NM2013 04-048	Lease	T.0220N, R.0090W, 23 PM, NM; Sec .032 NW,S2	480	San Juan	Tribal Consultation in Progress
NM2013 04-049	Lease	T.0220N, R.0090W, 23 PM, NM; Sec. 034 N2	320	San Juan	Tribal Consultation in Progress
NM2013 04-050	Lease	T.0220N, R.0100W, 23 PM, NM; Sec.001 LOTS 1-4;001 S2N2,S2	639.36	San Juan	Tribal Consultation in Progress
NM-201304-051	Lease	T.0220N, R.0100W, 23 PM, NM; Sec.003 E2SE	80	San Juan	Tribal Consultation in Progress
NM-201304-052	Lease	T.0220N, R.0100W, 23 PM, NM; Sec. 010 SENW,N2SW	120	San Juan	Tribal Consultation in Progress
NM-201304-053	Lease	T.0220N, R.0100W, 23 PM, NM; Sec. 011 S2	320	San Juan	Tribal Consultation in Progress
NM-201304-054	Lease	T.0220N, R.0100W, 23 PM, NM; Sec. 012 ALL	640	San Juan	Tribal Consultation in Progress
NM-201304-055	Lease	T.0220N, R.0100W, 23 PM, NM; Sec. 013 ALL	640	San Juan	Tribal Consultation in Progress
NM-201304-056	Lease	T.0220N, R.0100W, 23 PM, NM; Sec. 014 W2SW; 015 S2	400	San Juan	Tribal Consultation in Progress
NM-201304-057	Lease	T.0220N, R.0100W, 23 PM, NM; Sec. 020 SE	160	San Juan	Tribal Consultation in Progress
NM-201304-058	Lease	T.0220N, R.0100W, 23 PM, NM; Sec. 021 N2; 022 ALL; 023 W2NE,W2	1,360	San Juan	Tribal Consultation in Progress
NM-201304-059	Lease	T.0220N, R.0100W, 23 PM, NM; Sec. 028 NE,SW	320	San Juan	Tribal Consultation in Progress
NM-201304-060	Lease	T.0220N, R.0100W, 23 PM, NM; Sec. 034 N2	320	San Juan	Tribal Consultation in Progress
NM-	Lease	T.0230N, R.0100W, 23 PM,	480	San Juan	Tribal Consultation in

201304-061		NM; Sec. 024 SW; 025 E2			Progress
NM-201304-062	Lease	T.0230N, R.0110W, 23 PM, NM; Sec. 17 ALL	640	San Juan	Tribal Consultation in Progress
NM-201304-063	Lease	T.0230N, R.0110W, 23 PM, NM; Sec. 21 N2	320	San Juan	Tribal Consultation in Progress
NM-201304-064	Lease	T.0230N, R.0110W, 23 PM, NM; Sec. 28 NE, N2NW	240	San Juan	Tribal Consultation in Progress
NM-201304-065	Lease	T.0300N, R.0150W, 23 PM, NM; Sec. 22 NENNE, S2NE, N2S2, SWSW, SESE	360	San Juan	Tribal Consultation in Progress
NM-201304-066	Lease	T.0300N, R.0150W, 23 PM, NM; Sec. 34 NENE, S2NE, NESE; 035 Lots 1-4; 035 N2, N2S2	815.6	San Juan	Tribal Consultation in Progress

AFFECTED ENVIRONMENT

Introduction

This section describes the environment that would be affected by implementation of the alternatives described in Section 2. Elements of the affected environment described in this section focus on the relevant resources and issues.

The United States Department of Agriculture Final Environmental Impact Statement for Surface Management of Gas Leasing and Development, August 2008 analyzed the environmental effects associated with leasing all Forest Service surface parcels identified in this document. Resource areas that have been analyzed include: energy minerals; soils, watershed management and water resources; air quality; vegetation; wildlife; cultural resources; visual resources; wild and scenic river eligibility; social and economic resources; environmental justice; recreation; rangeland and livestock grazing; public health; climate; geology; lithology and cumulative effects. After a review conducted by the FFO staff in the fall of 2012, the FFO concluded that there have not been any changed circumstances that would render the analysis invalid. Hence, the following resource analysis tiers to and incorporates by reference the information and analysis contained in the U.S. Forest Service EIS.

Air Resources

The Jicarilla Ranger District sits on the eastern edge of the San Juan Basin, an area rich in energy resources which has been undergoing extensive development of oil and gas during the past few years. In addition, the air quality of this area is impacted by a number of coal burning power plants in the Four Corners Region. Air quality in this area currently meets all State and Federal standards for air pollution.

Air quality and climate are components of air resources which may be affected by BLM applications, activities, and resource management. Therefore, the BLM must consider and analyze the potential effects of BLM and BLM-authorized activities on air resources as part of

the planning and decision making process. Additional information on air quality in this area is contained in the FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 126-131).

Climate

The climate of the project area is classified as arid Continental, characterized by cool, dry winters and warm dry summers. The large distance from any source of oceanic moisture creates a climate of abundant sunshine and large diurnal variations in temperature. Due to its location in the southern Rocky Mountains, wintertime Pacific storm systems borne by westerly winds lose much of their moisture prior to passing through the region. The peak precipitation season occurs during late summer and early fall, when moisture moves into the region from the Gulf of Mexico in association with the western extension of the Bermuda High. Data from the New Mexico State University Agricultural Science Center at Farmington from 1978 through 2000 and at Dulce from 1906 through 2001 are used to characterize the project region climate (WRCC 2001). The Jicarilla Ranger District experiences an average precipitation of 15 inches and colder conditions than those that occur at Farmington and warmer and drier than those at Dulce.

The average annual precipitation at Farmington, west of the project area, is 8.8 inches. The driest and wettest months are June and August, when 0.3 and 1.2 inches of rain occur, respectively. The average high and low temperatures at Farmington in August are 90 and 59 degrees Fahrenheit (°F), respectively. The January average high and low temperatures are 42 and 19 °F. The average annual precipitation at Dulce, east of the project area, is 17.6 inches. The driest and wettest months are June and August, when 0.8 and 2.5 inches of rain occur, respectively. The average high and low temperatures at Dulce in August are 83 and 46 °F, respectively. The January average high and low temperatures are 38 and 3 °F.

The large-scale winds within the region tend to prevail from the southwest and westerly directions during the daytime hours for much of the year. However, local wind conditions can vary substantially from this general pattern throughout the project region, due to the effects of topographic channeling and mountain-valley circulations. For example, data collected at the Bloomfield monitoring station by the New Mexico Air Quality Bureau (NMAQB) shows a high frequency of easterly and westerly winds (Ball 2001). This is due to the presence of the east-west aligned San Juan River valley, which forces winds up the valley during daytime heating and down the valley at night, as cold air drains down this topographic depression. Additionally, winds at this station prevail from the north in association with nighttime drainage winds that flow down the localized sloping terrain.

Heritage Resources

Cultural Resources

A cultural resource is a broad term that refers to areas of traditional significance, use and the remains of past and current human activity. These resources may be the physical remains of a prehistoric or historic archeological site or a place of traditional cultural significance or use. A

traditional cultural property (TCP) refers to the connection between places on the landscape and a group's traditional beliefs, religion, or cultural practice. Because cultural resources are nonrenewable and easily damaged, laws and regulations exist to help protect them.

The National Historic Preservation Act (NHPA), as amended, and its implementing regulations require that Federal agencies consider the effects of their undertakings on "historic properties." 492 FS0026863. The term "historic properties" refers to cultural properties, both prehistoric and historic, that are eligible for listing in the National Register of Historic Places (NRHP). The lands, resources, and archeological sites within the Carson National Forest are considered traditionally significant to all affiliated American Indian tribes and, in some cases, certain resources or areas are considered sacred to a specific tribe(s). These traditional sacred places and traditional use areas are considered cultural historic properties that may be eligible to the National Register of Historic Places, because of their association with cultural practices and beliefs rooted in history and their importance in maintaining the cultural identity of ongoing American Indian communities. Consultations about these uses and places are governed and/or mandated by the NHPA, as amended in 1992 (U.S.C. 470 et seq.), the American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996), the Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 et seq.) and Executive Order 13007 of 1996. Federal agencies consider the effects of their management activities on historic properties by first determining the area of potential effect, then conducting literature searches and field surveys to locate cultural properties. Additionally, they consult with American Indian tribes and other interested parties to determine whether traditional cultural properties are within the area of potential effect. The locations and descriptions of cultural sites are stored in secure state and Forest Service databases and geographic information systems for analysis and protection.

All historic and archeological sites that are eligible for listing in the National Register of Historic Places (NRHP: i.e. historic properties) or potentially eligible to be listed would be either avoided by the undertaking or have the information in the sites extracted through data recovery prior to surface disturbance.

More detailed information on the affected environment for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 267)

Water Resources

As a portion of the San Juan River Basin, the Jicarilla Ranger District is underlain by sandstone aquifers of the Colorado Plateau. The primary aquifers that underlie the district are the Unita-Animas Aquifer, which underlies the majority of the San Juan Basin, and the Mesaverde Aquifer (USGS 2001). Both are used for sources of drinking water. Some treated water from drilling operations is currently injected into the Entrada Formation, unsuitable for use as drinking water and unconnected geologically to the two primary aquifers. Therefore, drinking water quality would not be affected.

The Unita-Animas Aquifer is composed primarily of Lower Tertiary rocks in the San Juan Basin.

It consists of the San Jose Formation, the underlying Animas Formation and its lateral equivalent, the Nacimiento Formation, and the Ojo Alamo Sandstone. The thickness of the Unita-Animas Aquifer generally increases toward the central part of the basin. Beneath Jicarilla Ranger District land, the maximum thickness of the aquifer is about 3,500 feet (USGS 2001). The Unita-Animas Aquifer contains fresh to moderately saline water. Dissolved solids concentrations generally increase along the ground water flow path in the San Juan Basin. The water is hard to very hard with actual chemical composition depending on the location of withdrawal and the producing aquifer. Calcium or sodium is typically the predominant cation, and bicarbonate or sulfate the predominant anion (USDI 1987).

The Mesaverde Aquifer comprises water yielding units in the Upper Cretaceous Mesaverde Group and some adjacent Tertiary and Upper Cretaceous Formations. The Mesaverde Aquifer is at or near land surface in extensive areas of the Colorado Plateaus and underlies the Unita-Animas Aquifer (USGS 2001). In the San Juan Basin, the Mesaverde Aquifer consists of sandstone, coal, siltstone, and shale of the Mesaverde Group. The quality of the Mesaverde Aquifer is variable. In general, areas of the aquifer that are recharged by infiltration from precipitation or surface water sources contain relatively fresh water. Sparse data indicate that the dissolved solids concentration ranges from about 1,000 to 4,000 milligrams per liter (mg/L) in the San Juan Basin, mostly above the standard for total dissolved solids of 1,000 mg/L. According to NMWQCC regulation 20.6.2.3101 NMAC, ground water with total dissolved solids less than 10,000 mg/L is to be protected as a future water resource (NMED 2005).

Ground water of naturally variable quality is available nearly everywhere in the San Juan Basin and beneath district land. Most yields are less than 20 gallons per minute (USDI 1987). Ground water recharge for the district originates from the northeastern portion of the San Juan Basin in Colorado where the aquifer formations are shallower and receive precipitation and surface water through infiltration. Ground water generally flows toward the San Juan River and its tributaries where it becomes alluvial ground water or is discharged to streamflow. On the district, ground water is discharged to streams through approximately 50 springs or is taken up by vegetation growing along stream valleys.

Most of the ground water quality concerns identified by the State of New Mexico (NMED 2004) in the San Juan Basin are caused by releases from leaking storage tanks; from oil and gas production pipelines; and gas storage, distribution, and refining sites. Of these concerns, ground water quality beneath district land is predominantly impacted by oil and gas production. The quality of ground water in the San Juan Basin generally ranges from fair to poor. In most places the total dissolved solids content exceeds 1,000 mg/L and can range from 500 to 4,000 mg/L (USDI 1987; USGS 2001).

More detailed information on the affected environment for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 134-142)

Most onshore produced water is injected deep underground for either enhanced recovery or disposal. With the passage of the Safe Drinking Water Act in 1974, the subsurface injection of fluids came under federal regulation. In 1980, the USEPA promulgated the Underground Injection Control regulations. The program is designed to protect underground sources of

drinking water. The NMOCD regulates oil and gas operations in New Mexico. The NMOCD has the responsibility to gather oil and gas production data, permit new wells, establish pool rules and oil and gas allowables, issue discharge permits, enforce rules and regulations of the division, monitor underground injection wells, and ensure that abandoned wells are properly plugged and the land is responsibly restored. The New Mexico Environment Department (NMED) administers the major environmental protection laws. The Water Quality Control Commission (WQCC), which is administratively attached to the NMED, assigns responsibility for administering its regulations to constituent agencies, including the NMOCD. The NMOCD administers, through delegation by the WQCC, all Water Quality Act regulations pertaining to surface and groundwater (except sewage not present in a combined waste stream). According to the NMOCD, produced water if predictable in salt concentration, can be used for drilling and completion and possibly cementing.

Soil

There are 13 TES soil map units within the district, each of which contains 1 to 4 components, for a total of 34 components. Most soils in the Jicarilla Ranger District are deep, well-drained, and formed from alluvial or residual materials derived from sandstone, siltstone, and shale. The soil characteristics, potential for erosion and likelihood for success in revegetation are important to consider when planning for stabilization of disturbed areas.

The comparison of soil loss tolerance (maximum rate of soil loss that can occur while sustaining productivity) to current soil loss (the rate of soil loss occurring under existing conditions) is important in describing current conditions. When current soil loss is greater than the tolerance threshold, erosion can be considered excessive. Other factors to be considered when determining whether soil erosion is too high include the quality of the downstream water bodies and their reasons for impairment. Existing problems with sedimentation or turbidity in streams downstream from the district would be exacerbated by accelerated soil erosion, which can be defined as erosion rates greater than the natural erosion rate. Every map unit within the district has current soil loss that exceeds natural soil loss rates, but is less than the tolerance established in the TES (USDA 1987).

More detailed information on the affected environment for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 124-133).

Special Status Species

Threatened or Endangered Species

Wildlife, fish, and plant species discussed in this section include species that are listed as threatened or endangered under the Federal Endangered Species Act and Forest Service (Southwestern) Region 3 Sensitive Species.

The following table shows threatened and endangered as well as Forest Service sensitive species that were considered in the FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest.

Table 3. Special status species in the Affected Environment

Species	Status ¹	Potential to Occur in District
Black-footed ferret (<i>Mustela nigripes</i>)	FE	No
Interior least tern (<i>Sterna antillarum</i>)	FE	No
Southwestern willow flycatcher (<i>Empidonax trailii extimus</i>)	FE	No
Rio Grande silvery minnow (<i>Hybognathus amarus</i>)	FE	No
Whooping crane (<i>Grus americana</i>)	FE	No
Mexican spotted owl (<i>Strix occidentalis lucida</i>)	FT	Yes
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	FC FS	Not likely to occur
Boreal western toad (<i>Bufo boreas boreas</i>)	FC FS	No
Bald eagle (<i>Haliaeetus leucocephalus</i>)	FS	Yes
New Mexican jumping mouse (<i>Zapus hudsonius luteus</i>)	FC FS	No
Southwestern otter (<i>Lontra canadensis sonora</i>)	FS	No
American peregrine falcon (<i>Falco peregrinus anatum</i>)	FS	Yes
Mountain plover (<i>Charadrius montanus</i>)	FS	May occur
Northern goshawk (<i>Accipiter gentilis</i>)	FS	Yes
Gray vireo (<i>Vireo vicinior</i>)	FS	Yes
Rio Grande cutthroat trout (<i>Oncorhynchus clarki virginalis</i>)	FS	No
Arizona willow (<i>Salix arizonica</i>)	FS	No
Ripley's milkvetch (<i>Astragalus ripleyi</i>)	FS	No. Occurs in eastern Rio Arriba County Jicarilla RD has been determined to be outside the range of this plant.
Boreal owl (<i>Aegolius funereus</i>)	FS	No
Hairless (Pecos) fleabane (<i>Erigeron subglaber</i>)	FS	No
Linnaeus' ramshorn snail (star gyro snail) (<i>Gyraulus crista</i>)	FS	No
Rio Grande chub (<i>Gila Pandora</i>)	FS	No
Sangre de Cristo pea clam (<i>Pisidium sanguinichristi</i>)	FS	No
Swift fox (<i>Vulpes velox</i>)	FS	No
White-tailed ptarmigan (<i>Lagopus leucurus</i>)	FS	No
Spotted bat (<i>Euderma maculatum</i>)	FS	Yes
Gunnison's prairie dog (<i>Cynomys gunnisoni</i>)	FS	Yes

Notes: ¹Acronyms are from the Forest Service, Region 3:

FE = Federally Endangered Species

FT = Federally Threatened Species
FC = Federal Candidate Species
FS = Forest Sensitive Species

The Carson National Forest, Jicarilla Ranger District requested an informal consultation with the U.S. Fish and Wildlife Service on the FEIS for Surface Management of Gas Leasing and Development on the proposed action. Based on the FEIS for Surface Management of Gas Leasing and Development it was determined that there are no known threatened or endangered species located within the area of analysis. The proposed action would be in compliance with (Cons. # 22420-2008-1-0095). No further consultation with the U.S. Fish and Wildlife Service (USFWS) is required at this stage.

Migratory Birds

The Jicarilla Ranger District lies within the Arizona-New Mexico Mountains Semidesert-Open Woodland-Coniferous Forest-Alpine Meadow Physiographic Province (Bailey 1995). Altitudinal vegetation/habitat zones distinguish this ecoregion (Ibid.), which on the district includes a foothills zone (generally below 7,000 feet) characterized by mixed grasses, shrublands, and piñon-juniper woodlands, and an open forest zone (above 7,000 feet) characterized by ponderosa pine and mixed ponderosa pine/Douglas-fir forests. No subalpine or alpine habitat exists within the district. Due to a lack of perennial water, riparian habitat, with vegetation composed mostly of willows, sedges and rushes, is limited. Habitat conditions are affected by a variety of management activities, including gas development, livestock grazing, fire suppression, wild horse management, and recreation. Most species may occur commonly in one particular habitat but are also likely to frequent adjacent habitats.

New Mexico Partners in Flight identifies physiographic areas and high priority migratory bird species by broad habitat types (NMPIF 2003). The Jicarilla Ranger District occurs within the Southern Rockies/Colorado Plateau bird conservation region. New Mexico Partners in Flight has also developed a list of highest priority breeding bird species by habitat type. In February 2003, the U.S. Fish and Wildlife Service (USFWS) released its 2002 “Birds of Conservation Concern Report” (USDI 2002e). This analysis considered birds from both the USFWS birds of conservation concern and Partners in Flight highest priority. All species described have not been located within the district, but have the potential of occurring in and are described in more detail in the affected environment section of the FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 200-203).

Visual Resources

The Jicarilla Ranger District is located in the San Juan Basin, a region that is visually characterized by diverse landscapes with distinctive features and landforms associated with arid regions shaped by water and wind erosion. The San Juan Basin includes plateaus and valleys with steep escarpments, grand vistas, canyons, and colorful badlands. The region is also popular for sightseeing due to several scenic vistas along highways, higher elevations, and riverfronts (USDI 2003a).

In contrast to other parts of the San Juan Basin, the terrain within the Jicarilla Ranger District is predominantly hilly and generally lacks distinctive relief or landforms. The predominant vegetative landscape of the district consists of piñon-juniper woodlands with larger coniferous trees intermixed. Qualities of naturalness over the majority of the district have been reduced over time due to increasing road density and the number of gas wells associated with infrastructure such as pipelines, compressor stations, and borrow pits.

The majority of the district is identified as a visual quality objective of modification, while approximately 8,800 acres (5 percent) of the district is designated as retention. The area designated as retention is in Vaqueros Canyon along the U.S. 64 corridor, but current conditions are best characterized as meeting the definition of partial retention, due to gas wells that are visible. Forest plan direction on visual quality objectives allows a deviation of one level from the designated objective, so partial retention meets forest plan standards.

Management of the subject categories is described below (USDA 1986c):

Modification: Management activities may visually dominate and dictate the characteristic of the landscape. However, landform or vegetative alterations must mimic the surrounding landscape in form, line, color, or texture in order to maintain scenic integrity. The objectives under modification should be met within a year of project completion.

Partial Retention: Management activities are visually evident, but subordinate to the characteristic landscape when managed according to the partial retention visual quality objective. Activities may repeat form, line, color, or texture common to the characteristic landscape, but changes in their qualities of size, amount, intensity, direction, pattern, etc., remain visually subordinate to the characteristic landscape.

Retention: Management activities may not be visually evident, and contrasts in form, line, color, or texture must be reduced during or immediately after the management activity.

The Jicarilla Ranger District does not include any designated wilderness or roadless areas, although there are areas that are considered sensitive to visual change due to lower road densities, high values for wildlife habitat, and cultural resources, as compared to the rest of the district. These areas include Bancos Canyon, Fierro Canyon and Mesa, Valencia Canyon, and La Jara Canyon. Because Vaqueros Canyon is located along U.S. Highway 64 and is part of the Native Heritage Trail Scenic Byway, it has a high number of viewers, compared to the rest of the district. For this reason, preservation of visual quality is particularly important.

More detailed information on the affected environment for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 267)

Wild and Scenic River

The National Wild and Scenic Rivers Act (P.L. 90-542; U.S.C. §1271) was established by Congress in 1968 to preserve free-flowing rivers that possess certain “outstandingly remarkable” values. Pursuant to Section 5(d)(1) of the act, the Secretary of Agriculture requires the Forest Service to evaluate rivers within its jurisdiction for their potential for inclusion in the National Wild and Scenic Rivers System.

The district does not contain any perennial surface water features; however, five of the district's intermittent channels were determined to be eligible for designation in the National Wild and Scenic River System. (Before these areas can be designated as wild and scenic, they must undergo a final evaluation and public involvement in the decision process.) The eligible canyons and their characteristics are summarized below:

- Bancos Canyon was determined to be eligible as a “wild” river, due to its free-flowing condition, and its outstandingly remarkable recreational, wildlife, and cultural values. It was identified as a popular hunting, hiking, and historic site viewing area, and a key winter migratory corridor and holding area for deer and wintering bald eagles. The entire canyon is being considered for nomination to the National Register of Historic Places as an archeological district due to its density of Anasazi and Navajo sites (USDA 1998).
- La Jara Canyon was determined to be eligible as a “recreational” river due to its outstandingly remarkable wildlife, cultural, and riparian values. It is a key winter migratory corridor and security area for elk, deer, and wintering bald eagles, and is one of the few locations in the area capable of supporting riparian vegetation. La Jara Canyon also contains three Navajo defensive sites listed on the National Register of Historic Places (USDA 1998).
- Carracas Canyon was determined to be eligible as a “recreational” river for its outstandingly remarkable wildlife, historic, and riparian values. It is important for wildlife, because it contains a key winter migratory corridor and holding area for deer and a significant security area for large bucks and wintering bald eagles. Its historic value is due to Boiler Springs and a wagon road from Arboles to Dulce. The Old Spanish Trail may also pass through a portion of Carracas Canyon. It is one of a few places on the district that can support riparian plants (USDA 1998).
- Vaqueros Canyon was determined to be eligible as a “recreational” river for its outstandingly remarkable scenic value from color diversity in fall vegetation; wildlife values because the east end is prime elk wintering habitat; historic value because it contains the historic Vaqueros Ranger Station site; and is one of a few places on the district that can support riparian plants (USDA 1998).
- Cabresto Canyon was determined to be eligible as a “recreational” river for its outstandingly remarkable wildlife, historic, and cultural values. Its wildlife values are based on key wintering habitat for general wildlife and bald eagles at the east end. Historic values are due to an old school house and several homesteads in the canyon, and its cultural importance is due to an important petroglyph area (USDA 1998).

More detailed information on the affected environment for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 274-276).

Socioeconomics and Environmental Justice

Executive Order 12898, issued on 11 February 1994, addresses concerns over disproportionate environmental and human health impacts on minority and low-income populations. The impetus behind environmental justice is to ensure that all communities, including minority, low-income, or federally recognized tribes, live in a safe and healthful environment and the April 2013 Oil and Gas Lease Sale will not be out of conformance with this executive order.

The nominated parcels are located outside any environmental and human health impacts on minority and low-income populations.

ENVIRONMENTAL IMPACTS

Environmental Consequences

Assumptions for Analysis

The act of leasing the parcel would, by itself, have no impact on any resources in the FFO or on the Carson National Forest, Jicarilla Ranger District. All impacts would be linked to as yet undetermined future levels of lease development.

If the lease parcels were developed, short-term impacts would be stabilized or mitigated within five years and long-term impacts are those that would substantially remain for more than five years. Potential impacts and mitigation measures are described below.

Cumulative impacts include the combined effect of past projects, specific planned projects and other reasonably foreseeable future actions such as other infield wells being located within this lease. Potential cumulative effects may occur should an oil and gas field be discovered if this parcel was drilled and other infield wells are drilled within this lease or if this lease becomes part of a new unit. All actions, not just oil and gas development may occur in the area, including foreseeable non-federal actions.

The reasonable and foreseeable development scenario developed for the Farmington RMP forecasted 497 wells would be drilled annually on existing and new leases for Federal minerals. Since 2000, an average of 393 wells has been drilled annually.

The reasonable and foreseeable potential full development of the proposed lease sale was reviewed by the Farmington BLM minerals staff. The mineral staff determined that all of the proposed leases would most likely be developed for oil using horizontal drilling techniques, and calculated the number of potential horizontal oil wells that could be drilled in each lease.

The surface disturbance assumptions shown in the following estimate impacts associated with oil and gas exploration and development drilling activities for the following parcels:

Parcel #14, 640 acre tract

Considering spacing requirements and potential formation development, a maximum of 4 horizontal wells may be required to develop this tract from 2 well pads.

Parcel #15, 640 acre tract

Considering spacing requirements and potential formation development, a maximum of four horizontal wells may be required to develop this tract from the maximum of two well pads along with 4 vertical hole location from 4 well pads. Total of 8 wells on 6 well pads.

Parcel #16, 433.110 acre tract

Considering spacing requirements and potential formation development, a maximum of four horizontal wells may be required to develop this tract from the maximum of two well pads along with 4 vertical hole locations from 4 well pads. Total of 8 wells on 6 well pads.

Parcel #17, 40 acre tract

No projections were made.

Parcel #18, 640 acre tract

Considering spacing requirements and potential formation development, a maximum of 4 horizontal wells may be required to develop this tract from the maximum of 2 well pads along with 4 vertical wells from a maximum of 4 well pads. Total of 8 wells 6 well pads.

Parcel #19, 320 acre tract

Considering spacing requirements and potential formation development, a maximum of 2 horizontal wells may be required to develop this tract from the maximum of 1 well pad along with 2 vertical well locations from 2 well pads. Total of 4 wells on 3 well pads.

Parcel #20, 262.54 acre tract

Considering spacing requirements and potential formation development, a maximum of 2 horizontal wells may be required to develop this tract from the maximum of 1 well pad along with 1 vertical hole well from 1 well pad. Total of 3 wells on 2 locations.

Parcel #21, 320 acre tract

Considering spacing requirements and potential formation development, a maximum of 3 wells may be required to develop this tract from the maximum of 2 well pads.

Parcel #22, 555.22 acre tract

Considering spacing requirements and potential formation development, a maximum of 4 horizontal wells may be required to develop this tract from the maximum of 2 well pads along with 3 vertical hole locations on 3 well pads. Total of 7 wells on 5 well pads.

Parcel #23, 183.95 acre tract

Considering spacing requirements and potential formation development, a maximum of 2 wells may be required to develop this tract from the maximum of 2 well pads.

Parcel #24, 418.78 acre tract

Considering spacing requirements and potential formation development, a maximum of 6 wells may be required to develop this tract from the maximum of 4 well pads.

Parcel #25, 160 acre tract

Considering spacing requirements and potential formation development, a maximum of 2 wells may be required to develop this tract from the maximum of 2 well pads.

Parcel #26, 320 acre tract

Considering spacing requirements and potential formation development, a maximum of 3 wells may be required to develop this tract from the maximum of 3 well pads.

Parcel #27, 480 acre tract

Considering spacing requirements and potential formation development, a maximum of 4 wells may be required to develop this tract from the maximum of 3 well pads.

One typical horizontal well pad is approximately 3.67 acres of disturbance with 0.65 acres of Total Long Term and 3.02 acres with interim reclamation.

Effects from the No Action Alternative

Under the No Action Alternative, the proposed parcels would not be leased. There would be no subsequent impacts from oil and/or gas construction, drilling, and production activities. The No Action Alternative would result in the continuation of the current land and resource uses in the proposed lease areas. The No Action Alternative is also used as the baseline for comparison of alternatives.

It is an assumption that the No Action Alternative (no lease option) may result in a slight reduction in domestic production of oil and gas. This would likely result in reduced Federal and State royalty income, and the potential for Federal lands to be drained by wells on adjacent private or state lands. Consumption is driven by a variety of complex interacting factors including energy costs, energy efficiency, availability of other energy sources, economics, demography, and weather or climate. If the BLM were to forego leasing and potential development of those minerals, the assumption is that the public's demand for the resource would not be expected to change. Instead, the undeveloped resource would be replaced in the short- and long-term by other sources that may include a combination of imports, using alternative energy sources (e.g. wind, solar), and other domestic production. This displacement of supply would offset any reductions in emissions achieved by not leasing the subject tracts in the short-term.

Analysis of the Action Alternatives**Air Resources**

The USDA environmental impact statement addressed the impacts of developing the proposed lease packages as well as fully developing the Jicarilla Ranger District surface in a manner consistent with the RFDS prepared by the Farmington Field Office of the BLM. The BLM has evaluated the development of the proposed lease parcels and has come to the same conclusions as the 2008 Forest Service FEIS. The conclusions are that the development would not cause the area analyzed to be classified or reach "non-attainment" status (FEIS pg 138). Continued efforts

by the natural gas industry in the San Juan basin to increase the number of “green completions” when developing a new well, electrification of existing well pads (removing internal combustion engines) and the building of water collection pipeline systems (reduction in the number of trucks used to service wells) have changed the dynamics of the air quality regime in the San Juan Basin.

Leasing the subject tracts would have no direct impacts to air quality. Any potential effects to air quality from sale of lease parcel would occur at such time that the lease is developed. Potential impacts of development of the proposed lease could include increased air borne soil particles blown from new well pads or roads, exhaust emissions from drilling equipment, compressors engines, vehicles, flares, and dehydration and separation facilities, and volatile organic compounds during drilling or production activities.

More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 131-146).

Heritage Resources

Cultural Resources

Approximately half of the approximately 5,000 acres offered for lease have either no surface occupancy or controlled surface use for the purpose of protecting either wildlife or cultural resources. The Forest Service goal is to use planning/avoidance to address culturally sensitive sites. Should a proponent be unable to avoid a site and mitigation is required, mitigation will be done under the guidance and oversight of the Jicarilla Ranger District Archaeologist and with consultation with the appropriate tribal representative. To ensure that the mitigation process will be completed in an appropriate manner an additional bond will be required that will specifically address archaeology resource concerns.

The proposed action would minimize impacts to cultural resources through implementation of stipulations that would require development within the Bancos, La Jara, Vaqueros, Fiero, and Valencia Canyons to be developed under either no surface occupancy or controlled surface use stipulations. These stipulations would provide additional tools to help the Forest Service avoid locations that would have adverse effects on cultural resources, including archeological sites, cultural landscapes, and traditional cultural properties. In addition, these stipulations would maintain most of the aspects of integrity, if not all, for cultural landscapes, archeological sites, and traditional cultural properties located in these areas.

More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 257-261).

Water Resources

Ground water would not be affected significantly under this or any alternative. It has been documented in a BLM biological assessment related to oil and gas development in the San Juan

Basin (USDI 2002a) that the haulers providing water to the gas industry for drilling have legal water rights, and all of the water is obtained from surface water sources or wells outside the Jicarilla Ranger District boundaries, and in some cases, east of the Continental Divide.

Hydraulic fracturing is a common process in the San Juan Basin and applied to nearly all wells drilled. There are no verified instances of hydraulic fracturing adversely affecting groundwater in the San Juan Basin (USDI/BLM 2011a, page 54). The producing zone targeted by the Proposed Action is well below any underground sources of drinking water. The Mancos Shale formation is also overlain by a continuous confining layer. On average, total depth of each well bore would be 6,700 feet below the ground surface. Fracturing in the Basin Mancos formation is not expected to occur above depths above 5,700 feet below the ground surface. Fracturing could possibly extend into the Mesaverde formation overlying the Basin Mancos; however, the formation has not been identified as an underground source of drinking water based on its depth and relative high levels of TDS.

Hydraulic fracturing fluid is roughly 99 percent water but also contains numerous chemical additives as well as propping agents, such as sands. Chemicals added to stimulation fluids include friction reducers, surfactants, gelling agents, scale inhibitors, acids, corrosion inhibitors, antibacterial agents, and clay stabilizers. Stimulation techniques have been used in the United States since 1949 and in the San Juan Basin since the 1950s. Over the last 10 years, advances in multi-stage and multi-zone hydraulic fracturing has allowed development of gas fields that previously were uneconomic, including the San Juan Basin.

Contamination of groundwater could occur without adequate cementing and casing of the proposed well bore. Casing specifications are designed and submitted to the BLM. The BLM independently verifies the casing program, and the installation of the casing and cementing operations are witnessed by certified Petroleum Engineering Technicians. Surface casing setting depth is determined by regulation. Adherence to APD COAs and other design measures would minimize potential effects to groundwater quality. The potential for impacts to groundwater from the well bores would be long term for the life of the wells.

There would be the potential for accidental spills or releases of these materials, which could impact local water quality. The potential for surface water quality impacts from accidental spills or releases of hazardous materials on the well pads would be long term for the life of the wells.

More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 111-122).

Soil

While the act of leasing a tract would produce no direct impacts, subsequent development of the lease would physically disturb the topsoil and would expose the substratum soil on subsequent project areas. Direct impacts resulting from the oil and gas construction of well pads, access roads, and reserve pits include removal of vegetation, exposure of the soil, mixing of horizons, compaction, loss of top soil productivity and susceptibility to wind and water erosion. Wind erosion would be expected to be a minor contributor to soil erosion with the possible exception

of dust from vehicle traffic. These impacts could result in increased indirect impacts such as runoff, erosion and off-site sedimentation. Activities that could cause these types of indirect impacts include construction and operation of well sites, access roads, gas pipelines and facilities.

Contamination of soil from drilling and production wastes mixed into soil or spilled on the soil surfaces could cause a long-term reduction in site productivity. Some of these impacts can be reduced or avoided through proper design, construction and maintenance and implementation of best management practices.

Lease stipulations to minimize impacts on water quality and soils include those that limit construction on steep slopes where soils would be most susceptible to erosion and areas disturbed would be larger due to cut and fill slopes required for access and pad development. Other stipulations that could benefit water quality include applying no surface occupancy in the canyon bottoms within areas of resource concern (Bancos, La Jara, Fierro, and Valencia Canyons). This would ensure that no well pads or roads would be constructed near drainageways, at least in the currently unleased parts of Bancos and Valencia Canyons where a total of seven wells and less than 1 mile of road are estimated to fall within the proposed NSO area. This would slightly reduce the amount of sediment likely to enter the drainageway from disturbed areas. More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 111-122).

Special Status Species

Threatened or Endangered Species

Mexican Spotted Owl

Parcels 2, 5, 8 and 9 contain potential nesting habitat for the Mexican Spotted Owl (MSO). These parcels would have NSO in areas that contain potential nesting habitat for the MSO. This would protect the spotted owl from direct habitat removal. More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 216).

Bald Eagle

Drilling operations would not be allowed within bald eagle winter habitat in the Jicarilla Ranger District November 1 through March 31. This restriction would not apply to operation and maintenance of existing production facilities; however, the District will enforce the noise policy. Since the District only provides winter habitat for bald eagles, future gas field development would not impact population levels of the bald eagle.

More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 219-221).

Peregrine Falcon

Parcels would be developed, but would not directly affect any known falcon eyries. Habitat change in potential peregrine foraging habitat is likely to result from projected well pad and road/pipeline construction within existing leases. Due to limited nesting habitat on the Jicarilla Ranger District, this would not impact the population trend for peregrine falcon.

More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 222-223).

Mountain Plover

Increases in bare ground may have a beneficial impact to mountain plover, especially where there is little disturbance of the habitat. Therefore, the proposed development could potentially benefit plover through the creation of bare ground. However, the Jicarilla Ranger District provides limited habitat for mountain plover, so population trends are not expected to change with continued gas field development on the District.

More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 224-225).

Northern Goshawk

Goshawk territory is not within any winter big game range, the variations proposed for open road density across alternatives would not affect the goshawk territory. However, because ponderosa pine habitat, preferred by goshawks, would have the highest amount of closed roads under all alternatives, there could be a slight beneficial impact to potential goshawk habitat. Site-specific NEPA analysis and surveys would be conducted prior to well pad and access road construction, during the application for permit to drill process, which would minimize impacts to goshawks. Due to the regional distribution of goshawk throughout the southwestern United States, this would not affect range-wide population levels.

More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 227-228).

Grey Vireo

It is not known what impact leasing would have on gray vireo at this time. There are no known nest locations or incident sightings of gray vireo in any of the parcels. In addition, very limited bird surveys have been conducted on the Jicarilla Ranger District, so it is unknown how much gray vireo use the nominated parcels. Due to limited habitat on the District, there could be a

slight reduction in populations on the District, but this should not impact the overall population level in the State.

More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 229-230).

Spotted Bat

There is potential of spotted bat mortality from the construction of reserve pits. It is not possible to determine what level of impact this would be, now or in the future. The construction of ponds for catching sediment (in association with well pad and road building) might increase water sources for the spotted bat; however, it is not known if they would use these ponds since they usually prefer clean, clear water (Luce and Keinath 2007). Due to limited roosting habitat on the Jicarilla Ranger District, there are concerns about affecting the local population. Since the level of effects cannot be qualified, either beneficial or negative, it is unknown how local populations would be affected over time by the continuation of gas development on the District. It is unlikely, though, that overall population trends for spotted bats would be negatively impacted.

More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 231-232).

Gunnison Prairie Dog

Road and well construction in grasslands during Gunnison Prairie Dog (GPD) breeding season may result in loss of young in burrows, and would result in a loss of habitat. Reclamation grasslands created by revegetating disturbed areas have been found to contain GPD colonies on the Jicarilla Ranger District. While this may provide additional habitat for the prairie dog, there is potential for future impacts, if maintenance or new drilling (e.g., redrilling the well, co-location, or twinning) occur in the reclaimed areas. Individual colonies could be affected on the District, but overall population levels would not be affected.

More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 233-235).

Migratory Birds

Public road use would only occur from December 15 through April 15. Most road use in these areas is for industry which would still occur during winter closure periods. Timing limitations that exclude drilling operations between November 1 and March 31 would limit disturbance to birds wintering on the Jicarilla Ranger District. There is the potential for all bird species to be affected during the breeding season by nest removal due to road or well pad construction. This would not have a measurable negative effect to any of the above species populations.

More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 203-209).

Visual Resources

Nominated parcels would be subject to timing or seasonal restrictions, no surface occupancy, and controlled surface use. However, the overall visual impacts following the application of these stipulations would most likely be minimal, as parcels currently available for leasing represent a small portion of the Jicarilla Ranger District. The no surface occupancy stipulation would provide visual resources with increased protection in that it would prohibit surface development of parcels in the Bancos and Valencia Canyon. The parcels affected by proposed no surface occupancy stipulations represent a small portion of the District and its overall impact would most likely be minimal. Controlled surface use lease stipulations to protect water quality and soils may provide increased protection to visual resources by avoiding construction on steep slopes where well pads and road cuts would be larger due to the required cut and fill areas.

Visual resource impacts associated with leasing 15 new parcels on Forest Service surface would not have a direct impact on BLM visual resource management. The Forest Service FEIS has clearly evaluated the effects of leasing and subsequent development and stipulated that development would be within the boundaries established by the Carson Forest Plan (as amended).

The primary issue associated with visual resources is the degree of visible change that may occur in characteristic landscapes, viewsheds, and areas with high scenic value. Project activities can introduce differing elements of form, line, color, and texture into the landscape through construction or placement of constructed features such as roads, structures, equipment, or manipulation of vegetation. Effects can also result when actions change scenic integrity or result in conditions that produce unattractive landscapes.

The degree of contrast and dominance of changes within the viewing area are the measure of change. Contrast depends on viewing distance and size of the features. Generally, the foreground refers to the detailed landscape in an area generally within ½ mile from the viewer, the middle ground is the zone between the foreground and background, generally from ½ mile to 4 miles from the viewer, and the background is generally beyond 4 miles from the viewer; this is the distant part of the landscape (USDA 1995). In conjunction with the degree of contrast, the sensitivity or visual value of a location is considered when assessing overall impact to visual resources. Noticeable levels of visual modification in areas with a lower visual quality objective value (e.g., modification or maximum modification) would produce less impact than the same degree of change in an area that has a higher visual quality objective value, such as partial retention, retention, and preservation (USDA 1986c). (pg 272)

More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 269).

Wild and Scenic Rivers

The majority of the area within the eligible wild and scenic river corridors is already in development and currently leased. This level and magnitude of existing and future development would likely exclude these rivers from a final classification and decision toward suitability. The proposed leases would encompass three of the five eligible wild and scenic river areas. The primary benefit to eligible wild and scenic river areas would be the requirement for 5-year development strategies that may facilitate grouping of wells and roads, potentially limiting impacts to scenic values, and the cultural landscape within Bancos, Vaqueros, and La Jara Canyons. Beneficial impacts would be minimal, however, and not likely to overcome the adverse impacts of the infill development on existing leases.

No surface occupancy lease stipulations prohibiting surface disturbance are proposed within all the canyons with wild and scenic river eligibility.

More detailed information on the environmental consequences for this section can be found in FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest (page 276-280)

Socio-economics and Environmental Justice

No minority or low income populations would be directly affected in the vicinity of the proposed actions from subsequent proposed oil or gas projects. Indirect impacts could include a small increase in activity and noise disturbance in areas used for wildlife grazing, and wood gathering. However, these impacts would apply to all public land users in the project area.

Cumulative Impacts

The NMSO manages approximately 41 million acres of Federal mineral estate. Of the 41 million acres, 35 million acres are available for oil and gas leasing. Approximately 17% of the 35 million acres is currently leased (73% of the leases are in production and 63% of the lease acres are in production). The NMSO received 100 parcel nominations (56,854.86 acres) for consideration in the April 2013 Oil & Gas Lease Sale, and is proposing to lease 55 (35,707.88 acres) of the 100 parcels. If these 100 parcels were leased, the percentage of Federal minerals leased would not change. The Carlsbad, Roswell, Taos and Oklahoma Field Office (Oklahoma, Kansas and Texas) parcels are analyzed under separate EAs.

Table 5A. Actual - Acres of Federal Minerals/Acres Available/Acres Leased:

State	Federal O&G Mineral Ownership	Acres Available	Acres Leased	Percent Leased
KS	744,000	614,586	127,414	21%
NM	34,774,457	29,751,242	5,023,215	17%
OK	1,998,932	1,668,132	330,800	20%
TX	3,404,298	3,013,207	391,091	13%
Totals/Average	40,921,687	35,058,167	5,862,520	17%

Table 5B. Parcels Nominated & Offered in the January 2013 Oil & Gas Lease Sale:

Field Office	No. of Nominated Parcels	Acres of Nominated Parcels	No. of Parcels to be Offered	Acres of Parcels to be Offered
Carlsbad	11	6,683.29	6	4,121.20
Roswell	1	120.00	1	120.00
Farmington	53	23,913.74	14	5413.60
Kansas	1	240.00	1	240.00
Texas	29	25,118.75	29	25,118.75
Oklahoma	5	779.08	4	694.33
Totals	100	56,854.86	55	35,707.88

Table 5C. Foreseeable - Acres of Federal Minerals/Acres Available/Acres Leased:

State	Federal O&G Mineral Ownership	Acres Available	Acres Leased	Percent Leased
KS	744,000	614,586	127,654	21%
NM	34,774,457	29,751,242	5,053,932	17%
OK	1,998,932	1,668,132	331,579	20%
TX	3,404,298	3,013,207	416,210	14%
Totals/Average	40,921,687	35,058,167	5,929,375	17%

The cumulative impacts fluctuate with the gradual reclamation of well abandonments and the creation of new additional surface disturbances in the construction of new access roads and well pads. The on-going process of restoration of abandonments and creating new disturbances for drilling new wells gradually accumulates as the minerals are extracted from the land. Preserving as much land as possible and applying appropriate mitigation measures will alleviate the cumulative impacts.

Consultation/Coordination

This section includes individuals or organizations from the public, external agencies, the interdisciplinary (ID) team that was contacted during the development of this document.

Table 3. List of Preparers

ID Team Member	Title	Organization
Jim Copeland	Archaeologist	BLM
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Agencies, Persons and Organizations Consulted

Agencies

Thetis Gamberg, USFWS Biologist
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New Mexico State Office

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Melanie Barnes, State Office Planning & Environmental Coordinator
Dave Goodman, State Office Planning & Environmental Coordinator

On October 30th, 2012 a briefing for the BLM NM State Director was held at the New Mexico State Office to review Field Office recommendations for nominated parcels.

Public Involvement

The nominated parcels for this sale, along with the appropriate stipulations from the FEIS for Surface Management of Gas Leasing and Development, Jicarilla Ranger District, Carson National Forest were posted online for a two week scoping period October 29- November 13, 2012. No scoping comments were received. This EA will be made available for public review and comment for 30 days beginning December 3, 2012 – January 3, 2013. Any comments provided prior to the lease sale will be considered and incorporated into the EA as appropriate.

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Appendix A

FARMINGTON FIELD OFFICE LEASE STIPULATION SUMMARY

Stipulation	Description/Purpose
FS 1 NM Jicarilla	<p>STIPULATION FOR LANDS OF THE NATIONAL FOREST SYSTEM UNDER JURISDICTION OF DEPARTMENT OF AGRICULTURE</p> <p>The lessee/operator must comply with all the rules and regulations of the Secretary of Agriculture set forth at Title 36, Chapter II, of the code of Federal Regulations governing the use and management of the National Forest System (NFS) when not inconsistent with the rights granted by the Secretary of the Interior in the permit. The lessee/operator may be required to conduct a cultural resource inventory of the proposed surface disturbance and implement mitigation measures to preserve or avoid destruction of cultural resource values. The Forest Service must meet the Endangered Species Act consultation requirements prior to any surface disturbing activities. The consultation may result in modification of or restrictions on proposed surface disturbing activities.</p>
FS 3 NM CSU-5	<p>CONTROLLED SURFACE USE – SLOPES</p> <p>Well pad construction is prohibited on slopes greater than 20% with cuts over 15 feet. Road construction is prohibited on slopes greater than 40%.</p>
FS 3 NM LN-2	<p>LEASE NOTICE – CULTURAL RESOURCE</p> <p>All development activities proposed under the authority of this lease are subject to compliance with Section 106 of the National Historic Preservation Act and Executive Order 13007. Compliance could require intensive cultural resource inventories, Native American consultation, modification to surface use operating plans and mitigation measures to avoid adverse effects.</p>
FS 3 NM NSO-3	<p>NO SURFACE OCCUPANCY– MEXICAN SPOTTED OWL HABITAT</p> <p>No surface occupancy or use is allowed in order to protect Mexican spotted owl habitat.</p>
FS 3 NM NSO-4	<p>NO SURFACE OCCUPANCY – SLOPES/MEXICAN SPOTTED OWL NESTING HABITAT</p> <p>No surface occupancy or use is allowed in order to protect soil and water resources on slopes greater than 40% and to protect Mexican spotted owl nesting habitat.</p>
FS 3 NM NSO-5	<p>NO SURFACE OCCUPANCY – SLOPES/WILDLIFE/CULTURAL/BANCOS AREA OF RESOURCE CONCERN</p> <p>No surface occupancy or use is allowed in order to protect soil and water resources on steep slopes, to protect wildlife security and seclusion, to protect cultural resources and to protect the Bancos area of resources concern.</p>
FS 3 NM NSO-7	<p>NO SURFACE OCCUPANCY – BANCOS CANYON</p> <p>No surface occupancy or use is allowed in Bancos Canyon to protect surface resources, wildlife security and seclusion, and soil and water resources.</p>
FS 3 NM NSO-8	<p>NO SURFACE OCCUPANCY – MEXICAN SPOTTED OWL ACTIVITY CENTER/CRITICAL HABITAT</p> <p>No surface occupancy or use is allowed within identified Mexican spotted owl protected activity center and designated critical habitat.</p>
FS 3 NM NSO-9	<p>NO SURFACE OCCUPANCY – VALENCIA CANYON</p> <p>No surface occupancy or use is allowed in Valencia Canyon to protect undeveloped characteristics and potential impacts to cultural resources, wildlife security and seclusion.</p>

FS 3 NM NSO-10	NO SURFACE OCCUPANCY – LA JARA CANYON No surface occupancy or use is allowed in La Jara Canyon area of resource concern.
FS 3 NM TLS-4	TIMING LIMITATION STIPULATION – WINTER WILDLIFE DISTURBANCE No surface use is allowed between November 1 through March 31. This restriction does not apply to operation and maintenance of production facilities.