

**U.S. Department of the Interior  
Bureau of Land Management  
Uncompahgre Field Office  
2465 South Townsend Avenue  
Montrose, CO 81401**

**ENVIRONMENTAL ASSESSMENT (EA)**

NUMBER: DOI-BLM-CO-S050-2011-0003 EA

PROJECT NAME: November 2011 Competitive Oil and Gas Lease Sale

PLANNING UNIT: Uncompahgre Field Office (UFO): Uncompahgre Basin Resource Area and San Juan / San Miguel Resource Area

**LEGAL DESCRIPTION:**

Parcel 6092: T. 45 N., R. 15 W., NMPM, Sec. 7: Lots 1-4, E $\frac{1}{2}$ , E $\frac{1}{2}$ W $\frac{1}{2}$ ; Sec. 8: W $\frac{1}{2}$ W $\frac{1}{2}$   
802.6 acres

Parcel 6093: T. 12 S., R. 91 W., 6<sup>th</sup> PM, Sec. 12: NE $\frac{1}{4}$ NE $\frac{1}{4}$  40.00 acres

APPLICANT: Bureau of Land Management (BLM) Colorado State Office

**PURPOSE AND NEED FOR THE ACTION:**

The purpose of offering parcels for competitive oil and gas leasing is to allow private individuals or companies to explore for and develop oil and gas resources for sale on public markets. It is the policy of the BLM as derived from various laws, including the Mineral Leasing Act of 1920 and the Federal Land Policy and Management Act of 1976, to make mineral resources available for disposal and development to meet national, regional, and local needs.

**BACKGROUND / INTRODUCTION**

The UFO encompasses 700,000 acres of land located in southwestern Colorado, primarily in Delta, Montrose and San Miguel Counties, but also includes small portions of Mesa, Gunnison, and Ouray Counties. Approximately 2.23 million acres overlie federal mineral estate with approximately 2.16 million acres of BLM administered oil and gas mineral estate available for oil and gas leasing.

According to Colorado State historic records, 116 gas wells have been drilled in the North Fork area on federally managed oil and gas leases, including split estate lands. The North Fork area is bordered by the following: Colorado State Highway 50 on the west, Colorado State Highway 133 on the south to Paonia Reservoir, then directly north and east to the UFO boundary. Of these

wells, 15 are presently producing natural gas, 29 are shut-in but capable of production, and 72 have been drilled, abandoned and plugged.

On federally managed oil and gases leases in the rest of the planning area, including split estate lands, 71 gas wells have been drilled. Of these, two are presently producing natural gas, two are shut-in but capable of production, and 65 have been drilled, abandoned and plugged. Records show that an additional two wells have been proposed and are currently awaiting approval.

The decision as to which parcels are available for leasing and which stipulations may be applicable is made during the land use planning process. These Lease Stipulations are posted on the Colorado BLM website at:

[http://www.blm.gov/co/st/en/BLM\\_Programs/oilandgas/leasing.html](http://www.blm.gov/co/st/en/BLM_Programs/oilandgas/leasing.html).

Surface management of split-estate lands overlying federally owned minerals is determined by BLM in consultation with the appropriate surface management agency or the private surface owner.

Two parcels were proposed for leasing in the August 2011 Colorado Competitive Oil and Gas Lease Sale and included in the environmental assessment (EA) DOI-BLM-CO-S050-2011-0003. The EA was open for public comment from February 7, 2011, through March 11, 2011.

To allow for consultation with Native American Indian Tribes, these parcels have been carried over from the proposed August 2011 lease sale to the proposed November 2011 lease sale and were given new parcel numbers. Table 1 identifies the parcel number history.

**Table 1: Parcel Numbers as Originally Labeled for the August 2011 Lease Sale and as Currently Labeled for the November 2011 Lease Sale**

August 2011 Lease Sale	November 2011 Lease Sale
5911	6092
5910	6093

The BLM Colorado State Office holds competitive lease sales to sell available oil and gas lease parcels. A Notice of Competitive Lease Sale (NCLS), which lists lease parcels to be offered at the auction, is published by the BLM Colorado State Office at least 90 days before the auction is held. Lease stipulations applicable to each parcel are specified in the Sale Notice. The decision as to which public lands and minerals are open for leasing and what leasing stipulations may be necessary, based on information available at the time, is made during the land use planning process. Surface management decisions on non-BLM administered lands overlaying federal minerals are made by BLM in consultation with the appropriate surface management agency or the private surface owner.

This EA documents the review of two parcels under the administration of the UFO that were nominated for oil and gas leasing and are recommended to be offered in the November 2011 Competitive Oil and Gas Lease Sale. It serves to verify conformance with the approved land use

plan and provides the rationale for attaching lease stipulations to specific parcels. On-sites were conducted late fall of 2010.

The proposed action (oil and gas leasing) provides opportunity for the subsequent exploration and development of oil and gas resources on the lease. Taken independently, the act of leasing oil and gas parcels has no direct potential for surface disturbing activities, and therefore, there are no environmental impacts or effects to the parcels offered in this lease sale from the proposed leasing action. However, environmental impacts from surface disturbing exploration and development activities would be evaluated in a separate site-specific environmental analysis document prior to issuing a permit to drill. Exploration and development actions include activities such as constructing access roads and well pads, drilling wells, and installation of pipelines and other infrastructure.

It is estimated that well pad density for Parcel 6092 (802.6 ac) would be 1-2 pads/section during exploration and two to three pads/section during development. It is estimated that there would be at most one well pad during exploration and development of Parcel 6093 (40 ac). The size of well pads depends on the number of wells and the type of drilling being done.

## PUBLIC PARTICIPATION

BLM released the draft EA and draft Finding of No Significant Impact (FONSI) on February 7, 2011, for public review and comment. The public comment period was open through March 11, 2011.

On June 7, 2011, the BLM released a revised draft EA and draft FONSI to give the public an additional 30-day opportunity to review and comment.

The EA is being posted online (<http://www.blm.gov/co/st/en/fo/ufo.html>) and in the public room of the UFO for a 30-day public review period beginning June 7, 2011, and may be viewed during regular business hours (8:00 a.m. to 4:30 p.m.), Monday through Friday, except holidays. Please send comments to this office at [co\\_ufo\\_leasing@blm.gov](mailto:co_ufo_leasing@blm.gov); Uncompahgre Field Office, 2465 South Townsend Avenue, Montrose, CO 81401.

## DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

### **Proposed Action:**

Recommend to the BLM Colorado State Office that the BLM lease a total of approximately 842.6 acres of federal mineral estate within the UFO for potential oil and gas exploration and development. Two parcels are nominated to be leased (maps 1 and 2, pages 6 and 7).

Parcel 6092 (Montrose County) is 802.6 acres, all of which is BLM surface and federal mineral estate.

Parcel 6093 (Gunnison County) is 40 acres, all of which is split estate, having private surface with federal mineral estate.

The lease purchaser would have the right to use as much of the leased lands as is reasonably necessary to explore and drill for the oil and gas resources within the lease boundaries, subject to the stipulations attached to the lease. 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. Drilling of wells on a lease would not be permitted until a subsequent environmental analysis has been completed and the lease owner or operator meets the site specific requirements specified in 43 CFR 3162 (Requirements for Operating Rights Owners and Operators).

The parcels that have been recommended to be leased along with their proposed stipulations and lease notices are listed below with their legal descriptions (exhibits are in Attachments A, B and C):

Parcel 6092: T. 45 N., R. 15 W., NMPM, Sec. 7: Lots 1-4, E $\frac{1}{2}$ , E $\frac{1}{2}$ W $\frac{1}{2}$ ; Sec. 8: W $\frac{1}{2}$ W $\frac{1}{2}$ ;  
Montrose County, CO 802.600 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

Parcel 6093: T. 12 S., R. 91 W., 6<sup>th</sup> PM, Sec. 12: NE $\frac{1}{4}$ NE $\frac{1}{4}$ ; Gunnison County, CO  
40.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Lease Notice UFO-LN-7 to notify the lessee that the subject parcel involves split estate with private surface ownership.

All lands are subject to Lease Notice UFO-LN-11 to communicate to the lessee that the subject parcel contains steep slopes of 40% or greater.

### **No Action Alternative:**

The BLM NEPA Handbook (H-1790-1) states that for EAs on externally initiated proposed actions, the No Action Alternative generally means that the proposed action would not take place. In the case of a lease sale, this would mean that an expression of interest to lease (parcel nomination) would be denied or rejected. No lease payments and no rental or royalty payments associated with these leases would be made to the federal government.

The lease parcels would not be offered in the November 2011 lease sale, but would remain available for inclusion in future lease sales. Surface management would remain the same and ongoing oil and gas development would continue on surrounding federal and private leases. The No Action Alternative (no lease option) could result in reduced federal and state royalty income.

If the BLM does not lease these federal minerals, demand for oil or gas would likely be addressed through production elsewhere or imports. If the BLM were to forego its leasing decisions and potential development of those minerals, the assumption is that the public's demand for the resource would not change. Instead, the resource foregone would be replaced by other sources. This displacement of supply would offset any reductions in emissions achieved by not leasing the tracts.

No mitigation measures would be required as no new oil and gas development would occur on the unleased lands.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plans (43 CFR 1610.5-3, BLM 1617.3):

Parcel 6092:

Name of Plan: San Juan / San Miguel RMP

Dates Approved: December 1985, as amended

Decision Number/Page: Emphasis Area A – Livestock Management, p. 27

Decision Language: The ROD for Emphasis Area A – Livestock Management (page 27) states, “Allow mineral development in all areas not withdrawn from entry. Provide protective stipulations to limit impacts to livestock improvements or management practices.”

Parcel 6093:

Name of Plan: Uncompahgre Basin Resource Management Plan (RMP)

Dates Approved: July 1989, as amended;

Decision Number/Page: Management Unit 16, p. 28

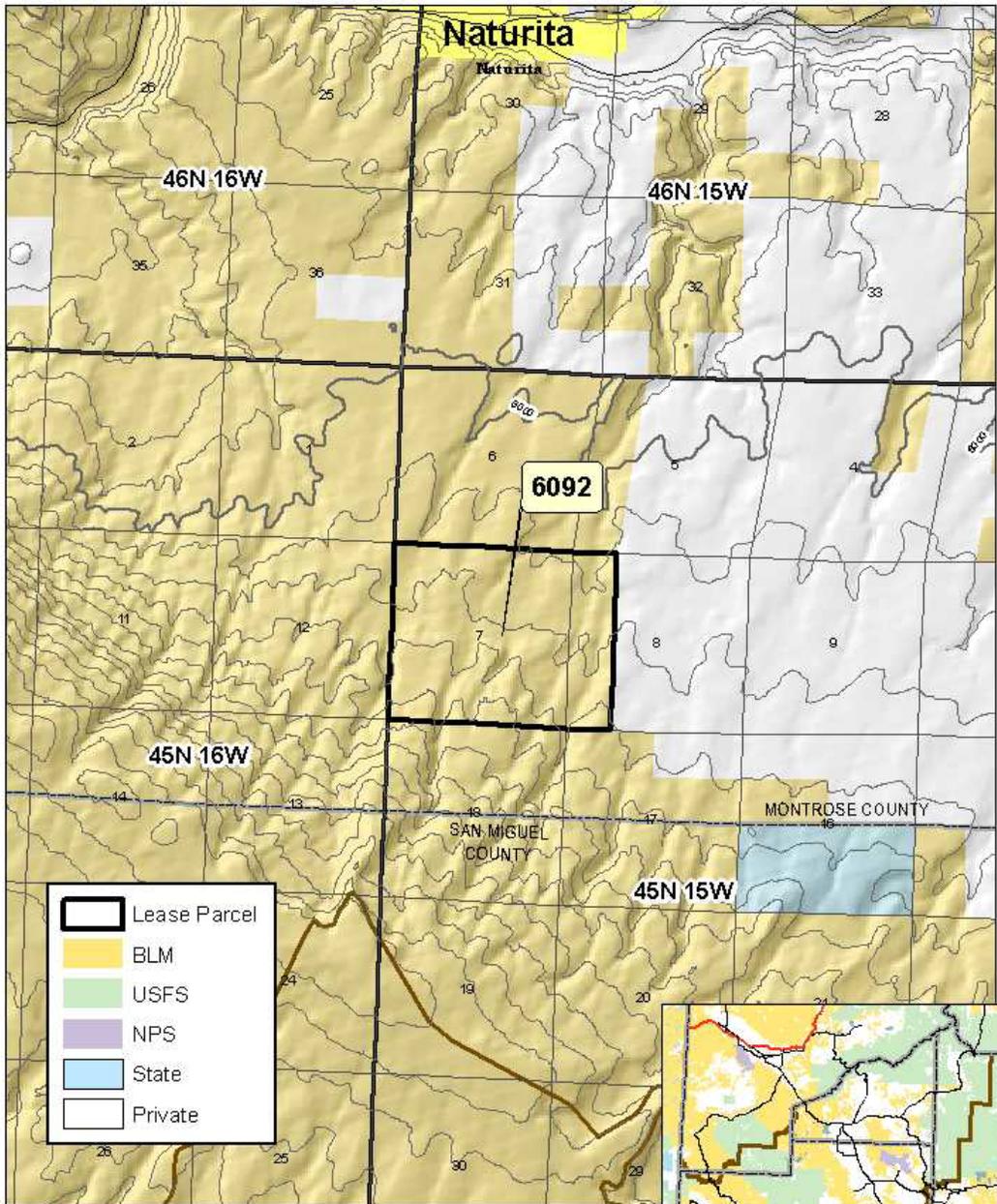
Decision Language: The Record of Decision (ROD) for Management Unit 16 (page 28) – Oil and Gas: Federal oil and gas estate will be open to leasing.

Other Related NEPA Documents:

Colorado Oil and Gas Leasing and Development, Final EIS, January 1991

# Map 1

## November 2011 Oil and Gas Lease Sale - Parcel ID 6092

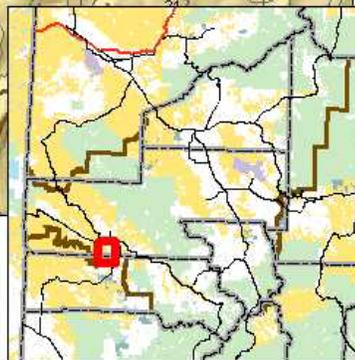


Map produced by Bureau of Land Management, Uncompahgre Field Office, GIS Program Projection: UTM, Zone 13; Datum: NAD 1983. April 12, 2011

No warranty is made on the accuracy, reliability and completeness of these data for individual use or aggregate use with other data. Spatial data may not meet National Map Accuracy Standards. This information may be updated without notification.



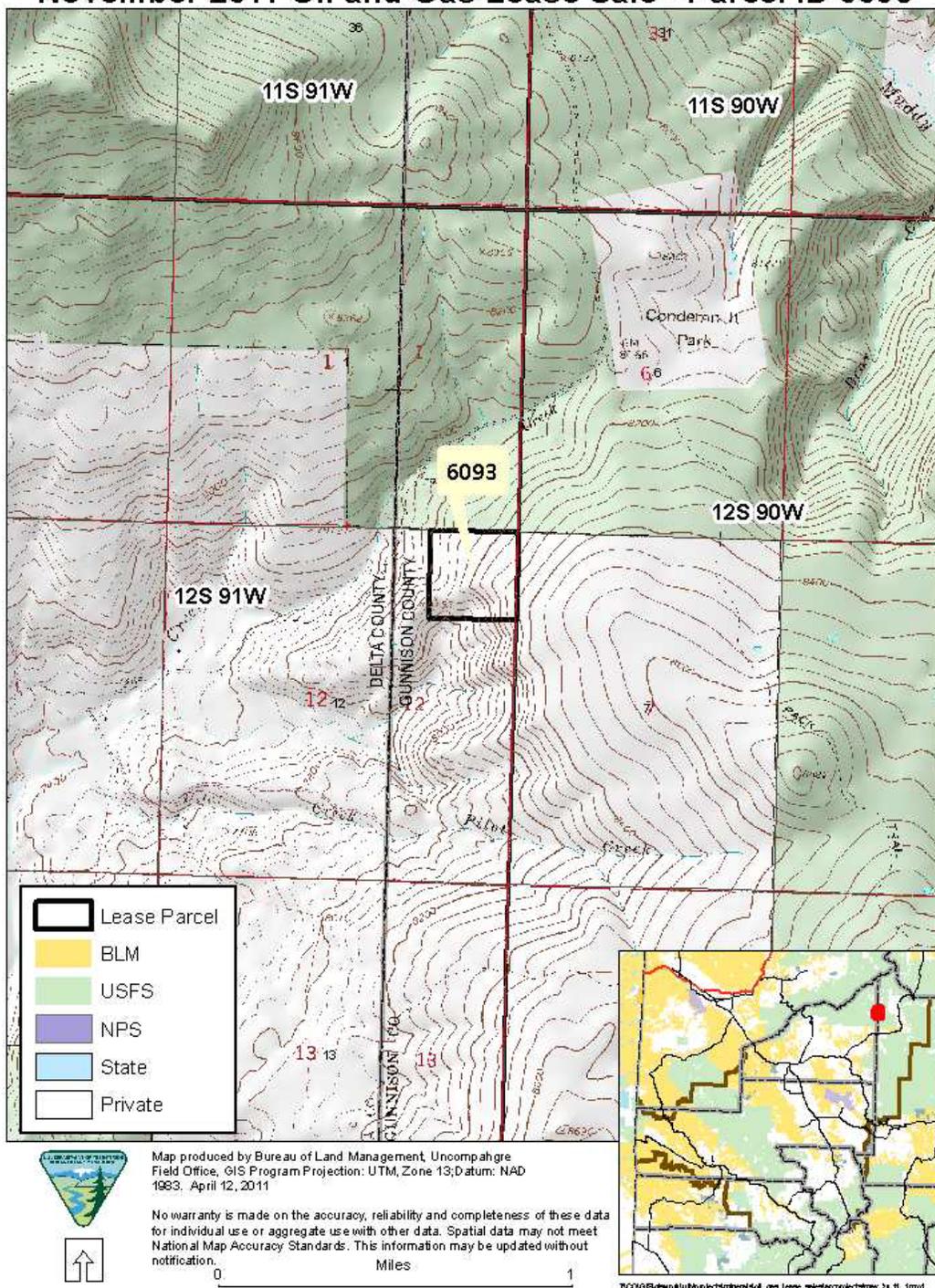
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# Map 2

## November 2011 Oil and Gas Lease Sale - Parcel ID 6093



Standards for Public Land Health: In January 1997, Colorado BLM approved the Standards for Public Land Health. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. A finding for each standard will be made in the environmental analysis (next section).

<b>Standard</b>	<b>Definition/Statement</b>
#1 Upland Soils	Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, land form, and geologic processes. Adequate soil infiltration and permeability allows for the accumulation of soil moisture necessary for optimal plant growth and vigor, and minimizes surface runoff.
#2 Riparian Systems	Riparian systems associated with both running and standing water, function properly and have the ability to recover from major surface disturbances such as fire, severe grazing, or 100-year floods. Riparian vegetation captures sediment, and provides forage, habitat and bio-diversity. Water quality is improved or maintained. Stable soils store and release water slowly.
#3 Plant and Animal Communities	Healthy, productive plant and animal communities of native and other desirable species are maintained at viable population levels commensurate with the species and habitat's potential. Plants and animals at both the community and population level are productive, resilient, diverse, vigorous, and able to reproduce and sustain natural fluctuations, and ecological processes.
#4 Threatened and Endangered Species	Special status, threatened and endangered species (federal and state), and other plants and animals officially designated by the BLM, and their habitats are maintained or enhanced by sustaining healthy, native plant and animal communities.
#5 Water Quality	The water quality of all water bodies, including ground water where applicable, located on or influenced by BLM lands will achieve or exceed the Water Quality Standards established by the State of Colorado. Water Quality Standards for surface and ground waters include the designated beneficial uses, numeric criteria, narrative criteria, and anti-degradation requirements set forth under State law as found in (5 CCR 1002-8), as required by Section 303(c) of the Clean Water Act.

AFFECTED ENVIRONMENT and ENVIRONMENTAL CONSEQUENCES /MITIGATION MEASURES

Elements specified by statute, regulation, executive order, or the Standards for Public Land Health are described and analyzed in this section.

The following elements are considered. Those that could be impacted are brought forward for analysis. Any element not affected by the proposed action or alternatives will not be analyzed in this document; the reasons for no impact will be stated.

Element	Not Applicable or Not Present	Present, But No Impact	Applicable & Present; Brought Forward for Analysis
Air Quality			X
ACEC	X		
Wilderness	X		
Lands with Wilderness Characteristics	X		
Wild and Scenic Rivers	X		
Cultural			X
Native American Religious Concerns			X
Farmlands, Prime/Unique	X		
Soils			X
Vegetation			X
Invasive, Non-native Species			X
Threatened and Endangered Species			X
Migratory Birds			X
Wildlife, Terrestrial			X
Wildlife, Aquatic			X
Wetlands & Riparian Zones			X
Floodplains	X		
Water Quality, Surface and Ground			X
Wastes, Hazardous or Solid			X
Environmental Justice			X

## AIR QUALITY

**Affected Environment:** Since the RMPs were approved, on-going scientific research has identified the potential impacts of “greenhouse gas” (GHG) and their effects on global atmospheric conditions. These GHGs include, but are not limited to, carbon dioxide (CO<sub>2</sub>); methane (CH<sub>4</sub>); nitrous oxide (NO<sub>x</sub>); and several trace gases. Water vapor, while not a gas is also considered a component. Through complex interactions on a global scale, these GHG emissions may cause a net warming effect of the atmosphere primarily by decreasing the amount of heat energy radiated by the Earth back into space.

In 2001, the Intergovernmental Panel on Climate Change (IPCC) predicted that by the year 2100, global average surface temperatures would increase 1.4 to 5.8°C (2.5 to 10.4°F) above 1990 levels. The National Academy of Sciences (2006) supports these predictions, but has

acknowledged that there are uncertainties regarding how climate change may affect different regions. In 2007, the IPCC also concluded that “warming of the climate system is unequivocal” and “most of the observed increase in globally average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic [man-made] greenhouse gas concentrations.” Other theories about the effect of GHG’s on global climate change exist.

**Environmental Consequences:**

**Proposed Action** – Exploration and development of the lease includes activities which could adversely impact local air quality standards (e.g., constructing well pads, access roads, installation of pipelines).

The assessment of GHG emissions and climate change remains in its formative phase; therefore, it is not yet possible to know with certainty the net impact to climate from GHGs produced globally over the last century or from those produced today. The lack of scientific tools designed to predict climate change on regional or local scales limits the ability to quantify potential future impacts of climate change on the specific area offered for leasing.

While the act of leasing the parcels would not produce air quality impacts, potential future development of the leases could lead to surface disturbance from the construction of well pads, access roads, pipelines, and power lines, as well as associated air pollutant emissions from vehicle use, windblown dust, engine exhaust, and active, gas producing well facilities. Since it is unknown if the parcels would be developed, or the extent of the development, it is not possible to reasonably predict potential air quality impacts at this time. Detailed, site-specific air quality impact analysis would be required at the APD stage once a site-specific proposal is identified, and exploratory drilling activities would be subject to applicable local, state and federal air quality laws and regulations.

Mitigation Measures: No additional mitigation measures beyond those required by applicable local, state and federal air quality laws and regulations (including those of the State of Colorado Department of Public Health and Environment, and the Colorado Oil and Gas Conservation Commission) would be required for leasing. However, additional requirements could be imposed based on a detailed, site-specific air quality impact analysis at the APD stage once a site-specific proposal is identified.

**No Action Alternative** – If the BLM does not lease the federal minerals, demand for oil or gas could be addressed through development elsewhere. Due to less stringent environmental regulations in some areas outside of the U.S., it is possible that there would be increased emissions of volatile organic compounds (VOC), air borne dust, and greenhouse gases (GHGs) during exploration and production operations. In addition, it is anticipated that there would be additional emissions of GHGs during transportation of these commodities to U.S. ports.

## AREAS OF CRITICAL ENVIRONMENTAL CONCERN, WILDERNESS, LANDS WITH WILDERNESS CHARACTERISTICS, AND WILD AND SCENIC RIVERS

The parcels are not within or adjacent to any Areas of Critical Environmental Concern, Wilderness Areas, Wilderness Study Areas, Lands with Wilderness Characteristics or Wild and Scenic Rivers. These elements will not be analyzed.

## CULTURAL RESOURCES

**Affected Environment:** The natural and cultural resource environment varies for the two parcels being offered. Parcel 6092 is located in a mid-elevation steppe with high potential for cultural resource sites, whereas Parcel 6093 is located in a steep upland slope area.

Parcel 6092 is known to contain six recorded cultural properties, two of which are eligible for nomination to the National Register of Historic Places. High site densities are the norm in this locality, and future inventory is expected to locate and record more historic properties within this parcel.

Record searches indicate that Parcel 6093 has no recorded cultural properties and is in a locality in which few or no sites may be predicted.

### **Environmental Consequences:**

**Proposed Action** –The proposed action allows the subsequent exploration and development of the lease. Exploration and development includes activities which could physically disturb cultural resource sites (e.g., building well pads, access roads, installation of pipelines, etc.). Estimates for well pad density for Parcel 6092 (802.6 ac) would be 1-2 pads/section during exploration, Two to three pads/section during development. Estimates for well pad density for Parcel 6093 (40 ac.) would be at most one pad during exploration and development. The size of well pads would depend on the number of wells and the type of drilling that is being done. Access roads, pipelines and other infrastructure would be developed during both exploration and development activities.

The two parcels proposed for the November 2011 Oil & Gas Lease Sale were reported to the office of the Colorado State Historic Preservation Officer (SHPO) to comply with NHPA (National Historic Preservation Act) Section 106. A request for concurrence from the SHPO is not necessary under the provision of the BLM/Colorado State protocol agreement (as amended). Because of mitigation identified below and compliance with relevant laws for the protection of cultural resources, there would be *no historic properties affected* from leasing the two parcels.

The BLM is required by law and regulation to ensure that BLM initiated or BLM authorized actions do not inadvertently harm or destroy cultural resource values. Because most cultural resources are unidentified, irreplaceable, and highly sensitive to ground disturbance, it is necessary that the resources are properly identified, evaluated, and reported prior to any future activity that may affect their integrity or condition.

Before any APDs are approved for exploration or drilling, a Class III cultural resource survey would be undertaken to comply with Section 106 of the National Historic Preservation Act (NRHP). Both parcels would be subject to Exhibit CO-39 to protect cultural resources. The UFO requires a minimum 10 to 40-acre inventory block around proposed well locations, per its current standards and practices. This buffer typically allows for the relocation of proposed well pads more than 100 meters away from newly discovered sites potentially eligible for NRHP listing. With an estimated potentially-eligible site density of less than one site per section in Parcel 6093 and about six or more sites per section for Parcel 6092, it is likely that proposed construction or operation activities associated with development of these lease parcels could be relocated to avoid potentially-eligible sites by at least 100 meters, or that any related undertaking's Area of Potential Effect (APE) could be situated to avoid such sites.

Mitigation Measures: If cultural resources are discovered during required Class III cultural resource inventories or during later construction or other operations, UFO archaeologists will consider the proposed undertaking's potential to affect the site type(s) present and the NRHP eligibility determinations of each site potentially affected to formulate mitigations. Where resource conflicts are discovered, mitigations will likely include the relocation of the proposed well pad(s) or infrastructure to avoid potentially Eligible sites by more than 100 meters, or relocation such that the undertaking's APE does not affect potentially-Eligible sites. Mitigations will be developed during the NEPA review of individual ground disturbing activities.

All lands are subject to Exhibit CO-39 to protect cultural resources.

**No Action Alternative** – There would be no impacts to cultural resources.

## NATIVE AMERICAN RELIGIOUS CONCERNS

**Affected Environment:** As with cultural resources, the parcels contain quite different probabilities for Native American Sacred sites, Traditional Cultural Properties and religious concerns. Parcel 6092 is situated within a broader area where such properties are known in high densities, while Parcel 6093 shows little potential for containing such properties. There is a high possibility that Parcel 6092 may contain cultural properties which may be found to be of Religious Concern to one or more of the Native American tribes which historically inhabited the area.

### **Environmental Consequences:**

**Proposed Action** – The proposed action allows the subsequent exploration and development of the lease. Exploration and development includes activities which could physically disturb Native American religious sites (e.g., building well pads, access roads, installation of pipelines, etc.). Estimates for well pad density for Parcel 6092 (802.6 ac) would be 1-2 pads/section during exploration, Two to three pads/section during development. Estimates for well pad density for Parcel 6093 (40 ac.) would be at most one pad during exploration and development. The size of well pads will depend on the number of wells and the type of drilling that is being done. Access roads, pipelines and other infrastructure would be developed during both exploration and development activities.

While leasing in itself does not threaten potential Native American religious sites and values found within the area, previous cases suggest that consultation with the involved tribes should be accomplished before the lease sale in order to determine Native American concerns. BLM is sending informational letters to officials of the Northern Ute Tribe, Southern Ute Tribe and Ute Mountain Ute Tribe asking for their input, concerns and inviting those tribes to enter a consultation process if they so desire. Any problems identified during this process will be resolved prior to the proposed lease sale.

**No Action Alternative** – There would be no effect to any known or anticipated Native American Religious Concerns.

#### FARMLANDS, PRIME AND UNIQUE

There are no federal lands designated as prime or unique farmlands in the proposed lease parcels in Gunnison and Montrose Counties.

#### SOILS (includes a finding on Standard 1)

**Affected Environment:** Parcel 6092 is mostly comprised of the Pinon-Bowdish rock outcrop complex. Slopes are 3 to 30 percent on a combination of mesas, structural benches and escarpments. The parent material consists of residuum weathered from interbedded sandstone and shale with a depth to a root-restrictive bedrock of 10 to 20 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately high. There is no zone of water saturation within a depth of 72 inches and organic matter content in the surface horizon is about 2 percent. The runoff potential of these soils is very high as is the potential for water and wind erosion due to the structural components of the soil.

The remainder of the parcel is comprised of the Barx-Progresso complex with about 45 percent of each component in the map unit. Slopes are 3 to 12 percent on terraces and mesas. The parent material consists of alluvium derived from sandstone and depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately high. Shrink-swell potential is low and organic matter content in the surface horizon is about 2 percent. This component is considered within the semi-desert Sandy Loam ecological site. The calcium carbonate equivalent within 40 inches, typically, does not exceed 30 percent. The soil has a very slightly saline horizon within 30 inches of the soil surface.

**Parcel 6092**

<b>Soil Unit</b>	<b>Soil</b>	<b>Salinity</b>	<b>Runoff Class</b>	<b>Water Erosion Potential</b>	<b>Wind Erosion Potential</b>
Barx-Progresso complex, 3 to 12 percent Slopes	Barx (45% of soil unit)	Very slightly saline (4 mmhos/cm)	Moderate	Moderate to High	High
	Progresso (40% of soil unit)	Nonsaline (1 mmhos/cm)	High	Moderate	Moderate
Pinon-Bowdish-Rock outcrop complex, 3 to 30 percent slopes	Pinon (30% of unit)	Nonsaline (1 mmhos/cm)	Very High	Moderate to High	High
	Bowdish (25% of soil unit)	Very slightly saline (4 mmhos/cm)	High	Moderate to High	High
	Rock outcrop (25% of soil unit)				
Rock outcrop-Orthents complex, 40 to 90 percent slopes	Rock outcrop (50% of soil unit)				
	Orthents (45% of soil unit)	Nonsaline (1 mmhos/cm)	Moderate	Moderate	Moderate

The majority of the soils on Parcel 6093 are comprised of the Delson Stony loam. Slopes are 3 to 20 percent and the component occurs on mesas and fans. The parent material consists of stony alluvium with depth to a root restrictive layer greater than 60 inches. Shrink-swell potential is moderate and there is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent and this soil does not meet hydric criteria. The runoff potential of this soil is high on steeper slopes.

The remainder of Parcel 6093 is comprised of the Torriorthents component. Slopes of this map unit are 15 to 40 percent and located on pediments, uplands and mesas. The parent material consists of cobbles, stones and rockfall deposits. Depth to a root restrictive layer, bedrock, is 10 to 70 inches. The natural drainage class is well drained and shrink-swell potential is low. Organic matter content in the surface horizon is about 1 percent and this soil does not meet hydric criteria. The runoff potential of this soil is very high due to the steep slopes.

**Parcel 6093**

<b>Soil Unit</b>	<b>Soil</b>	<b>Salinity</b>	<b>Runoff Class</b>	<b>Water Erosion Potential</b>	<b>Wind Erosion Potential</b>
Delson stoney loam, 3 to 20 percent slopes	85% of soil unit	None	High	Moderate	Moderate
Torriorthents-Rock outcrop, shale, complex	Torriorthents (55% of soil unit)	Nonsaline (1 mmhos/cm)	Very High	Low	Low
	Rock outcrop, shale (35% of soil unit)				

**Environmental Consequences:**

**Proposed Action –**

If development of the lease occurs, direct impacts resulting from the construction of well pads, access roads, pipelines and reserve pits would include removal of vegetation, exposure of the soil, mixing of horizons, compaction, loss of topsoil productivity, susceptibility to wind and water erosion, and possible contamination of soils with petroleum constituents. These impacts could result in increased indirect impacts such as runoff, erosion, and off-site sedimentation. This increased surface run-off could be expected in areas downstream of surface disturbance and could cause increased sheet, rill, and gully erosion in some areas. Some of these direct impacts would be reduced or avoided through proper design, construction and maintenance and implementation of Best Management Practices (BMPs).

Decreased soil productivity as a result of the loss of topsoil has the potential to hinder re-vegetation efforts and leave soils further exposed to erosion. Grading, trenching, and backfilling activities would mix soil horizons and could diminish soil fertility and reduce the potential for successful re-vegetation. Mitigation such as stockpiling topsoil would reduce the impacts.

The erosion potential for the soil types likely to be disturbed ranges from slight to very high. Impacts are directly related to the erosion potential of soils and the steepness of the slopes in the proposed lease areas. Proper design standards at the time of permitting would reduce erosion.

During development, there is potential for leaks or spills of drilling and hydraulic fracturing chemicals, or fuels and lubricants, resulting in soil contamination and reduced soil productivity. Typically, contaminated soils would be removed and disposed of in a permitted facility or would be bio-remediated in place using techniques such as excavating and mulching to increase biotic activities that would break down petrochemicals into inert and/or common organic compounds.

For Parcel 6093, Lease Notice UFO-LN-7 regarding activities upon steep slopes, would be attached to the lease.

Mitigation Measures: Mitigation during the APD stage would include Conditions of Approval (COAs) such as stockpiling the topsoil from the surface of well pads which would be used for surface reclamation of the well pads, both interim and long-term. Upon abandonment of wells and/or when access roads are no longer in service, the Authorized Officer would issue instructions and/or orders for surface reclamation/restoration of the disturbed areas as described in COAs at the APD stage. An orderly system of road locations and road construction requirements (including regular maintenance) would alleviate potential impacts to the environment from the development of access roads.

**No Action Alternative** – There would be no impacts to the soils from the No Action Alternative, as there would be no surface disturbing activity.

**Finding on the Public Land Health Standard for upland soils:** The lease sale would have no bearing on this standard. Potential future development resulting from the lease sale may influence the ability of the landscape to meet standards. Site-specific analysis would be conducted at the APD stage to determine and to mitigate potential impacts.

VEGETATION (includes a finding on Standard 3)

**Affected Environment:** Parcel 6092 is primarily occupied by a Pinyon and Juniper woodland upland plant community. Included in the parcel are smaller isolated areas of big sagebrush and upland grass communities. A portion of the parcel was burned in 1999 by the Bramiers fire and subsequently reseeded with native grasses, forbs and shrubs which are well established.

The majority of Parcel 6093 is vegetated with mature to old aspen. A small part of the parcel has a southern aspect, which is mainly mountain shrub dominated by Gambel oak. The eastern edge of the parcel has a steep slope which has been carved out by slides and is sparsely vegetated. There are a few, lone, mature spruce or Douglas fir near this slide. The understory is largely snowberry, some scattered chokecherry and mixed grasses and forbs.

**Environmental Consequences:**

**Proposed Action** – The proposed action allows the subsequent exploration and development of the lease. Vegetation could be impacted if development of the leases were to occur.

Direct impacts of oil and gas development include loss of vegetation on well pads, disturbed and reseeded vegetation on pipelines, and loss of vegetation on roads constructed. Potential indirect impacts could include increased opportunity for non-native/noxious plant establishment and introduction, accelerated wind and water erosion, shifts in species composition and/or density, and changes in visual aesthetics. Increased airborne dust from roads could coat vegetation and impact forage for livestock and wildlife.

Direct and indirect impacts to vegetation would be determined during a site visit and analysis prior to permitting. Management direction allows for the site-specific development of COAs at

the APD stage, including facility relocations of up to 200 meters and providing for rapid stabilization and restoration.

Conditions of Approval, including reclamation/restoration procedures, are developed at the approval stage and are followed throughout the life of the development. These COAs generally include plans for interim reclamation, re-seeding, re-contouring, and soil stabilization on the site. With appropriate COAs all developed land ultimately will be reclaimed and restored at the end of the project.

Mitigation Measures: Evaluation of mitigation measures to reduce effect on vegetation is deferred to the site specific APD stage of development. Best Management Practices would be incorporated into the COAs, and could include such practices as using stripped topsoil and vegetation (seed source) for future reclamation, seeding reserve pit backfill and cut/fill slopes with a BLM approved seed mix, mandatory noxious weed control on the well pads and access roads used by the lessee/operator for the life of the well, certifying all seed mixes and reclamation materials weed free. Other BMPs could be identified after a site visit while evaluating the APD. Site-specific analysis would be conducted at the APD stage to determine and to mitigate potential impacts.

**No Action Alternative** – There would be no impacts to vegetation under the No Action Alternative.

**Finding on the Public Land Health Standard for plant and animal communities** (partial, see also Wildlife, Aquatic; Wildlife, Terrestrial; and Invasive, Non-native Species): BLM lands including Parcel 6092 were assessed for Land Health Standards in 2005 as a part of The Norwood Landscape Health Assessment and the grazing permit renewal process. At that time, it was determined that lands including and surrounding Parcel 6092 were either meeting land health standards or meeting standards with problems. The lease sale would have no bearing on this determination. Potential future development resulting from the lease sale may influence the ability of the landscape to meet standards. Parcel 6093 has not been assessed for Land Health Standards because it is a split estate parcel with private surface ownership.

## INVASIVE, NON-NATIVE SPECIES

**Affected Environment:** The most prevalent noxious weed in the Parcel 6092 area is Russian knapweed with the potential for musk and Canadian thistle in and around water areas. Noxious weeds in the Parcel 6093 area include oxeye daisy, yellow toadflax, hounds tongue, and musk thistle.

### **Environmental Consequences:** **Proposed Action –**

If subsequent drilling were to occur on the leased parcels, the incidence of noxious or invasive species could increase. Where soils are disturbed and native vegetation is lost, there is the opportunity for non-native, noxious weed species to invade the site. Direct impacts to vegetation

from weed infestations in the project area could reduce structural and native species diversity, result in the loss of wildlife habitat, result in the loss of rangeland productivity, and reduce cover of desirable plant species.

Construction equipment and other vehicles or equipment brought onto the site during development could introduce weed seed. On-road and off-highway vehicle activity, wind, livestock and wildlife could also introduce and/or spread undesirable plant species into newly disturbed areas.

Establishment of perennial grasses and other plants seeded as part of interim reclamation would be expected to reduce the presence of invasive annual weeds within 2 or 3 years.

At the APD stage, the operator would be required to control any invasive and/or noxious weeds that become established within the disturbed areas involved with drilling and operating the well and continue weed control actions throughout the life of the project.

Mitigation Measures: No mitigation is needed on the proposed action to lease. Mitigation would be attached to subsequent APDs as COAs. These would be designed to minimize disturbance and obtain successful reclamation of the disturbed areas. Mitigation could include: power-washing all construction vehicles and equipment so they are free of soil and vegetation debris prior to entry and use of access roads to prevent transporting weed seeds; limiting surface disturbance and vehicular travel to approved locations; requiring the operator to monitor for and control noxious weeds on all disturbed areas; method of control would be by approved mechanical or biological methods or a herbicide approved by BLM, in accordance with Vegetation Treatments on BLM Lands in 17 Western States Programmatic Environmental Impact Statement and the UFO Pesticide Use Proposal (PUP).

**No Action Alternative** – There would be no impacts to vegetation under the No Action Alternative.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES (includes a finding on Standard 4)

**Affected Environment:** No Federally listed threatened, endangered or candidate species are known to exist in Parcel 6092. Federally listed threatened, endangered or candidate species that potentially could occur in the vicinity of Parcel 6093 include Canada lynx, where the lease parcel could provide potential habitat.

Habitat for several BLM sensitive species could potentially occur on the parcels. On Parcel 6092, potential habitat occupation exists for Gunnison's prairie dog, Townsend's big-eared bat, fringed myotis, bald eagle (winter range), American peregrine falcon, northern goshawk, ferruginous hawk, burrowing owl, Gunnison sage grouse, Brewer's sparrow, golden eagle, prairie falcon, flammulated owl, Lewis's woodpecker, gray vireo, pinyon jay, juniper titmouse, Black rosy-finch, Naturita milkvetch, and Paradox Valley (Payson's) lupine.

On Parcel 6093, potential habitat occupation exists for Townsend's big-eared bat, fringed myotis, American peregrine falcon, northern goshawk, ferruginous hawk, golden eagle, prairie falcon, and veery.

### **Environmental Consequences:**

#### **Proposed Action**

Impacts from exploration and development could potentially include (but not be limited to) displacement into less suitable habitat, habitat fragmentation and habitat degradation. Noise and increased human activity could also disrupt breeding and nesting activities. Prior to permitting a well, site-specific biological resource surveys would be required at the APD stage, and depending on location and nature of the proposed development and results of surveys, Section 7 consultation would be required if development would impact listed species.

Mitigation measures: Both parcels would be subject to Exhibit CO-34 to alert the lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal. Site-specific analysis would be conducted at the APD stage to determine and to mitigate potential impacts. Potential mitigation could include: timing limitations to protect sensitive species during critical time periods; completing threatened, endangered, and sensitive species presence and habitat surveys prior to construction, if potential habitat is determined to be present; completing surveys using BLM survey protocols; developing site-specific mitigation plans for any impacted threatened or endangered species.

**No Action Alternative** – There would be no impacts to special status species or their habitat from the No Action Alternative.

**Finding on the Public Land Health Standard for Threatened & Endangered species:** The area of Parcel 6092 was assessed for Land Health Standards in 2005 during the Norwood Landscape Health Assessment as part of the grazing permit renewal process. At that time, BLM lands were in good condition and provided suitable and productive habitat for special status species. Potential future development resulting from the lease sale may or may not influence the ability of the landscape to meet standards. Parcel 6093 has not been assessed for Land Health Standards because it is a split estate parcel with private surface ownership.

### MIGRATORY BIRDS

**Affected Environment:** BLM Instruction Memorandum No. 2008-050 provides guidance towards meeting BLM's responsibilities under the Migratory Bird Treaty Act (MBTA) and Executive Order (EO) 13186. The guidance emphasizes management of habitat for species of conservation concern by avoiding or minimizing negative impacts, and restoring and enhancing habitat quality.

Parcel 6092 is primarily occupied by a Pinyon -Juniper woodland upland plant community. Included in the parcel are smaller isolated areas of big sagebrush and grass upland grass communities, primarily in areas of an old wildfire. A variety of migratory birds may utilize these vegetation communities during the nesting period (May through July) or during spring and fall

migrations. Migratory bird habitats on Parcel 6093 are comprised primarily of mid- to old-age aspen stands with a small amount of mountain shrub. Both parcels provide potential habitat for several species on the USFWS's Birds of Conservation Concern (BCC) List, the Colorado BLM State Director's Sensitive Species List, and the Birds of Conservation Concern on the UFO List (see Threatened, Endangered, and Sensitive Species).

**Environmental Consequences:**

**Proposed Action** – The act of leasing would not impact any migratory bird species or their habitat, however, potential future development of the proposed leased parcels could impact migratory birds.

Site-specific analysis would be conducted at the APD stage to determine and to mitigate potential impacts. Within appropriate habitats, future activities could have the potential to affect nesting raptor and migratory bird species through habitat degradation and/or displacement of individual birds. Impacts to breeding birds would vary depending on needs for roosting, nesting, or foraging; the duration, intensity, daily, and seasonal timing; type of disturbance; and species-specific sensitivity to disturbance.

Direct impacts to migratory birds associated with subsequent drilling could include mortality related to collisions with vehicles, entrapment in reserve pits, and destruction of active nests. Indirect impacts would include degradation, fragmentation, or loss of appropriate habitat, as well as noise produced by construction, drilling, and well operations.

Habitat could be lost as a result of future activities through surface disturbances. Habitat fragmentation could also occur, reducing the amount of suitable habitat. Due to the limited size of long-term surface disturbance resulting from potential activities, impacts to songbird habitat within the project area should be low. Noise produced by potential construction, drilling, and operational activities could deter birds from roosting, foraging, or nesting in the area. The intensity, duration, and frequency of noise won't be known until the APD stage, and impacts would vary over the life of any project, but would be most intense during construction activities which could last approximately one month per well.

Mitigation Measures: Mitigation measures on potential future development could include: covering the entire surface of the reserve pit with bird netting that meets a minimum requirement of 1.5-inch mesh to exclude passerines and other small-sized birds; maintaining bird netting for as long as there are liquids in the reserve pit; limiting, if feasible, surface disturbing activities outside the core breeding period for migratory birds (May 15 through July 15); completing surveys within at least a 0.5-mile radius around all types of surface disturbance activity in potential habitat for the presence of nesting raptors.

**No Action Alternative** – There would be no impacts to migratory bird species or their habitat from the No Action Alternative.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

**Affected Environment:** A variety of wildlife habitats and their associated species occur within the parcels. Each habitat type provides food, cover and shelter for a variety of mammal, bird, and reptile species common to southwest Colorado. Large ungulates in the area include mule deer and elk. Parcel 6092 contains winter range, winter concentration areas, and severe winter range for mule deer, and winter range and severe winter range for elk. Large predators include mountain lion and black bear. Parcel 6093 provides summer range for mule deer and elk. Coyotes, bobcats, jackrabbits, cottontail rabbits and a variety of small rodents, reptiles and birds likely inhabit both parcel areas. Although all of the species are important members of native communities and ecosystems, most are common and have wide distributions within the state, region and field office. CDOW has been consulted with, their representative attended the onsite for Parcel 6093, and they have provided verbal comments to date.

**Environmental Consequences:**

**Proposed Action**

All lands in Parcel 6092 are subject to Exhibit CO-09 to protect elk and deer winter range.

CO-09 states:

**TIMING LIMITATION STIPULATION**

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

December 1 through April 30

For the purpose of (reasons):

To protect big game (mule deer, elk, pronghorn antelope, and bighorn sheep) winter range, including crucial winter habitat and other definable winter range as mapped by the Colorado Division of Wildlife. This may apply to sundry notices that require an environmental analysis.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of the stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

Exception Criteria:

An exception may be granted under mild winter conditions for the last 60 days of the closure.

Lands in Parcel 6093 are not subject to the conditions defined in Exhibit CO-09.

Any impacts to specific species would be addressed at the APD stage and appropriate mitigation would be developed. Noise and human presence associated with potential exploration and

development would likely temporarily displace wildlife from the area around the wells and roads during drilling and construction activities. Most displaced wildlife would be expected to return to the area after drilling is completed. After reclamation, direct impacts to wildlife would be minimal, except for periodic disturbance by personnel if wells are productive. There would be an increase in traffic during the construction activities and during project production and operations phases. This could result in an increased potential for vehicle collisions with wildlife.

Mitigation measures: Site-specific analysis would be conducted at the APD stage to determine and to mitigate potential impacts.

For Parcel 6092, mitigation measures on potential future development would include seasonal timing stipulations for no surface use to protect crucial deer and elk winter ranges; this stipulation would apply to construction and drilling phases and would not apply to operation and maintenance of production facilities.

For Parcel 6093, there are no terrestrial wildlife related stipulations attached as conditions to the lease.

**No Action Alternative** – There would be no impacts to wildlife species or their habitat from the No Action Alternative.

**Finding on the Public Land Health Standard for plant and animal communities** (partial, also see Vegetation; Invasive, Non-native Species; and Wildlife, Aquatic): The area around Parcel 6092 was assessed for Land Health Standards in 2005 during the Norwood Landscape Health Assessment as part of the grazing permit renewal process. At that time, it was determined that lands including and surrounding Parcel 6092 were either meeting land health standards or meeting standards with problems. Potential future development resulting from the lease sale may influence the ability of the landscape to meet standards. Parcel 6093 has not been assessed for Land Health Standards because it is a split estate parcel with private surface ownership.

#### WILDLIFE, AQUATIC (includes a finding on Standard 3)

There are not aquatic wildlife species or habitats within either parcel. There would not be impacts to aquatic wildlife species or their habitat from the Proposed Action. This element will not be analyzed in this EA.

#### WETLANDS & RIPARIAN ZONES (includes a finding on Standard 2)

**Affected Environment:** Both parcels 6092 and 6093 do not have riparian or wetland areas associated with them. The nearest stream and associated riparian area is about 0.2 miles away from Parcel 6093. On the east side of the parcel there is a bog within an aspen grove near the base of a landslide area.

### **Environmental Consequences:**

**Proposed Action** – No impacts are anticipated to riparian or wetland areas on Parcel 6092.

Future development of proposed lease Parcel 6093 could affect wetland areas directly or indirectly if siltation is increased into the wetlands from nearby development. Site specific impacts cannot be determined until the locations of potential wells, roads and other developments are identified.

Mitigation measures: Mitigation measures on potential future development could include appropriate BMPs for sediment and erosion control such as seeding, water bars, silt fencing, ditches, and reclamation measures. Erosion control measures would be placed on well pads, roads and pipelines to divert precipitation runoff from entering stream channels and riparian areas. The lessee and operator would be required to comply with the Clean Water Act, the State of Colorado Stormwater Regulations, and all other applicable laws pertaining to oil and gas operations in wetland and riparian areas.

**No Action Alternative** – There would be not be impacts to riparian areas or wetlands from the No Action Alternative, as there would be no surface disturbing activity.

**Finding on the Public Land Health Standard for riparian systems:** The proposed action of leasing would have no bearing on the public land health standard for wetlands and riparian zones for either parcel. Wetlands could occur on Parcel 6093, but since it has privately owned surface land which is not covered under the Public Land Health Standards, its wetlands status is undetermined at this time, and would be analyzed in a separate NEPA document associated with a proposed APD.

### FLOODPLAINS

There are no floodplain areas identified within either of the parcels. This element will not be analyzed in this EA.

### WATER QUALITY - GROUND (includes a finding on Standard 5)

**Affected Environment:** Parcel 6092 is located on top of sandstones, shales, siltstones and coals of the Cretaceous Age Dakota Sandstone Formation and Jurassic Age Morrison Formation. Limited alluvial deposits within the San Miguel River corridor represent a potential shallow ground water source. The Colorado Division of Water Resources depicts several domestic well permits near the confluence of Braimers Draw and the San Miguel River. No information is available on the aquifers these wells are developed in. The wells are located approximately four miles from the subject parcel. No wells are located within one mile of the parcel.

Parcel 6093 is located on top of the Tertiary Age Ohio Creek Formation, a conglomeratic sandstone. Stratigraphically beneath the Ohio Creek Formation are the shale and sandstone units of the Mesaverde Formation. A review of permitted wells in the area shows the parcel does not contain any permits according to the Colorado Division of Water Resources database. In addition, there are no permitted wells located within one mile of the parcel.

**Environmental Consequences:**

**Proposed Action** – While the act of leasing a parcel would produce no impacts, subsequent development of the lease could have effects to groundwater, and would be analyzed at the time of the site-specific APD stage of development.

Subsequent development could cause groundwater impacts associated with wells and other related facilities including possible cross-contamination of aquifers across geologic strata and contamination of shallow drinking water aquifers due to surface spills and releases, and subterranean fluid contamination of deeper aquifers. Groundwater contamination could potentially occur as the result of improperly sealed surface casing, well bore stimulation activities, and abandonment activities. The well bore and cement program is designed to isolate groundwater aquifers and eliminate any potential for groundwater contamination, in accordance with Onshore Order No. 2, Drilling Operations and BLM Regulations at 43 CFR Part 3160. Critical cementing operations are monitored by the BLM Lead Petroleum Engineering Technician and the Petroleum Engineer to assure proper cementing techniques. Casing and cementing would isolate any water-bearing zones.

Shallow groundwater quality could be impacted by leakage of fluids from transfer and transportation of produced water and accidental spills of toxic and/or hazardous materials. Seepage from a well pad reserve pit could occur and impact shallow groundwater.

Mitigation measures would be identified during subsequent environmental analysis for the APD, and would be included in the Surface Use COAs that would be attached to APDs.

Mitigation Measures: Specific casing and cement designs must be included in each APD for the purpose of isolating and protecting useable groundwater from other water, hydrocarbons and minerals. The lessee would be required to submit a report showing the depth and analysis of groundwater encountered during the drilling operation. Other mitigation at the ADP stage would include: releases of hazardous substances or fuels during construction and operation would be contained and disposed of in accordance with state and federal regulations; reserve pits will be sealed in such a manner as to prevent leakage of the fluids.

**No Action Alternative** – There would be no impact to the ground water from the No Action Alternative.

**Finding on the Public Land Health Standard for water quality:** The area around Parcel 6092 was assessed for Land Health Standards in 2005 during the Norwood Landscape Health Assessment as part of the grazing permit renewal process. At that time, it was determined that lands including and surrounding Parcel 6092 were either meeting land health standards or meeting standards with problems. Potential future development resulting from the lease sale may influence the ability of the landscape to meet standards; however, site-specific analysis

would be conducted at the APD stage to determine and to mitigate potential impacts. Parcel 6093 has not been assessed for Land Health Standards because it is a split estate parcel with private surface ownership.

**WATER QUALITY - SURFACE** (includes a finding on Standard 5)

**Affected Environment:** Parcel 6092 lies in the Bramiers Draw Sub-watershed (Hydrologic Unit Code 140300030703). The entire parcel is drained to the Northeast by a series of intermittent channels eventually joining with the larger Bramiers Draw and terminating at the San Miguel River just upstream of the Town of Naturita. The confluence with the San Miguel River is approximately 4 stream miles from the subject parcel.

The Colorado Department of Public Health and Environment maintains a database of Source Water Protection Areas. The Town of Norwood is the only community in the area that has delineated its source water protection area. Norwood is located upstream from the subject parcel. No other information is available for possible source water protection areas near the parcel.

The table below lists the water quality classifications for the described surface waters:

<i>4<sup>th</sup> Field Watershed</i>	<i>Stream Segment</i>	<i>Stream Classification<sup>1-5</sup></i>
14030003 San Miguel Watershed	Mainstem of San Miguel River from a point immediately below the confluence of Naturita Creek to its confluence with the Dolores River.	Aq Life Warm 1 Recreation E Agriculture

1- Waters are designated either warm or cold based on water temperature regime. Class 1 water's are capable of sustaining a wide variety of cold or warm water biota, while class 2 waters are not.

2- Recreation Class E - Existing Primary Contact Use. These surface waters are used for primary contact recreation or have been used for such activities since November 28, 1975.

3-Recreation Class P - Potential Primary Contact Use. These surface waters have the potential to be used for primary contact recreation.

4-Recreation Class N - Not Primary Contact Use

5- Waters that are suitable for irrigating crops usually grown in Colorado.

In addition to the state's water quality classifications and numeric standards, all surface waters of the State are subject to the Basic Standards (Colorado Department of Public Health and Environment, Water Quality Control Commission, Regulation NO. 31), which in part reads: state surface waters shall be free from substances attributable to human-caused point or nonpoint source discharge in amounts, concentrations or combinations that:

1. Can settle to form bottom deposits detrimental to the beneficial uses (e.g. silt and mud).

2. Are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life.
3. Produce a predominance of aquatic life.

There are no surface waters in the area that are on Colorado’s impaired waters, 303(d) list (CDPHE, Water Quality Control Commission, 5 CCR 1002-93).

Parcel 6093 lies in the Outlet Hubbard Creek Sub-watershed (Hydrologic Unit Code 140200040405) which drains to the Southwest, first to Willow Creek (an intermittent stream), and eventually to Hubbard Creek approximately 3 miles from the parcel location. Hubbard Creek is a perennial stream and flows south, joining the North Fork of the Gunnison River above Bowie.

The Colorado Department of Public Health and Environment maintains a database of Source Water Protection Areas and encourages community-based protection and preventive management strategies to ensure that all public drinking water resources are kept safe from sources of contamination within the watershed. Parcel 6093 is contained within a watershed designated as source water by the Bowie Mine No. 2. The watershed is classified as within the near-zone and is defined by a 15 mile radius from the water supply.

In addition to the watershed providing source water for drinking water supplies, the Colorado Division of Water Resources lists 3 water structures contained within section 12, including Ross Spring, Carl Galpin Ditch and Pilot Knob Ditch. Each structure has a decreed water right from .033cfs to 3cfs. Several additional decreed surface water rights occur within a 1 mile radius of the parcel but exist up gradient.

The table below lists the water quality classifications for the described surface waters:

<i><b>4<sup>th</sup> Field Watershed</b></i>	<i><b>Stream Segment</b></i>	<i><b>Stream Classification<sup>1-5</sup></b></i>
14020004 North Fork of the Gunnison	Mainstem of North Fork of the Gunnison River from the confluence of Muddy Creek and Coal Creek to the Black Bridge (41.75 Drive) above Paonia.	Aq Life Cold 1 Recreation E Water Supply Agriculture
	Mainstems of Hubbard Creek, Terror Creek, Minnesota Creek, and Leroux Creek from their boundary with national forest land to their confluences with the North Fork of the Gunnison River; mainstem of Jay Creek from its source to its confluence with the North Fork of the Gunnison River; mainstem of	Aq Life Cold 1 Recreation P Water Supply Agriculture

	Roatcap Creek including all tributaries, wetlands, lakes and reservoirs, from its source to its confluence with the North Fork of the Gunnison.	
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1- Waters are designated either warm or cold based on water temperature regime. Class 1 water's are capable of sustaining a wide variety of cold or warm water biota, while class 2 waters are not.

2- Recreation Class E - Existing Primary Contact Use. These surface waters are used for primary contact recreation or have been used for such activities since November 28, 1975.

3-Recreation Class P - Potential Primary Contact Use. These surface waters have the potential to be used for primary contact recreation.

4-Recreation Class N - Not Primary Contact Use

5- Waters that are suitable for irrigating crops usually grown in Colorado.

In addition to the state's water quality classifications and numeric standards, all surface waters of the State are subject to the Basic Standards (Colorado Department of Public Health and Environment, Water Quality Control Commission, Regulation NO. 31), which in part reads: state surface waters shall be free from substances attributable to human-caused point or nonpoint source discharge in amounts, concentrations or combinations that:

1. Can settle to form bottom deposits detrimental to the beneficial uses (e.g. silt and mud).
2. Are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life.
3. Produce a predominance of aquatic life.

The table below shows the surface waters in the area that are on Colorado's impaired waters, 303(d) list (CDPHE, Water Quality Control Commission, 5 CCR 1002-93).

Segment Description	Portion	Colorado's Monitoring & Evaluation Parameter(s)	Clean Water Act Section 303(d) Impairment	303(d) Priority
North Fork of the Gunnison from Black Bridge above Paonia to the confluence within the Gunnison	all	Se	H	COGUNF03
Hubbard, Terror, Minnesota and Leroux Creeks from USFS boundary to N. Fork. Mainstem of Jay Creek and mainstem and tribs of Roatcap Creek to the	Leroux Creek, Jay Creek,	Se*	H	COGUNF05

N. Fork				
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**Environmental Consequences:**

**Proposed Action** – While the act of leasing a parcel would produce no impacts, subsequent development of the lease could have effects to surface water quality, and would be analyzed at the time of the site-specific APD stage of development. Authorization of development projects would require full compliance with BLM directives and stipulations that relate to water quality protection.

Subsequent development would lead to surface disturbance from the construction of well pads, access roads, and pipelines. Surface runoff from disturbed areas could increase sediment and could potentially impact water quality of surface waters in the project area and downstream. The effects on surface water quality depend on the proximity of the roads, pipelines, and well pads to surface water, and on the BMPs used for erosion, sedimentation, and pollution control.

Mitigation Measures: If an APD is submitted, COAs would specify BMPs that would include water control measures to prevent and limit erosion and sedimentation, such as road and pad location and design, culverts, and silt traps. Existing regulations require operators ensure an adequate casing program is designed to protect ground water from contamination. Casing and cementing requirements imposed on proposed wells would reduce or eliminate the potential for groundwater contamination from drilling mud and other surface sources.

**No Action Alternative** – There would be no new impacts to water quality or surface hydrology from the No Action Alternative.

**Finding on the Public Land Health Standard for Water Quality:** The area around Parcel 6092 was assessed for Land Health Standards in 2005 during the Norwood Landscape Health Assessment as part of the grazing permit renewal process. At that time, it was determined that lands including and surrounding Parcel 6092 were either meeting land health standards or meeting standards with problems. Potential future development resulting from the lease sale may influence the ability of the landscape to meet standards; however, site-specific analysis would be conducted at the APD stage to determine and to mitigate potential impacts. Parcel 6093 has not been assessed for Land Health Standards because it is a split estate parcel with private surface ownership.

**WASTES, HAZARDOUS OR SOLID**

**Affected Environment:** The Resource Conservation and Recovery Act (RCRA) of 1976 established a comprehensive program for managing hazardous wastes from the time they are produced until their disposal. U.S. Environmental Protection Agency (EPA) regulations define solid wastes as any “discarded materials” subject to a number of exclusions. The Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1980 regulates the mitigation of the release of hazardous substances (spillage, leaking, dumping, accumulation, etc.) or threat of a release of hazardous substances into the environment. Despite many oil and gas

constituent wastes being exempt from hazardous waste regulations, certain RCRA-exempt contaminants could be subject to regulations as hazardous substances under CERCLA. Civil and criminal penalties may be imposed if the hazardous waste is not managed in a safe manner and according to regulations. The Colorado Department of Public Health & Environment (CDPHE) administers hazardous waste regulations for oil and gas activities in Colorado. No hazardous or solid waste materials are known to be present on the parcels.

**Environmental Consequences:**

**Proposed Action** – The lease parcels fall under environmental regulations that impose responsibility and liability for protection of human health and the environment from harmful waste management practices or discharges. Leasing the parcels would not produce impacts. An environmental analysis of development activities would be done at the APD stage. During development, impacts from hazardous materials and wastes would not be anticipated, but are dependent upon reasonable and responsible use and handling of chemicals and immediate containment and adequate clean-up in the event of spills. The potential impact of subsequent drilling from exposure to hazardous or solid wastes would be low to moderate and short term during construction, and low and long term during production operations.

Mitigation Measures: Future development of the lease parcels would be regulated under the Resource Conservation and Recovery Act (RCRA) Subtitle C regulations, as well as the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Future mitigations would include the regulation of waste containments within the project areas.

**No Action Alternative** – There would be no impacts from the No Action Alternative, as there would be no action authorizing the use or storage of hazardous materials.

## ENVIRONMENTAL JUSTICE and SOCIOECONOMICS

**Affected Environment:** While analyzing a federal action, BLM identifies and addresses, as appropriate, disproportionately high and adverse human health and environmental effects of program, policies, or activities on minority or low income populations. Environmental Justice involves fair treatment, which means that no group of people, including a racial, ethnic, or socio-economic group, should bear a disproportionate share of negative environmental consequences resulting from a federal action.

US Census Bureau summary data for Gunnison and Delta Counties (US Census Bureau 2008a and 2008b) and 2000 census data for Census Tract 9639 in Gunnison County (US Census Bureau 2009) do not indicate that there are ethnic groups or communities or low income populations in the upper drainage of the North Fork of the Gunnison River or in adjacent portions of Delta County that may be affected by the proposed action. The Hispanic community has the largest minority population in Montrose County, at 16.0 percent African Americans, American Indians and Pacific Islanders account for approximately two percent of the Montrose County population (U.S. Census Bureau, 2009).

**Environmental Consequences:**

**Proposed Action** – The proposed action to lease the parcels is not expected to negatively

or disproportionately impact minority or low income populations. If subsequent development were to occur, minority or low income populations would not be directly or disproportionately affected. Indirect effects could include an increase to overall employment opportunities related to the oil and gas and service support industry in the region as well as the economic benefits to state and county governments related to royalty payments and severance taxes. Other effects could include a small increase in activity and noise disturbance in areas used for grazing or hunting. These effects would apply to all public land users in the project area.

**No Action Alternative** – There would not be disproportionate negative effects to minority and low-income populations.

**OTHER ELEMENTS**

The following elements are considered. Those that could be impacted are brought forward for analysis.

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

**ACCESS and TRANSPORTATION**

**Affected Environment:** Parcel 6092 is located on BLM surface; the nearest county road is Montrose County Road GG25. Parcel 6093 is located on private surface adjacent to the Gunnison National Forest and other private property.

**Environmental Consequences:**

**Proposed Action**

For Parcel 6092, the lease could be accessed from Road GG25 and then by an existing road located on private property which accesses the lease boundary. The lease holder would be responsible for coordinating access on private land as needed.

For Parcel 6093, the lease holder would be the responsible to coordinate with the adjoining Forest Service or the private land owners concerning access issues. All lands will be subject to Lease Notice UFO -LN-7 to notify the lessee that the subject parcel involves split estate with private surface ownership.

**No Action Alternative** – Under the no action alternative, there would be no effect on access or access issues on either parcel.

REALTY AUTHORIZATIONS

**Affected Environment:**

There are no existing BLM realty authorizations on Parcel 6092. Parcel 6093 is located on private surface adjacent to the Gunnison National Forest and other private property.

**Environmental Consequences:**

**Proposed Action**

For Parcel 6092, the parcel can be accessed without requiring a right-of-way authorization from BLM.

For Parcel 6093, the lease holder would be the responsible to coordinate with the adjoining Forest Service or the private land owners concerning realty authorization issues.

**No Action Alternative** – Under the no action alternative, there would be no effect on realty authorizations on either parcel.

RANGE MANAGEMENT

**Affected Environment:** The 802.6 acres in Parcel 6092 are within the Coke Oven and Bramiers Draw grazing allotments administered by the BLM. Fences, cattle guards, water development projects, and other range improvement projects have been constructed on the allotments and within the boundaries of the lease tract.

Parcel 6093, consists of 40 acres of split estate with private surface ownership. It is not within a BLM grazing allotment, and BLM does not manage grazing on this parcel.

**Environmental Consequences:**

**Proposed Action** Rangeland improvements could be impacted by road and pad development. Placement of facilities close to a fence or corral could compromise their usefulness, particularly during the development stage. Closeness to water could increase potential for stock to use the pad areas for resting, rubbing, and potential exposure to chemical storage and spills.

Mitigation Measures: If development of the lease occurs, cattle guards could be installed on fence lines, and BLM would notify grazing permittees on a site-by-site basis as part of the APD process. BMPs would be incorporated into the COAs.

**No Action Alternative** - There would be no impacts to range management in the No Action Alternative.

## VISUAL RESOURCES

**Affected Environment:** Visual resource management (VRM) is designated by the following four classes:

Class I: the objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II: the objective to this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III: the objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

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

The 802.6 acres in Parcel 6092 was inventoried as Class IV.

Parcel 6093, consisting of 40 acres of split estate with private surface ownership, was inventoried

as Class III.

**Environmental Consequences:**

**Proposed Action** – Since the amount of development is unknown at this time, assessments would be conducted at the APD stage.

Mitigation Measures: Depending on the location of development and the result of a site visit, facilities could be painted a color determined by the Authorized Officer at the time of development to blend with the vegetative and/or landform setting.

**No Action Alternative** – There would be no impacts to visual resources from the No Action Alternative.

## GEOLOGY AND MINERALS

**Affected Environment:** Both parcels are located in areas with high oil and gas potential. Parcel 6092's surface is defined geologically by the Cretaceous Age Dakota and Burro Canyon formations (Kdb), consisting of sandstone, shale, conglomerate and seams of coal deposits. Potential shallow natural gas resources could exist as conventional gas within the sandstone beds and as coal-bed methane within the coal units. A potential deep target is present in the Pennsylvanian Age shale deposits of the Hermosa Formation (IPh).

Parcel 6093's surface is defined by the Tertiary Age Wasatch Formation equivalent Ohio Creek Formation (Two), a unit consisting of claystone, mudstone, sandstone and conglomerate. Stratigraphically below the Ohio Creek Formation is the Cretaceous Age Mesaverde Group (Kmv) consisting of sandstone, shale and numerous coal seams. This formation is the coal source for three coal mines in this area. Natural gas potential occurs as both conventional gas from sandstone units as well as coal-bed methane from coal seams. Stratigraphically below the Mesaverde is the Cretaceous Age Mancos Shale, a deep marine shale formation having shale gas potential.

**Environmental Consequences:**

**Proposed Action** – Environmental impacts to specific geologic formations would be analyzed at the APD stage.

**No Action Alternative** – There would be no impacts to the geology and mineral resources from the No Action Alternative.

## CUMULATIVE IMPACTS SUMMARY

The proposed action to lease allows the subsequent exploration and development of oil and gas resources. Exploration and development would be evaluated in a separate site-specific environmental analysis document. At this time, it is not know if leases would be developed. The decision to develop depends on many factors, including economics and the discovery of the

resource in economic quantities.

Cumulative impacts would result from the development of the proposed leases when added to non-project impacts that result from past, present, and reasonably foreseeable future actions. The potential exists for future oil and gas development throughout the UFO. Other past or existing actions near the project area that have influence on the landscape include, but are not limited to wildfire, recreation, land use authorizations, other mineral development, and grazing activities.

As of November 2010, approximately 41 percent of BLM-administered surface, and more than 17 percent of federal mineral estate within the UFO is leased. As of November 2010, there were 319 oil and gas leases, either as authorized or pending, administered by BLM within the UFO. In the past, 194 wells have been drilled in the UFO, of which 130 are on BLM-administered lands. On average, about 3 wells have been drilled annually. Most of this has been exploratory drilling.

It is reasonably foreseeable that the parcels offered in this EA, as well as adjacent leases, could be developed at some point in the future. Currently, there is no drilling activity near Parcel 6092, some oil and gas activity near Parcel 6093, and no pending or authorized BLM APDs in these areas at this time. SG Interests has been working on a Master Development Plan for up to 150 wells on the Bull Mountain Unit which is near Parcel 6093, and a scoping notice went out to the public last year. Because intent to develop adjacent leases is unknown, it is difficult to quantify potential cumulative disturbance resulting from oil and gas activity.

Potential future development of the leases could lead to surface disturbance from the construction of well pads, access roads, pipelines, and power lines, as well as associated air pollutant emissions from vehicle use, windblown dust, engine exhaust, and active, gas producing well facilities. Detailed, site-specific air quality impact analysis would be required at the APD stage once a site-specific proposal is identified, and exploratory drilling activities would be subject to applicable local, state and federal air quality laws and regulations.

Surface disturbance associated with oil and gas development could increase the potential for erosion and sedimentation. Displacement of hunters and recreationists during the short-term construction and drilling periods could occur. Contrasts in line, form, color, and texture from development would impact the visual qualities on the landscape.

Cumulative impacts to the plant communities from future drilling could include an incremental reduction of continuity in the plant communities in terms of acreages that remain undisturbed. Loss of continuity results in smaller and smaller areas of undisturbed native vegetation and the potential for loss of integrity within the larger plant community. Fragmented plant communities can lose resilience to natural and man-made disturbance due to isolation of areas from seed sources necessary for proper age class distribution of plants, and subsequently, a greater opportunity for stressors such as drought to have a more severe impact on the plant community as a whole. The potential disturbance can also make native plant communities more susceptible to invasion by annual weeds as vectors for increasing weeds. If APDs are approved, they would likely have required mitigation measures attached that would reduce the impacts to vegetation.

Cumulative impacts to the livestock grazing operations in the area may be increased if developed for oil and gas. If development occurs, the wells, roads, and human activity would have the potential to reduce the availability of forage. The potential impact to grazing activities permitted in the UFO would be a loss of available Animal Unit Months (AUMs), i.e. a loss of the amount of livestock that allotments can reasonably carry.

Habitat fragmentation from potential future development of the proposed leases could decrease the nesting suitability for migratory birds. In *The Effects of Natural Gas Development on Sagebrush Steppe Passerines in Sublette County, Wyoming* by F. Ingelfinger (2001) found that roads associated with oil and gas development have a negative impact on passerines bird species. Bird densities were reduced within 100 meters of each road.

Although big game species are able to adapt to disturbances better than other wildlife, potential increased oil and gas development could still have impacts to mule deer and elk. Timing stipulations adequately protect big game species during critical times of the year; however, oil and gas development could lead to decreased use of the habitat due to increased human activity.

INTERDISCIPLINARY REVIEW: The following BLM personnel have contributed to and have reviewed this EA.

<u>Name</u>	<u>Title</u>	<u>Area of Responsibility</u>
Robert Ernst	Geologist	Geology and Minerals, EA Lead
Dean Stindt	Rangeland Management Specialist	Vegetation, Rangeland Management
Kurt Kubik	Rangeland Management Specialist	Vegetation, Rangeland Management
Lynae Rogers	Rangeland Management Specialist	Invasive Species
Linda Reed	Realty Specialist	Lands, Transportation, Access
Glade Hadden	Archaeologist	Cultural Resources, Native American Religious Concerns, Paleontology
Bob Bavin	Wildlife Biologist	Wildlife Vegetation, Wetlands & Riparian Zones
Amanda Clements	Ecologist	
Kelly Homstad	Air Quality Specialist	Air Quality Wilderness, Recreation, Visual Resources
Julie Jackson	Recreation Planner	Prime/Unique Farmlands, Soils, Floodplains, Water Quality,
Jedd Sondergard	Hydrologist	
Thane Stranathan	Natural Resource Specialist	On-sites, document review
Bruce Krickbaum	Planning, Environmental Coord.	NEPA compliance, document review

### References

Ingelfinger, F. 2001. *The Effects of Natural Gas Development on Sagebrush Steppe Passerines in Sublette County, Wyoming*. University of Wyoming, Laramie, WY.

**Attachment A**  
**Pre EA Parcels Proposed for Lease**  
**November 2011 - Colorado Competitive Oil & Gas Lease Sale**

THE FOLLOWING PUBLIC DOMAIN LANDS ARE SUBJECT TO FILINGS IN THE MANNER SPECIFIED IN THE APPLICABLE PORTIONS OF THE REGULATIONS IN 43 CFR, SUBPART 3120.

**PARCEL ID: 6092 SERIAL #:**

T. 0450N., R 0150W., NMPM  
Sec. 7: Lot 1-4;  
Sec. 7: E2, E2W2;  
Sec. 8: W2W2;

Montrose County  
Colorado 802.600 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

BLM; MDO: UBRA

**PARCEL ID: 6093 SERIAL #:**

T. 0120S., R 0910W., 6TH PM  
Sec. 12: NENE;

Gunnison County  
Colorado 40.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; MDO: UBRA

EXHIBIT CO-09

Lease Number:

TIMING LIMITATION STIPULATION

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

December 1 through April 30

For the purpose of (reasons):

To protect big game (mule deer, elk, pronghorn antelope, and bighorn sheep) winter range, including crucial winter habitat and other definable winter range as mapped by the Colorado Division of Wildlife. This may apply to sundry notice that require an environmental analysis.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of the stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

Exception Criteria:

An exception may be granted under mild winter conditions for the last 60 days of the closure.

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EXHIBIT CO-34

Lease Number:

ENDANGERED SPECIES ACT SECTION 7 CONSULTATION STIPULATION

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical

habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation.

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## EXHIBIT CO-39

Lease Number:

### CONTROLLED SURFACE USE

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.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

**Attachment B**  
**Parcels Available for Lease with Deferred Portions**  
**November 2011 - Colorado Competitive Oil & Gas Lease Sale**

THE FOLLOWING PUBLIC DOMAIN LANDS ARE SUBJECT TO FILINGS IN THE MANNER SPECIFIED IN THE APPLICABLE PORTIONS OF THE REGULATIONS IN 43 CFR, SUBPART 3120.

None of the parcels or portions thereof are recommended to be deferred.

**Attachment C**  
**Parcels Available for Lease with Applied Stipulations**  
**November 2011 - Colorado Competitive Oil & Gas Lease Sale**

THE FOLLOWING PUBLIC DOMAIN LANDS ARE SUBJECT TO FILINGS IN THE MANNER SPECIFIED IN THE APPLICABLE PORTIONS OF THE REGULATIONS IN 43 CFR, SUBPART 3120.

**PARCEL ID: 6092 SERIAL #:**

T. 0450N., R 0150W., NMPM  
Sec. 7: Lot 1-4;  
Sec. 7: E2, E2W2;  
Sec. 8: W2W2;

Montrose County, Colorado 802.600 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

BLM; MDO: UBRA

**PARCEL ID: 6093 SERIAL #:**

T. 0120S., R 0910W., 6TH PM,  
Sec. 12: NENE;

Gunnison County, Colorado 40.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Lease Notice UFO-LN-7 to notify the lessee that the subject parcel involves split estate with private surface ownership.

All lands are subject to Lease Notice UFO-LN-11 to communicate to the lessee that the subject parcel contains steep slopes of 40% or greater.

PVT/BLM; MDO: UBRA

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EXHIBIT CO-09

Lease Number:

TIMING LIMITATION STIPULATION

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

December 1 through April 30

For the purpose of (reasons):

To protect big game (mule deer, elk, pronghorn antelope, and bighorn sheep) winter range, including crucial winter habitat and other definable winter range as mapped by the Colorado Division of Wildlife. This may apply to sundry notice that require an environmental analysis.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of the stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

Exception Criteria:

An exception may be granted under mild winter conditions for the last 60 days of the closure.

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EXHIBIT CO-34

Lease Number:

ENDANGERED SPECIES ACT SECTION 7 CONSULTATION STIPULATION

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat.

BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation.

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#### EXHIBIT CO-39

Lease Number:

#### CONTROLLED SURFACE USE

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.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

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#### EXHIBIT UFO-LN-07

Lease Number:

#### LEASE NOTICE

The lessee is hereby notified that, the operator drilling on federal mineral estate is required to consider the impact of operations on nearby communities and residences and will be expected to reasonably adjust operating procedures to accommodate local residential concerns. For example, the operator will be expected to try to work out reasonable compromises on issues such as noise, dust, and traffic. The operator will be expected to address such issues when raised during public comment periods associated with preparation of environmental assessments or when complaints are reported to the operator, BLM or the Colorado Oil & Gas Conservation Commission.

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EXHIBIT UFO-LN-11

Lease Number: <LEASE\_NUMBER>

LEASE NOTICE

Surface occupancy or use is subject to the following special operating constraints.

For the purpose of:

Protecting soils on surfaces greater than 40 percent slope. Prior to surface disturbance of steep (greater than 40 percent) an engineering/reclamation plan must be approved by the Authorized Officer. Such plans must demonstrate how the following will be accomplished:

- a. Site productivity will be restored.
- b. Surface runoff will be adequately controlled.
- c. Off-site areas will be protected from accelerated erosion such as drilling, gullying, piping, land-sliding, and mass wasting.
- d. Surface-disturbing activities will not be conducted during extended wet periods.
- e. Construction will not be allowed when soils are frozen.
- f. Protect water quality and quantity of adjacent surface and groundwater sources.