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**U.S. Department of the Interior  
Bureau of Land Management  
Kremmling Field Office  
P.O. Box 68  
Kremmling, CO 80459**

## **ENVIRONMENTAL ASSESSMENT**

NUMBER: DOI-BLM-LLCON02000-2011-0016-EA

PROJECT NAME: August 2011 Competitive O&G Lease Sale

LEGAL DESCRIPTION: T2N, R79W, Sec 5, 6, 7, 8  
(See Attachment A for Parcel Descriptions)

APPLICANT: Bureau of Land Management, Kremmling Field Office

INTRODUCTION: It is the policy of the Bureau of Land Management (BLM) as derived from various laws, including the Mineral Leasing Act of 1920 and the Federal Land Policy and Management Act of 1976 (FLPMA), to make mineral resources available for disposal and to encourage development of mineral resources to meet national, regional, and local needs.

The Secretary of the Interior is responsible under the Mineral Leasing Act of 1920, as amended, for leasing and managing Federal oil and gas resources on public land. Acting for the Secretary, the BLM has conducted ongoing oil and gas leasing activities for many years in the Kremmling Field Office and throughout Colorado.

This Environmental Assessment (EA) is tiered to the Kremmling Resource Management Plan/Environmental Impact Statement (RMP/EIS) dated December 19, 1984, which was amended in November 1991 by the Colorado Oil and Gas Leasing and Development Final Environmental Impact Statement, and updated in February 1999. The Kremmling RMP/EIS is the most current land use plan for the BLM's Kremmling Field Office (KFO). Whether specifically mentioned in land use plans, or not, standard operating practices for leasing and developing public lands for oil and gas include measures to protect the environment and resources such as groundwater, air, wildlife, historical and prehistoric concerns, and others (Attachment D).

The BLM's Colorado State Office conducts quarterly competitive lease sales to sell available oil and gas lease parcels. A Notice of Competitive Lease Sale, which lists lease parcels to be offered at the auction, is published by the Colorado State Office at least 45 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. Constraints on leasing and any future development of split estate parcels are determined by the BLM in consultation with the appropriate surface management agency or the private surface owner.

In the process of preparing a lease sale the Colorado State Office sends a draft parcel list to each field office where the parcels are located. Field Office staff reviews the legal descriptions of the parcels to determine if: they are in areas open to leasing; appropriate stipulations have been included; new information has become available which might change any analysis conducted during the planning process; appropriate consultations have been conducted; and, there are special resource conditions of which potential bidders should be made aware. Once the draft parcel review is completed and returned to the State Office, a list of available lease parcels and stipulations is made available to the public through a Notice of Competitive Lease Sale (NCLS). Lease sale notices are posted on the Colorado BLM website at:

[http://www.blm.gov/nm/st/en/prog/energy/oil\\_and\\_gas/lease\\_sale\\_notices.html](http://www.blm.gov/nm/st/en/prog/energy/oil_and_gas/lease_sale_notices.html).

On rare occasions, additional information obtained after the publication of the NCLS may result in withdrawal of certain parcels prior to the day of the lease sale.

The inclusion of a parcel listed in the lease sale notice may be protested. A protest must be received at the BLM's Colorado State Office no later than close of business on the 30<sup>th</sup> calendar day after the posting of the notice of the lease sale. Nominated parcels that receive no bids during the August lease sale become available for noncompetitive sale beginning the day after the lease sale. Parcels offered noncompetitively remain available on a first-come, first-served basis for a two-year period beginning the day after the sale.

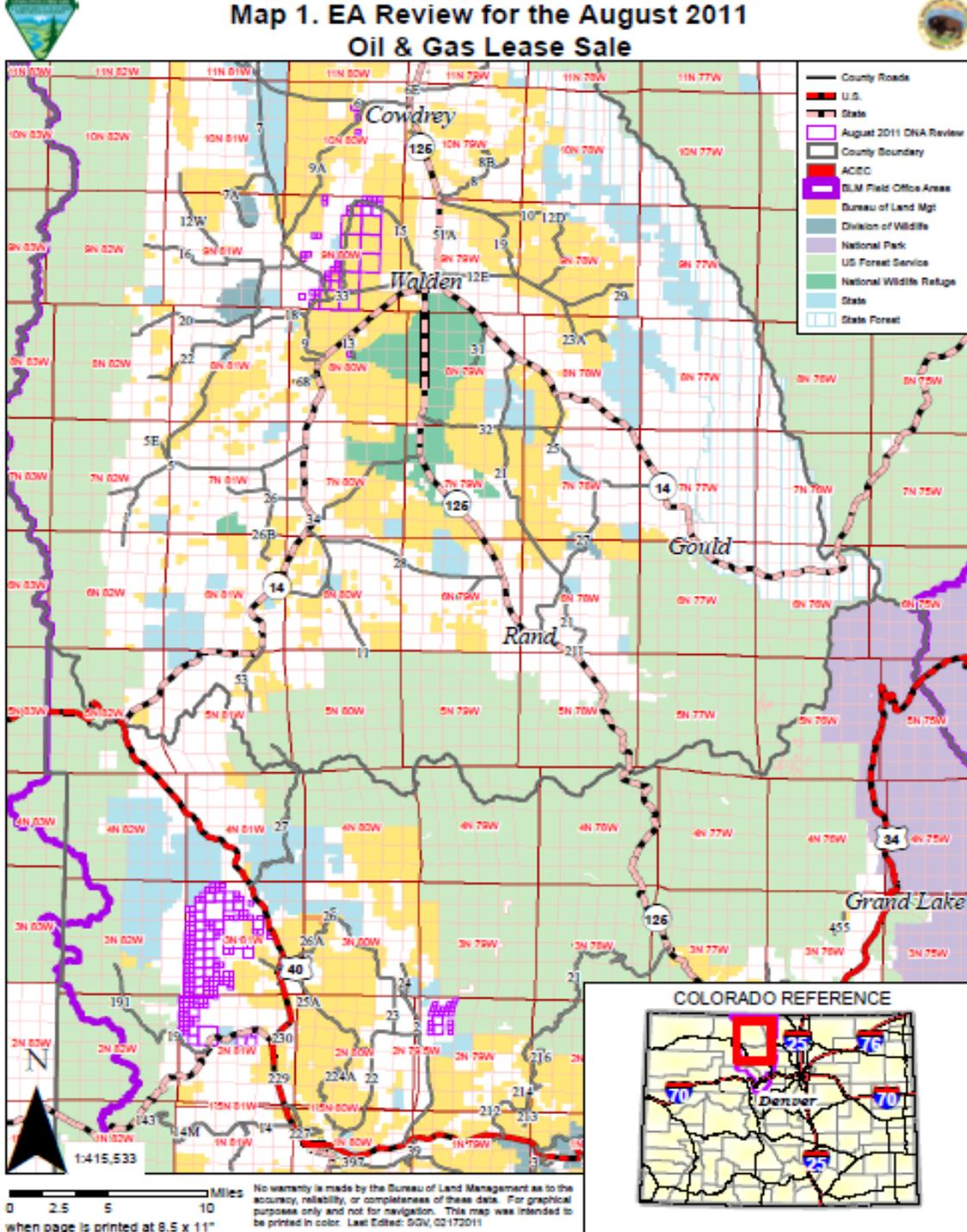
Fourteen parcels have been nominated for leasing in the August 2011 sale, comprising 20,730 acres of Federal mineral estate administered by the KFO. The BLM and private landowners manage the surface estate. Eight parcels, totaling 12,412 acres, are in Grand County and six parcels, totaling 8,318 acres, are in Jackson County. All of the parcels in Grand County are privately-owned surface with Federal minerals. Of the parcels in Jackson County, 1,838 acres (22 percent) are on privately-owned surface with Federal minerals, and 6,480 acres (78 percent) are on BLM-managed surface with Federal minerals. The nominated parcels are depicted on Map 1. The legal descriptions of the nominated parcels and proposed leasing stipulations are in Attachment A.

## BLM OIL and GAS LEASING and LEASE MANAGEMENT

### **Federal Lands**

The BLM administers public land in accordance with the FLPMA and other laws. Sometimes public land includes the surface estate and the subsurface mineral estate, and sometimes it involves split estate where the BLM controls either the surface or subsurface mineral estate, but not both. The BLM can lease public lands, including split estate lands, where the surface estate

# Map 1. EA Review for the August 2011 Oil & Gas Lease Sale



is owned by another party. For the parcels considered in this EA that are split estate, the lessee or operator, or both, would be responsible not only for adhering to BLM requirements, but also for reaching an agreement with the private surface landowner regarding access, surface disturbance and reclamation.

The BLM has guidance in various instruction memorandums and publications on how to deal with split estate affected by leasing and development, including the requirement to notify surface owners as a courtesy when their lands are included in a list of lands to be offered for competitive sale. Parties filing an Expression of Interest (EOI) to nominate lands for a competitive oil and gas lease sale are required to provide the BLM with names and addresses of any surface owners when split estate lands are included in their EOI. The BLM's Colorado State Office used this information to contact surface owners about EOIs affecting their property. The same information was used to request scoping comments from surface owners.

### **Review process**

The phased approach for National Environmental Policy Act (NEPA) compliance related to oil and gas leasing and development has been determined by the Ninth Circuit Court of Appeals to be an appropriate method to comply with applicable laws and regulations (Ninth Circuit Court of Appeals, Northern Alaska Environmental Center, *et. al, vs. Kempthorne*, 2006). In that decision, the Court said that a parcel-by-parcel examination of potential environmental impacts during the leasing stage was not required. Uncertainty is an inherent problem with multi-stage projects such as oil and gas programs. The effects of development are unidentifiable because the parcels likely to be affected are not known during development of a NEPA analysis of leasing. Analysis of development impacts must be made at later permitting stages when the sites, and more site-specific effects, are identifiable.

The review process required before oil and gas drilling can occur is described in detail in Title 43 Code of Federal Regulations Part 3100, BLM Manual 3100, and Onshore Oil and Gas Order Number One. In summary, the BLM offers lands for oil and gas leasing to the highest qualified bidder in a competitive auction. The BLM conducts and documents an environmental analysis prior to leasing, unless an adequate analysis was included in an existing environmental document. Although most of the issues regarding oil and gas leasing on the lands covered by this EA were addressed in previous documents, there are a few areas where either conditions have changed or else BLM policy has been modified, or both.

After obtaining an oil and gas lease and prior to drilling any well, a lessee or operator submits an Application for Permit to Drill (APD), indicating the specific location of the drilling site and the actions to be employed in drilling the well. The BLM conducts and documents additional environmental analysis at the APD stage. The BLM may require reasonable mitigation measures in the APD, consistent with the lease terms and stipulations.

### **Directional drilling from adjacent land to a Federal lease**

On occasion, it may be desirable or necessary to drill a well from a surface location that is not directly above the drilling target. This is known as directional drilling. Even though the surface

location may not be within the Federal mineral lease, the BLM has the authority to regulate drilling from adjacent, non-federal land by requiring a drilling application if Federal minerals are involved. Directional drilling is subject to applicable environmental laws, including the NEPA and the Endangered Species Act (ESA) of 1973, as amended. The BLM will process an APD in the same manner as for an application on leased lands. On split estate lands where the surface is not Federally owned, the surface owner may allow other activities to occur that are not related to the Federal mineral estate. Those activities are not a direct or indirect result of the Federal lease sale, nor are they reasonably foreseeable, and therefore are not part of the BLM's analysis.

### **Lease terms and stipulations**

A lease for oil and gas gives a lessee the right to drill and produce, subject to the lease terms, any special stipulations, other reasonable conditions, and approval of an APD. The regulations at 43 CFR 3101.1-2 define the reasonable measures which the BLM can require of a lessee. These include, but are not limited to, moving the proposed drilling site up to 200 meters, delaying surface disturbance or drilling up to 60 days, or requiring special reclamation measures. Generally, the BLM cannot deny a lessee the right to drill once a lease is issued unless the action is in direct conflict with another existing law. Stipulations are appropriate where sensitive or significant values exist, which could be impacted by development of the oil and gas lease.

Any surface disturbing activity requires prior approval from the BLM. Approval would include a site-specific evaluation and compliance with NEPA requirements. Routine activities including, but not limited to, well tests, monitoring activities, repairing and maintaining equipment, and routine work-over tasks do not require BLM approval, but would require adherence to all applicable laws and regulations.

For those parcels that are split-estate, the BLM requires the lessee or operator to make a good faith effort to obtain an agreement with the private surface owner prior to access on the leased land. Where the lessee or operator is unable to reach a surface use agreement with the private surface owner, the lessee or operator can file a surface owner protection bond. This bond should be in an amount sufficient to protect against damages to the surface as allowed in the statute that reserved the mineral rights to the Federal government. However, the minimum surface owner protection bond is \$1,000.00.

### **Restoration Measures and Clean up Costs**

All lessees or operators of an oil and gas lease are required to submit proper bonding to the BLM prior to any APD approval. The bond remains in place for as long as operations continue, until final abandonment is complete and approved by the BLM. The range of the bond amount varies from \$20,000 to \$300,000. The bond serves to ensure wells are properly plugged and abandoned, that the leased area is cleaned-up, that surface restoration is completed, and that any outstanding rentals or royalties due on the lease are paid, should the lessee or operator default on those obligations.

The BLM has a mechanism for tracking operations of oil and gas leases. The BLM frequently inspects leases and is effective in assuring that the operations of leases are in compliance. These inspections include review on all well abandonments for proper reclamation.

**INTERNAL SCOPING PROCESS:** Kremmling Field Office resource specialists reviewed the nominated parcels before beginning a detailed environmental analysis, using existing data and professional judgment, to determine if any of the parcels had conflicts that could not be resolved by applying leasing stipulations or mitigations developed during the analysis. Because all of the nominated parcels were snow-covered, there were no on-site visits.

A Class I cultural resources file search was conducted at the KFO and through the Office of Archaeology and Historic Preservation, COMPASS data base. Twenty-nine cultural resources sites were identified within the parcels originally nominated for leasing. Of the twenty-nine sites, one prehistoric site, 5JA341, is a 'needs data' site. Site 5GA686.12 is a segment of old U.S. Highway 40 and is within a potential district and would be avoided. A total of twenty-seven sites are determined to be not eligible to the National Register of Historic Places. The total lease area covers 20,730 acres, in which there is currently one known site for approximately every 715 acres (1.12 square miles). The Class I cultural resources overview study conducted for the KFO (Reed et al., 2008<sup>1</sup>) predicts that there should be 8.1 sites per square mile on BLM-administered lands. Because the predicted site density per square mile is considered to be low and the opportunity for avoidance of cultural sites exists if development is proposed, the BLM has determined there are no historic properties that would be affected by the leasing of the parcel analyzed in this environmental assessment.

The November 17, 2010, memorandum from the U.S. Fish and Wildlife Service (USFWS) provided a list of threatened, endangered, and candidate species for the KFO. The list was reviewed while preparing this EA. Formal consultation with the USFWS is not required. As a result of internal scoping, eight parcels were recommended for deferral in their entirety, and parts of another four parcels were recommended for deferral, due primarily to Greater sage-grouse-related issues. As noted below, the proposed action has been modified. The revised list of deferred parcels is in Attachment B.

**PUBLIC SCOPING and COMMENT PROCESS:** Letters requesting comments on the proposed action were sent to the boards of commissioners in Grand and Jackson Counties and to the twenty-four private surface owners with property affected by EOIs. The list of persons contacted and summaries of scoping comments received are in Appendix 3. The EA was posted for 30 days on the KFO's website at <http://www.blm.gov/co/kfo>, for public review. The review period concluded on March 24, 2011.

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<sup>1</sup> Reed, A. D., S. R. Alexander, J. C. Horn, and S. Moore. 2008. Class I Cultural Resource Overview of the Bureau of Land Management's Kremmling Field Office North-Central Colorado. Prepared by Alpine Archaeological Consultants, Inc., Montrose, Colorado. Prepared for Bureau of Land Management, Kremmling Field Office, Colorado.

Many comments on the EA were received during the 30-day public review period. A list of those who commented and a summary of their comments is in Appendix 4. The proposed action presented to the public during the review period has been modified, to allow sufficient time for analyzing and addressing those comments.

This EA documents the review of the parcel recommended for leasing in the August 2011 Competitive Oil and Gas Lease Sale. The parcels recommended for deferral as a result of internal scoping or public comments are not included in the review. Refer to Table 1 for a summary of the status of nominated parcels. Legal descriptions of parcels are in Attachments A, B and C.

**Table 1  
Parcel Status Summary**

Parcel	5903	5904	5907	5934	5935	5936	5937	5938	5946	5948	5949	5951	5954	5957
Nominated	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Deferred Partially or Entirely Before Public Comment		X	X	X	X	X	X	X	X		X	X	X	X
Carried Forward for Analysis Before Public Comment	X	X	X		X									
Deferred Partially or Entirely After Public Comment		X	X	X	X	X	X	X	X	X	X	X	X	
Carried Forward for Analysis After Public Comment	X													

**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. The sale of oil and gas leases is needed to meet the growing energy needs of the United States. Production of oil and gas resources on public lands contributes to decreasing the dependence of the United States on foreign energy sources, which is a BLM policy that complies with the Mining and Minerals Policy Act of 1970. Continued leasing is necessary to maintain options for production as oil and gas companies seek new areas for production or attempt to develop previously inaccessible or uneconomical reserves.

A lease auction of the Federal mineral estate provides for a potential increase of energy reserves for the United States, and it may provide a source of significant income for the State of Colorado

and the U.S. At the same time, a lease auction meets requirements of the Energy Policy Act of 2005, the Federal Onshore Oil and Gas Leasing Reform Act of 1987, and the Mineral Leasing Act of 1920.

This EA serves to verify conformance with the approved land use plan and provides the rationale for attaching lease stipulations to specific parcels. While the act of selling oil and gas leases by auction does not, itself, create environmental impacts, subsequent development of leases could produce impacts. Before development could occur, a site-specific analysis of the likely impacts of each proposal would be conducted. This analysis provides an overview of possible impacts that could occur from development, and describes them in general terms.

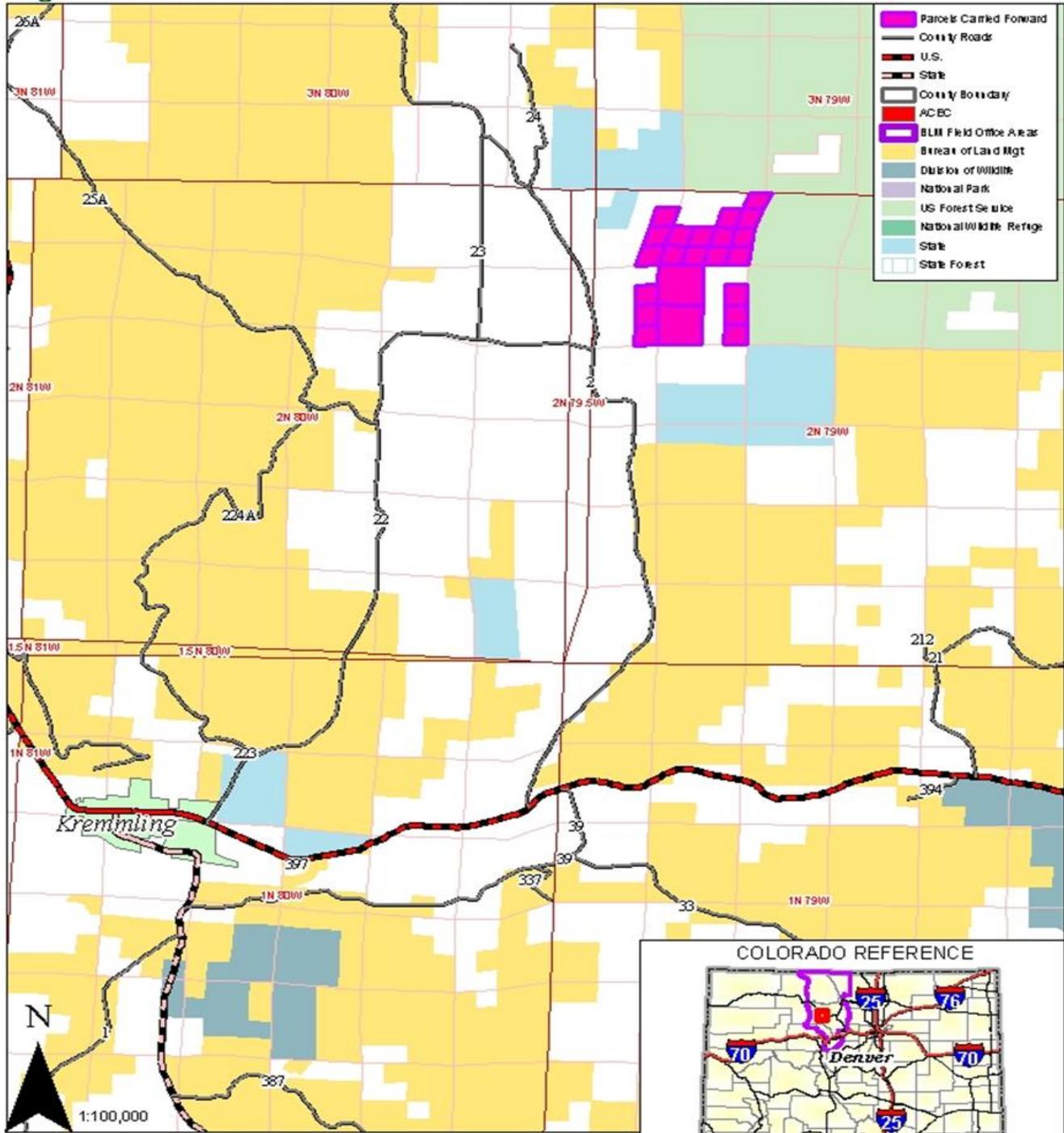
#### DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Proposed Action. The Proposed Action is to recommend to the BLM's Colorado State Office that one nominated parcel (also called an EOI) be offered for leasing, for potential oil and gas exploration and production. The remainder of the nominated parcels would be recommended for deferral from the August 2011 oil and gas lease sale. The parcel recommended for leasing, number 5903, totals 1,093.66 acres of Federal mineral estate administered by the KFO in Grand County. Parcel 5903 is privately-owned surface overlying the Federal mineral estate.

Two lease notices (CO-29 for paleontological resources and CO-24 for threatened and endangered species) and one stipulation (CO-39 for cultural resources) would be applied to the parcel recommended for leasing, covering all parts of the parcel. The legal description of that parcel and brief descriptions of applicable land use stipulations are identified in Attachment C. The parcel is depicted on Map 2. Attachment D contains detailed descriptions of stipulations that would be applied to the parcel recommended for leasing.

Once sold, the lease purchaser would have the right to use as much of the leased lands as is reasonably necessary to explore and drill for all of the oil and gas resources within the lease boundaries, subject to the standard terms and conditions of the lease (especially Section 6 for surface resource protection) and the stipulations attached to the lease (Title 43 of the Code of Federal Regulations, Section 3101 -- 43 CFR 3101). Oil and gas leases are issued for a 10-year period and remain in effect for as long thereafter as oil or gas is produced in paying quantities. If a lease holder fails to produce oil and gas, does not make annual rental payments, does not comply with the terms and conditions of the lease, or relinquishes the lease, ownership of the minerals leased reverts back to the Federal government and the lease can be resold. Drilling wells on a lease would not be permitted until the lease owner or operator meets the site specific requirements specified in 43 CFR 3162.

## Map 2. EA Review for the August 2011 Oil & Gas Lease Sale - Parcels Carried Forward



- Parcels Carried Forward
- County Roads
- U.S.
- State
- County Boundary
- ACBC
- BLM Field Office Area
- Breat of Land Mgt
- Division of Wildlife
- National Park
- US Forest Service
- National Wildlife Refuge
- State
- State Forest



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No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data. For graphical purposes only and not for navigation. This map was intended to be printed in color. Last Edited: TX, 04/05/2011

No Action Alternative: The BLM’s 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 (also called a parcel nomination) would be denied or rejected. The No Action alternative would withdraw all the nominated lease parcels from the August 2011 lease sale. The parcels could be included in future lease sales. Surface management would remain the same, and ongoing oil and gas development would continue on surrounding Federal, private, and state oil and gas leases in Jackson County (there are none in Grand County). 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 plan (as required by 43 CFR 1610.5-3). The Proposed Action is in conformance with the Kremmling RMP because it is clearly consistent with the following LUP decisions:

Name of Plan: Kremmling Resource Management Plan (RMP), Record of Decision (ROD).

Decision Language: “Federal mineral estates will remain open to oil & gas leasing under the Mineral Leasing Act of 1920 except for 1,351 acres which are withdrawn. Some lands are specifically encumbered with surface use restrictions [page 5 in the 1984 RMP].”

Decision Language: “640,880 acres of BLM-administered mineral estate within the Kremmling Resource Area are open to oil and gas leasing and development, subject to the lease stipulations noted in Appendix A of this document [page 3 in the 1991 RMP amendment].”

Date Approved: December 19, 1984; Amended November 1991; Updated February 1999.

## RELATIONSHIP TO STATUTES, REGULATIONS AND OTHER PLANS

The BLM is responsible for overseeing oil and gas operations on Federal lands according to the Mineral Leasing Act of 1920, as amended by the Mining and Minerals Policy Act of 1970, the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (the Reform Act), and other amendments.

Under the Reform Act (U.S. Code, Chapter 3A, Subchapter IV, Section 226), the BLM conducts quarterly competitive oil and gas lease auctions in each state whenever eligible lands are available for leasing. The BLM’s policy is to offer, as expeditiously as possible, those lands available for oil and gas exploration and possible development, consistent with the Federal Land Policy and Management Act of 1976, the Endangered Species Act of 1973, National Environmental Policy Act of 1969, and other applicable laws, regulations, and policies.

## AFFECTED ENVIRONMENT; ENVIRONMENTAL CONSEQUENCES; MITIGATION MEASURES:

### AIR QUALITY

Affected Environment: Subsequent to the 1984 Kremmling Resource Management Plan Record of Decision, new information about green-house gases (GHGs) and their effects on national and global climate conditions has emerged. On-going scientific research has identified the potential impacts of GHG emissions such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), water vapor; and several trace gases on global climate. Through complex interactions on a global scale, GHG emissions cause a net warming effect of the atmosphere, primarily by decreasing the amount of heat energy radiated by the earth back into space. Although GHG levels have varied for millennia (along with corresponding variations in climatic conditions), industrialization and burning of fossil carbon sources have caused GHG concentrations to increase measurably, and may contribute to overall climatic changes.

This EA incorporates an analysis of the contributions of the proposed action to GHG emissions and a general discussion of potential impacts to climate. Air quality and climate are the components of air resources, which include applications, activities, and management of the air resource. Therefore, the BLM must consider and analyze the potential effects of BLM and BLM-authorized activities on air resources as part of the planning and decision making process.

The U.S. Environmental Protection Agency (EPA) established national air quality standards (NAAQS) for criteria pollutants. Criteria pollutants include carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), and lead (Pb). Air pollutant concentrations greater than the NAAQS represent a risk to human health. The EPA has delegated regulation of air quality to the State of Colorado, administered by the Colorado Department of Public Health and Environment (CDPHE). Colorado Ambient Air Quality Standards (CAAQS) and NAAQS identify maximum limits for concentrations of criteria air pollutants at all locations to which the public has access. The CAAQS and NAAQS are legally enforceable standards. Concentrations above the CAAQS and NAAQS represent a risk to human health that, by law, require public safeguards be implemented. State standards must be at least as protective of human health as Federal standards, and may be more restrictive than Federal standards, as allowed by the Clean Air Act. Visibility can be expressed in terms of deciviews (DV), a measure for describing perceived changes in visibility. One DV is defined as a change in visibility that is just perceptible to an average person, which is approximately a 10 percent change in light extinction. To estimate potential visibility impairment, monitored aerosol concentrations are used to reconstruct visibility conditions for each day monitored. These daily values are then ranked from clearest to haziest and divided into three categories to indicate the mean visibility for all days (average), the 20 percent of days with the clearest visibility (20 percent clearest), and the 20 percent of days with the worst visibility (20 percent haziest). Visibility can also be defined by standard visual range (SVR) measured in miles, and is the farthest distance at which an observer can see a black object viewed against the sky above the horizon; the larger the SVR, the cleaner the air.

Since 1980 the Interagency Monitoring of Protected Visual Environments (IMPROVE) network has measured visibility in national parks and wilderness areas. These areas are managed as high visual quality Class I and II areas by the Federal visual resource management (VRM) program. There are IMPROVE stations in Colorado, including two located within the Indian Peaks and Eagles Nest National Wilderness areas.

### **Atmospheric Deposition**

Atmospheric deposition refers to processes in which air pollutants are removed from the atmosphere and deposited into terrestrial and aquatic ecosystems. Air pollutants can be deposited by either wet (precipitation via rain or snow) or dry (gravitational) settling of particles and adherence of gaseous pollutants to soil, water, and vegetation. Much of the concern about deposition is due to secondary formation of acids and other compounds from emitted nitrogen and sulfur species such as nitrogen oxides (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>), which may contribute to acidification of lakes, streams, and soils and affect other ecosystem characteristics, including nutrient cycling and biological diversity.

Substances deposited include:

- \* Acids, such as sulfuric (H<sub>2</sub>SO<sub>4</sub>) and nitric (HNO<sub>3</sub>), sometimes referred to as acid rain;
- \* Air toxics, such as pesticides, herbicides, and volatile organic compounds (VOCs);
- \* Heavy metals, such as mercury; and,
- \* Nutrients, such as nitrates (NO<sub>3</sub><sup>-</sup>) and ammonium (NH<sub>4</sub><sup>+</sup>).

The accurate measurement of atmospheric deposition is complicated by contributions to deposition by several components: rain, snow, cloud water, particle settling, and gaseous pollutants. Deposition varies with precipitation and other meteorological variables (e.g., temperature, humidity, winds, atmospheric stability, etc.), which in turn, vary with elevation and time.

In the Rocky Mountain Region, the BLM uses level of concern (LOC) for total nitrogen deposition of 3.0 kilograms per hectare per year or less, which is considered to be unlikely to harm terrestrial or aquatic ecosystems. For total sulfur deposition, the LOC is 5.0 kilograms per hectare per year.

The KFO's existing air quality conditions are considered to be good with no known concerns. Because of limited available data, it is only possible to trend air quality-related values for a few locations: for those locations, ambient air quality concentrations are below (cleaner than applicable) standards, visibility is typical of clear skies associated with remote areas in the Western United States, and there have been improvements in total (atmospheric) deposition at nearby Rocky Mountain National Park in recent years. Since none of the parcels recommended for leasing are located within EPA-designated nonattainment or maintenance areas, Clean Air Act General Conformity regulations do not apply. Data gathered from the nearest representative monitoring stations indicate that current concentrations for criteria pollutants are in compliance with applicable standards.

The parcel recommended for leasing is mapped by the EPA as being within the "Sagebrush Parks" ecoregions, "Volcanic Subalpine Forests" just to the east. This ecoregion has large seasonal variations in temperature and precipitation. The sagebrush parks are relatively dry, but

precipitation varies annually and is sufficient for the growth of short, sparse grasses and shrubs. The steep, mountainous forests have harsh winters, but are generally similar to the parks. The EPA, Region 8, has reported, “In the coming decades, scientists project that climate change will lead to significant changes in the Mountain West and Great Plains,” including several specific impacts. The BLM will continue to evaluate climatic variability and change, and apply appropriate management techniques to address changing conditions.

Environmental Consequences, Proposed Action: The decision to offer parcels for sale would not result in any direct criteria pollutants, hazardous pollutants, or greenhouse gas emissions. However, the future development of oil and gas wells would emit these pollutants. The assessment of GHG emissions and climate change are in a formative phase. While it is not possible to accurately quantify potential GHG emissions in the affected areas as a result of making nominated parcels available for leasing, some general assumptions can be made. For example, selling nominated parcels may result in drilling new wells. While the act of leasing the parcels would produce no air quality impacts, potential future development of the lease 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, and exhausts from drill-rig engines and generators. Subsequent development of any leases sold would contribute a small, incremental increase in overall hydrocarbon emissions, including GHGs. 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. At the Application for Permit to Drill (APD) stage, additional air analysis would be completed to evaluate the site-specific issues of development proposed in the APD. Exploratory drilling activities would be subject to applicable local, State and Federal air quality laws and regulations.

Environmental Consequences, No Action Alternative: There would be no impacts locally to air quality from the No Action Alternative.

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.

## VEGETATION

Affected Environment: The parcel proposed for leasing is in sagebrush-steppe, where the dominant vegetation is sagebrush with an understory of grasses and forbs.

Environmental Consequences, Proposed Action: The leasing of parcels would not create impacts to vegetation. Development of a lease could impact vegetation. The amount and location of direct and indirect effects cannot be predicted until an APD is submitted and the site-specific effects of the proposal are analyzed. However, future development, such as constructing roads, well pads or pipelines, could impact vegetation and contribute to vegetation loss. Vegetation loss could affect

ranching operations and wildlife habitat, and increase the likelihood for soil erosion and weed invasion.

Environmental Consequences, No Action Alternative: There would be no impacts from this alternative.

Mitigation Measures: Impacts to vegetation would be addressed when considering APDs or other surface-disturbing actions. Appropriate mitigations or conditions of approval would be developed and implemented.

## MIGRATORY BIRDS

Affected Environment: BLM Instruction Memorandum No. 2008-050 provides guidance for meeting the BLM's responsibilities under the Migratory Bird Treaty Act 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.

Migratory bird habitats on the parcel recommended for leasing are comprised primarily of sagebrush steppe, mixed mountain shrub lands, and aspen stands with much smaller areas comprised of riparian vegetation, lodgepole pine, and mixed conifer forest. A variety of migratory birds may utilize these vegetation communities during the nesting period (May through July) or during spring and fall migrations. The recommended parcel provides potential habitat for species on the USFWS's Birds of Conservation Concern List, including but not limited to, golden eagle and veery.

Environmental Consequences, Proposed Action: The actual lease sale would not impact any migratory bird species or their habitat. However, potential future development of the recommended lease parcel may impact migratory birds. Potential impacts include decreased habitat patch size and habitat degradation. Indirectly, habitat effectiveness adjacent to potential development would be reduced as a result of noise and human activity during construction, drilling and completion activities. If drilling activities occur during the nesting season, there could be negative impacts to migratory bird species through nest destruction or increased stress leading to nest abandonment. Site-specific analysis would be conducted at the APD stage and appropriate mitigations or conditions of approval would be developed.

Environmental Consequences, No Action Alternative: No impacts to migratory bird species or their habitat would occur from the No Action Alternative.

Mitigation Measures: The following lands are subject to stipulation CO-18, a timing limitation, to protect raptor nesting and fledgling habitat:

### Parcel 5903

T. 0020N., R 0790W., 6TH PM  
Sec. 5: Lots 1, 5-8;  
Sec. 5: S2NE,W2SW,S2SE;  
Sec. 6: SENE,E2SE;  
Sec. 7: SENE,E2SE;  
Sec. 8: SENE,W2,E2SE

## THREATENED, ENDANGERED, AND SENSITIVE SPECIES

Affected Environment: Federally listed threatened, endangered, and candidate species that occur in Grand County include Osterhout milkvetch, Penland beardtongue, Canada lynx, greenback cutthroat trout, yellow-billed cuckoo, and Greater sage-grouse. In addition, water depletions in Grand County may affect the Bonytail, Colorado pikeminnow, humpback chub, and the razorback sucker.

The parcel recommended for leasing is located on private surface with Federal subsurface minerals. Since limited information is available for private lands, it is difficult to determine if listed species could occur on this parcel. Species or critical habitats affected by water depletions are located downstream from the Kremmling Field Office.

A portion of parcel 5903 is within the Troublesome Lynx Analysis Unit, however, no habitat for Canada Lynx has been identified within this parcel. In addition, portions of parcel 5903 have been identified as potential lynx habitat by the Colorado Division of Wildlife. The parcel is not within a lynx linkage area.

Habitat for one candidate species, Greater sage-grouse, occurs in parcel 5903. Much of the area is classified as nesting, brood rearing, and winter habitat for this species. There are no other BLM sensitive species known to inhabit or derive important benefit from the recommended lease parcel.

Environmental Consequences, Proposed Action: Leasing the recommended parcel for development would not impact any listed or BLM sensitive species. However, potential future development may impact special status species. Since it is unknown if the parcels would be developed or the extent of the development, it is difficult to assess potential impacts to specific species. General impacts to wildlife species from development include, but are not limited to, displacement into less suitable habitat, habitat fragmentation and habitat degradation. Noise and increased human activity can also disrupt breeding and nesting activities. Site-specific biological resource surveys may 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.

Environmental Consequences, No Action Alternative: No impacts to special status species or their habitat would occur from the No Action Alternative.

Mitigation Measures: Leasing stipulation CO-15 and Lease Notices CO-30 and CO-34 (see Attachment D) would be applied to all or parts of the parcels listed below. Stipulation CO-15, precludes surface use between December 16 and March 15 in grouse crucial winter habitat. It is similar to the CDOW recommended stipulation for greater sage grouse winter range, which would preclude surface occupancy from December 1 to February 28. Lease Notice CO-30 notifies lessees that consistent with lease rights and standard terms and conditions, surface disturbance would be relocated in grouse nesting habitat from March 1 to June 30. It is similar to the CDOW recommendation on the timing of activities in greater sage grouse nesting habitat between March 1 and June 30. Lease notice CO-34 notifies lessees of the possible need for Endangered Species Act consultation and modification of exploration and development proposals if T&E species may be affected.

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

The following lands are subject to stipulation CO-15 to protect grouse winter habitat:

Parcel 5903  
T. 0020N., R 0790W., 6TH PM  
Sec. 8: S2SW; E2SE

The following lands are subject to lease notice CO-30 to alert lessees of relocation periods for nesting grouse species:

Parcel 5903  
T. 0020N., R 0790W., 6TH PM  
Sec. 5: Lots 1, 5-8;  
Sec. 5: S2NE,W2SW,S2SE;  
Sec. 6: SENE,E2SE;  
Sec. 7: SENE,E2SE;  
Sec. 8: SENE,W2, E2SE

#### WASTES, HAZARDOUS or SOLID

Affected Environment: The act of leasing produces no hazardous or solid wastes. If nominated parcels are sold, future development is expected, but cannot be determined until an APD is submitted. No hazardous or solid waste materials are known to be present on the parcels nominated for leasing.

Environmental Consequences, Proposed Action: The subsequent development of leases sold in the August sale could result in the creation of solid or hazardous wastes. It is possible that wastes could be discarded accidentally or inappropriately, resulting in contaminated soil, vegetation or water.

Environmental Consequences No Action Alternative: There would be no impacts from the No Action Alternative, as no leases would be sold.

Mitigation Measures: Development of nominated parcels, if sold, is addressed by environmental regulations that affect exploration and production waste management and disposal practices. Those regulations impose responsibility and liability for protection of human health and the environment from harmful waste management practices or discharges. The Colorado Department of Public Health and Environment administers hazardous waste regulations for oil and gas activities in Colorado.

#### WATER QUALITY, SURFACE and GROUND

Affected Environment: The recommended lease parcel is located in the Upper Colorado River Basin. Parcel 5903 is located within the “Colorado River above Kremmling” 5<sup>th</sup> order watershed. The lands in parcel 5903 drain to the East Fork of the Troublesome Creek, Pete’s

Gulch, Round Gulch, or Troublesome Creek, itself, which are all ultimately tributary to the Colorado River. The State has designated the segments for coldwater aquatic life, Class 1, water supply, agricultural, and potential primary contact recreational uses. This segment of the Colorado River is listed for temperature impairment on the State's 303(d) List, with a high priority. There are no known water quality concerns for Troublesome Creek and its tributaries. Parcel 5903 is in the Middle Park region, where there are no large, well defined aquifers that yield large quantities of water. Most water wells are located in alluvial aquifers in the major rivers' floodplains, in isolated pockets of porous sedimentary rocks, or in faults or fractures of relatively impermeable formations.

Environmental Consequences, Proposed Action: While the act of leasing the parcel would produce no impacts, subsequent development of the lease would lead to direct impacts, chiefly from surface disturbance from constructing well pads, access roads, pipelines, and powerlines. Identification of potential effects, however, would depend on site-specific locations of future development and cannot be predicted or quantified at the leasing stage. Development could cause increased surface water runoff, erosion, off-site sedimentation, and dissolved constituents (salt loading) to downstream waters, resulting in degradation of surface water quality and groundwater quality from non-point source pollution, especially from potentially increased soil erosion and sedimentation.

Such hydrologic effects may cause changes in downstream channel morphology such as bed and bank erosion or aggradation. The magnitude of these potential impacts to water resources would depend on the proximity of the disturbance to the drainage channel, slope aspect and gradient, degree and area of soil disturbance, soil character, duration and time within which construction activity would occur, and the timely implementation and success or failure of mitigation measures. Increases in sediment loads to the Troublesome Creek could contribute to the temperature impairment of the downstream Colorado River segment.

Direct impacts would likely be greatest shortly after the start of construction activities and would decrease in time due to proper implementation of Best Management Practices (BMPs) that would include proper design of facilities along with effective temporary stabilization measures that would promote permanent natural vegetative stabilization and reclamation of disturbed areas. Construction activities would occur over a relatively short period, and therefore the majority of the disturbance would be evident but short lived. Impacts to surface water quality would be managed (minimized) through the implementation, monitoring, and necessary adjustment of BMPs. However, short-term and minor impacts may occur during storm-flow events. Petroleum products and other chemicals accidentally spilled could result in surface and groundwater contamination. Similarly, leaks from reserve and evaporation pits (e.g., saltwater, oil, or condensate in the event of a breach, overflow, or spill from storage tanks) could result in contamination of the soils onsite, or offsite, and could potentially impact surface and groundwater resources in the long term. Authorization of development projects would require full compliance with BLM directives and stipulations that relate to surface and groundwater protection.

Environmental Consequences, No Action: There would be no new impacts to water quality or surface hydrology from oil and gas development and production on the nominated tracts.

Mitigation Measures: Stipulation CO-28 to protect water features would be applied to portions of the recommended parcel, and may require relocation beyond 200 meters to protect the water quality and source. See the Wetland Section of this EA for the specific tracts where stipulation CO-28 would be applied. General conditions of approval at the APD stage will specify BMPs that will include reclamation of plant communities and 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. The use of lined reserve pits, or the elimination of reserve pits, would reduce or eliminate seepage of drilling fluid into the soil and prevent it from eventually reaching groundwater. The casing and cementing requirements imposed on proposed wells would reduce or eliminate the potential for groundwater contamination from drilling mud and other surface sources.

## WETLANDS and RIPARIAN ZONES

Affected Environment: The nominated parcels recommended for sale are almost entirely on private lands. Information on riparian and wetland resources is generally limited to indirect observation of topographic maps, and aerial and satellite photographs, where perennial and intermittent water sources that support wetland vegetation were identified. During the APD stage, if previously unidentified wetlands are found, conditions of approval can be applied to help protect wetland resources, especially from direct disturbances.

Environmental Consequences, Proposed Action: The amount and location of direct and indirect effects are difficult to predict until the site specific APD stage of development. Generally, development in wetland or riparian zones would cause vegetation to be removed, which could produce an increase in soil erosion, resulting in decreased water quality in perennial or intermittent water sources. The loss of vegetation could affect wildlife that rely on wetland or riparian zones as habitat, causing temporary or permanent relocation to other suitable areas.

Environmental Consequences, No Action Alternative: Riparian zones and wetlands would not be affected.

Mitigation Measures: The following lands are subject to stipulation CO-28 to protect riparian and wetland vegetation:

Parcel 5903:  
T. 0020N., R 0790W., 6TH PM  
Sec. 6: SENE;  
Sec. 7: SESE; SENE;  
Sec. 8: N2NW; S2SW; SESE

## SOILS

Affected Environment: The parcel recommended for leasing exhibits several soil types that could vary from being susceptible to wind or water erosion or compaction to being stable. Soils vary in their suitability for supporting vegetation and for various uses such as well pad construction and as road fill and road beds.

Environmental Consequences, Proposed Action: While the act of leasing a parcel would produce no impacts, subsequent development would physically disturb the topsoil and would expose the substratum soil. The magnitude and location of direct and indirect effects cannot be predicted until the site-specific APD stage of development. Direct impacts resulting from the construction of well pads, access roads, and reserve pits include removal of vegetation, exposure of the soil, mixing of horizons, compaction, loss of topsoil productivity, and susceptibility to wind and water erosion. Wind erosion would be expected to be a minor contributor to soil erosion, with the possible exception of dust from vehicle traffic. These impacts could result in increased indirect impacts such as runoff, erosion, and off-site sedimentation. Activities that could cause these types of indirect impacts include construction and operation of well sites, access roads, gas pipelines, and facilities. Increased traffic in the area with development could cause increased deterioration that could make travel by various road users difficult and worsen the loss of soil due to erosion by wind or water, or both.

Contamination of soil from drilling and production wastes mixed into soil or spilled on the soil surfaces could cause a long-term reduction in site productivity. Some of these direct impacts can be reduced or avoided through proper design, construction and maintenance and implementation of BMPs. Additional soil impacts associated with lease development could occur when heavy precipitation causes water erosion damage. When water saturated segments of access roads become impassable, vehicles may still be driven over the road. Consequently, deep tire ruts would develop. Where impassable segments are created from deep rutting, unauthorized driving may occur outside the designated route of access roads.

Environmental Consequences, No Action Alternative: There would be no impacts to the soils from the No Action Alternative, as there would be no surface disturbing activity.

Mitigation Measures: Roads designed to BLM standards using suitable fill would foster road stability and mitigate erosion and sedimentation. As required by conditions of approval at the APD stage, operators would stockpile the topsoil from the surface of well pads which would be used for surface reclamation of the well pads. If the well produces, the top soil can be used for interim reclamation of the areas of the well pad not in use. If the well is a dry hole, the soil can be used for immediate reclamation. The soil should not be stockpiled for more than one year. Soil stockpiling and re-spreading should be carried out under advisement of BLM personnel. Upon abandonment of wells or when access roads are no longer in service, the Authorized Officer would issue instructions for surface reclamation or restoration of the disturbed areas as described in Conditions of Approval. 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. Maintenance standards for constructed

roads would be specified in the APD stage. For the purpose of protecting soils, stipulation CO-27 would be applied to slopes over 40 percent, requiring a site reclamation plan.

The following lands are subject to stipulation CO-27 to protect soil resources:

Parcel 5903:  
T. 0020N., R. 0790W., 6<sup>th</sup> PM  
Sec. 5: Lot 1; S2NE; Lot 5; NWSW;  
Sec. 6: SENE;  
Sec. 8: NWNW

## WILDLIFE, AQUATIC

Affected Environment: A variety of wildlife habitats and their associated species occur within parcels nominated for leasing. Streams, springs, ponds and the associated riparian vegetation provide food, cover and shelter for a variety of aquatic wildlife species common to northern Colorado. These may include coldwater fish in lakes and streams, waterfowl, amphibians, beaver, and muskrats. 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.

Environmental Consequences, Proposed Action: Although the lease sale itself has no direct effects on aquatic wildlife in the area, future potential drilling could impact species and their habitat. Impacts include, but are not limited to, displacement into less suitable habitat, increased stress, degradation of habitat, and loss of habitat. Impacts to specific species would be addressed at the APD stage when appropriate mitigations or conditions of approval would be developed.

Environmental Consequences, No Action Alternative: No impacts to aquatic wildlife species or their habitat would occur from the No Action Alternative.

Mitigation Measures: None

## WILDLIFE, TERRESTRIAL

Affected Environment: A variety of wildlife habitats and their associated species occur on parcel 5903. Each habitat type provides food, cover and shelter for a variety of mammal and bird species common to northern Colorado. Large ungulates in the area include mule deer, pronghorn antelope, elk and moose, with portions of the parcel occurring within severe winter ranges, winter concentration areas, and migration corridors for these species. Large predators include mountain lion and black bear. Coyotes, bobcats, jackrabbits, cottontail rabbits, a variety of small rodents, and birds likely inhabit the general area. 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.

Environmental Consequences, Proposed Action: Although the lease sale itself has no direct effects on wildlife in the area, future potential drilling would impact wildlife species and their habitat. Impacts to wildlife species from oil and gas include, but are not limited to, displacement into less

suitable habitat, increased stress, degradation of habitat, and loss of habitat. Impacts to specific species would be addressed at the APD stage when appropriate mitigations or conditions of approval would be developed.

Environmental Consequences, No Action Alternative: No impacts to wildlife species or their habitat would occur from the No Action Alternative.

Mitigation Measures: The following lands are subject to stipulation CO-09 to protect big game winter habitat.

Parcel 5903  
T. 0020N., R 0790W., 6TH PM  
Sec. 5: Lots 1, 5-8;  
Sec. 5: S2NE, W2SW, S2SE;  
Sec. 6: SENE, E2SE;  
Sec. 7: SENE, E2SE;  
Sec. 8: SENE, W2, E2SE

## SOCIO-ECONOMICS

Affected Environment: Parcels nominated for leasing are offered for sale during an oral auction. The minimum acceptable bid for a parcel is \$2.00 per acre. Because the sale is conducted as an auction, the minimum bid is often increased, sometimes substantially, until bidding ceases. The increased bid is called a bonus bid. The sum of the minimum bid and the bonus bid, if any, is collected the day of the sale. Additionally the first year's rental of \$1.50 an acre or fraction of an acre must be paid at the time of the sale. Annual rental is \$1.50 per acre or fraction of an acre for the first five years of the lease term, increasing to \$2.00 per acre or fraction of an acre for any subsequent year. Because parcels are auctioned, there can be no guarantee that each parcel will be sold, and an estimate cannot be made in advance of the sale of the revenue produced from selling the parcels. Parcel 5903 in Grand County is located on private lands that are a working ranch.

Environmental Consequences, Proposed Action: The leasing process provides no direct socio-economic benefit or detriment, except for the collection of bids, bonus bids, and rentals. The minimum income if the recommended parcel is sold at the August sale would be \$21,333 (the minimum bid plus 10 years of rental). Income from the sale goes to the Federal and Colorado treasuries. Deferring the remainder of the parcels nominated for the August sale precludes any direct, immediate financial benefit of at least \$472,065, based on the minimum total possible income from all the nominated parcels, assuming all the deferred parcels would have been sold. There would be no revenue if the recommended parcel is not sold.. The Federal and Colorado treasuries would receive revenue if the recommended lease, unsold during the August sale, is later purchased non-competitively.

Economic and social impacts result from development of leases, in the form of temporary or permanent employment, rental or purchase of equipment, and royalties paid to the Federal and Colorado treasuries, and other expenditures related to development. At the leasing stage, an

estimate of economic impacts is not possible. Similarly, it is not possible to predict social impacts at the time of leasing, especially those related to private lands that overlie leased Federal mineral estate, because development is not assured. The proposed action could result in negative impacts to ranching operations, opportunities for the sale of private lands, or impacts to uses of private lands that rely on undeveloped natural landscapes, depending on future development plans for the lease, if sold.

Environmental Consequences, No Action Alternative: In this alternative, all nominated leases would be removed from the August sale. Revenue of at least \$495,738 would be lost by removing all the parcels from the sale, assuming that all the parcels would have been sold at the minimum sale price. Any future social or economic impacts from possible development would not be realized. It is assumed that deferring all of the nominated parcels would not affect the amount of oil and gas produced regionally, at least in the short term, since any lease development could not occur until 2012 at the earliest. Consumption is driven by a variety of complex interacting factors including energy costs, energy efficiency, availability of other energy sources, economics, demography, and weather or climate. It is assumed that the public's demand for oil and gas would not change, if the nominated parcels were not offered for sale. Instead, the oil and gas resources foregone would be replaced by other sources that may include a combination of imports, alternative fuels, and other domestic production. As a result, socio-economic impacts that might have occurred in the KFO may be realized elsewhere.

Mitigation Measures: None

**CUMULATIVE IMPACTS SUMMARY:** The geographic area for the cumulative impact summary is the private land involved in lease recommended for sale, and surrounding lands in Grand County, Colorado. The time-frame of cumulative effects is short-term, based on the fact that the lease sale occurs on a single day and creates no immediate, direct impacts. This summary addresses presumed impacts that could occur if leases are developed. Actual cumulative impacts would be addressed if one or more APDs are submitted. Cumulative effects of lease development would be mitigated by lease stipulations and APD conditions of approval.

According to the reasonably foreseeable development analysis produced for the draft Kremmling resource management plan revision, Grand County has approximately 27,000 acres of Federal mineral estate leased. Potential development of all available Federal oil and gas from public lands administered by the KFO, including the parcel in the Proposed Action, is estimated to be 192 wells over a 20-year period. An additional estimated 178 wells in private- or state-owned minerals could be developed over that same period. In Grand County, as many as 36 wells could be drilled over a 20-year period; 22 of those would be in Federal minerals. Projected new surface disturbance in the KFO over a 20-year period for Federal, State and private wells is estimated to be 2,960 acres. Surface disturbance associated with wells that might be drilled in Grand County is 288 acres, with 176 acres of disturbance associated with Federal wells.

As of February 2011, there are an estimated 180 active wells in the KFO, all in Jackson County. In 2010, nine non-federal drilling permits were approved in Jackson County (Colorado Oil & Gas Conservation Commission, 2011) There have been no Federal-well APDs submitted to date

in fiscal year 2011, nor were any submitted in fiscal year 2010. There were nine Federal APDs submitted and approved in fiscal year 2009.

The number of oil and gas wells drilled annually within the KFO (and projected to be drilled) and probable GHG emission levels from those wells represent a very small, incremental contribution to the total regional and global GHG emission levels, when compared to the total GHG emission estimates from the Federal oil and gas wells, regionally or statewide. As oil and natural gas production technology continues to improve in the future, one assumption is that it may be feasible to further reduce GHG emissions.

Uncertainties remain with respect to the estimates of the current level of emissions and projections of future production of fossil fuels because the oil and gas industry is difficult to forecast given the mix of drivers: economics, resource supply, demand, and regulatory constraints. Large price swings, resource limitations, or changes in regulations could significantly change future production and the associated GHG emissions. Other uncertainties include the volume of GHGs vented from gas processing facilities in the future, any commercial oil shale or coal-to-liquids production elsewhere in the region, and potential emissions-reducing improvements in oil and gas production, processing, and pipeline technologies.

For wildlife, threatened, endangered, and sensitive species, soil, air and water resources, and vegetation, the cumulative impact of leasing one additional parcel (totaling about 1,094 acres) would be a small increase in the acreage leased in Grand County, and a very small increase in the overall total acreage currently leased in the KFO. As mentioned above, new surface disturbance over a 20-year period is estimated to be 2,960 acres from all wells. Surface disturbance resulting from past development amounted to about 5,400 acres. Of that, about 4,050 acres have been reclaimed, leaving existing disturbance from development estimated to be about 1,350 acres. Total surface disturbance over 20 years is estimated to reach about 4,310 acres, some of which would be reclaimed over time. The development of a single well is estimated to initially disturb eight acres for all related activities. Some disturbance is reclaimed as various development activities are completed. Future surface disturbance from oil and gas development, coupled with future reclamation, would create a small, incremental increase in surface disturbance, when combined with other surface disturbance from authorized activities such as vegetation treatments, powerline construction, off-highway vehicle (OHV) use, rangeland development projects, and livestock grazing. Any oil and gas development proposal would require an APD; potential impacts would be analyzed at a site-specific level. Conditions of approval and mitigation measures would be applied to reduce or eliminate impacts affecting the resources mentioned above. Some impacts would be reduced or eliminated, by reclaiming disturbed areas. Other impacts would be reduced or eliminated by practices such as careful design of projects or management of surface uses.

Under the No Action alternative, there would be no impacts from activities related to the oil and gas lease sale. Other impacts, such as those resulting from livestock grazing, OHV use, weed treatments, rangeland development projects, and other existing uses, would continue. There is no expectation that additional projects or other activities would cause new or different impacts in the future, however, past, present or future impacts on the private lands in parcel 5903 are unknown. Since the private lands are in a working ranch, it is assumed that impacts associated

with livestock grazing and any projects developed to support grazing would be related to soil and vegetation disturbances. Comments from the land owner indicate that management of private lands in parcel 5093 would emphasize continued preservation of wildlife habitat, especially elk.

INTERDISCIPLINARY REVIEW: See the Interdisciplinary Team Analysis Review Record and Checklist in Appendix 1.

PERSONS or AGENCIES CONSULTED: Tribal consultation was initiated February 16, 2011, and has been completed. See Appendix 2 for the list of contacts used for American Indian consultation. External scoping was initiated January 19, 2011. See Appendix 3 for the list of persons contacted during scoping and the summary of their comments. Parcels 5903 and 5904 were nominated under other parcel numbers for leasing in the May 2011 sale, but were deferred. Comments about those May-sale parcels were provided by the Colorado Division of Wildlife in a November 6, 2010, letter, and by the Grand County Board of Commissioners in a December 7, 2010, letter. Both letters raised concerns about leasing Federal minerals in Grand County. The comments from those agencies are applicable to the analysis in this EA.

A 30-day public review period for this EA ended on March 24, 2011, and produced more than 900 pages of comments, including various reports and other exhibits. A list of those responding during the review period, and a summary of their comments is in Appendix 4.

**APPENDIX 1**

**INTERDISCIPLINARY TEAM ANALYSIS REVIEW RECORD AND CHECKLIST:**

**Project Title:** August 2011 Competitive Oil and Gas Lease Sale

**Project Leader:** Kelly Elliott

**Date Proposal Received: (Only for external proposals)**

**Date Submitted for Comment:** January 7, 2011

**Due Date for Comments:** February 8, 2011

**Need for a field Exam: (If so, schedule a date/time)**

**Scoping Needs/Interested or Affected Publics: (Identify public scoping needs)**

**Consultation/Permit Requirements:**

Consultation	Date Initiated	Date Completed	Responsible Specialist/ Contractor	Comments
Cultural/Archeological Clearance/SHPO	N/A	N/A	B. Wyatt	
Native American	2/16/2011	3/31/2011	B. Wyatt	
T&E Species/FWS	N/A	N/A	M. McGuire	
Permits Needed (i.e. Air or Water)	N/A	N/A	P. Belcher	

**(NP) = Not Present**

**(NI) = Resource/Use Present but Not Impacted**

**(PI) = Potentially Impacted and Brought Forward for Analysis.**

NP NI PI	Discipline/Name	Date Review Comp.	Initials	Review Comments (required for Critical Element NIs, and for elements that require a finding but are not carried forward for analysis.)
PI	Air Quality <b>Belcher</b>	2/8/2011	PB	See the Air Quality Section of this E.A.
NI	Areas of Critical Environmental Concern <b>McGuire</b>	2/11/2011	MM	See the T&E and Sensitive Species analysis.
NI	Cultural Resources <b>Wyatt</b>	1/14/2011	BBW	The proposed lease parcels may be found to contain historic properties or resources, or both, protected under the National Historic Preservation Act (NHPA), the American Indian Religious Freedom Act, the 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 obligation under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such

<b>NP NI PI</b>	<b>Discipline/Name</b>	<b>Date Review Comp.</b>	<b>Initia ls</b>	<b>Review Comments</b> (required for Critical Element NIs, and for elements that require a finding but are not carried forward for analysis.)
				properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.
NI	Environmental Justice <b>Cassel</b>	1/20/2011	SC	According to the most recent Economic Census Bureau statistics (2009), there are minority and low income communities within the Kremmling Planning Area. There would be no direct impacts to these populations from leasing. Minority or low-income populations could be affected if development occurs in the future.
NP	Farmlands, Prime and Unique <b>Belcher</b>	2/08/2011	PB	There are no farmlands, prime or unique, in the proximity of the proposed project area.
NP	Floodplains <b>Belcher</b>	2/08/2011	PB	The recommended parcel is located in an upland area and would not affect the functionality of the floodplain, and would not increase flood hazard.
NI	Invasive, Non-native Species <b>Hughes</b>	2/07/11	ZH	Invasive, non-native species would not affect the proposed action and no action alternatives. The existence of weeds on parcel 5903 is not known. If the parcel is leased and development is proposed, BLM weed management requirements would be applied as conditions of approval.
PI	Migratory Birds <b>McGuire</b>	2/11/2011	MM	See Analysis
NI	Native American Religious Concerns <b>Wyatt</b>	2/16/2011	BW	No comments were received from Native American contacts.
PI	T/E, and Sensitive Species <b>McGuire</b>	2/11/2011	MM	See Analysis
PI	Wastes, Hazardous and Solid <b>Elliott</b>	2/7/11	KE	See Analysis
PI	Water Quality, Surface and Ground <b>Belcher</b>	2/08/11	PB	See the Water Quality Section
PI	Wetlands & Riparian Zones <b>Belcher</b>	2/08/2011	PB	See the Wetlands Section
NP	Wild and Scenic River <b>Schechter</b>	1/18/11	HS	There are no eligible Wild and Scenic River segments in the proposed project area.
NP	Wilderness <b>Monkouski</b>	3/10/11	JJM	There are no designated Wilderness or Wilderness Study Areas in the proximity of the proposed project area..
PI	Soils <b>Belcher</b>	2/9/2011	PB	See the Soils Section
PI	Vegetation Landing Tibbs,	2/1/2011	NT	See analysis
PI	Wildlife, Aquatic <b>McGuire</b>	2/1/11	MM	See Analysis
PI	Wildlife, Terrestrial <b>McGuire</b>	2/1/11	MM	See Analysis
NI	Access/Transportation <b>Monkouski</b>	2/10/11	JJM	Proposed lease parcels in the Middle Park basin do not occur on BLM-administered surface lands and there are no travel restrictions. BLM-administered lands adjacent to the nominated

<b>NP NI PI</b>	<b>Discipline/Name</b>	<b>Date Review Comp.</b>	<b>Initia ls</b>	<b>Review Comments</b> (required for Critical Element NIs, and for elements that require a finding but are not carried forward for analysis.)
				lease parcels are designated as "limited". Under the proposed and no action alternatives there are no impacts that can be identified until site specific analysis for development is proposed.
NI	Forest Management <b>K. Belcher</b>	2/8/11	KB	Parcel 5903 is private surface, therefore, there is no effect to forest management on public lands. Several stands of conifers and aspen are found on privately owned surface acres within the parcel.
NI	Geology and Minerals <b>Elliott</b>	2/11/11	KE	There would be no impacts to geologic or mineral resources from the proposed action or the no action alternative. Impacts to geologic formations and mineral resources would be analyzed during the APD NEPA process only after a lease is issued. At that time, the Field Office would ensure that the APD includes a casing and cementing program adequate to protect all of the resources, minerals and fresh water zones.
NI	Fire <b>Wyatt</b>	1/14/2011	BBW	No effect.
NI	Hydrology/Water Rights <b>Belcher</b>	2/8/2011	PB	Hydrologic concerns are addressed in the Water Quality, Wetlands, and Soil Sections of this document. No other impacts. Water Rights are administered by the state of Colorado, and any disturbances on leased lands must adhere to state laws. Individual water rights or permits would be reviewed in the APD stage to help insure that there are no impacts.
NI	Paleontology <b>Wyatt</b>	2/18/2011	BBW	The lease area may contain important fossil resources. An inventory of fossil in paleontological areas having a Potential Fossil Yield Category ranking of 4 and 5 would be performed by an accredited paleontologist prior to the issuance of permit.
NI	Noise <b>Monkouski</b>	3/10/11	JJM	Under the proposed and no action alternatives there are no impacts that can be identified until site-specific analysis for proposed development is conducted.
NI	Range Management <b>Tibbs, Landing</b>	2/1/11	NT	The amount and location of direct and indirect effects cannot be predicted until the site-specific APD stage of development. The rangeland improvements can 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. In addition, closeness to water can increase potential for livestock stock to use well pad areas for resting, rubbing, and potential exposure to ethylene glycol storage and spills. The BLM notifies grazing permittees on a case-by-case basis as

<b>NP NI PI</b>	<b>Discipline/Name</b>	<b>Date Review Comp.</b>	<b>Initia ls</b>	<b>Review Comments</b> (required for Critical Element NIs, and for elements that require a finding but are not carried forward for analysis.)
				part of the APD process. Best Management Practices would be incorporated into the Conditions of Approval.
NI	Lands/ Realty Authorizations <b>Cassel</b>	2-9-11	SC	Rights-of-way exist on portions of the nominated parcels, but until development, there would be no impacts from the proposed action or the no action alternative.
NI	Recreation <b>Monkouski Schechter</b>	3/10/11	JJM	Recreation occurs on private lands and adjacent BLM-administered lands. Under the proposed and no action alternatives there are no impacts that can be identified until site specific analysis for proposed development is conducted.
NI	Socio-Economics <b>Cassel</b>	1/20/11	SC	See Analysis
NI	Visual Resources <b>Elliott</b>	2/14/11	KE	The proposed action and the no action alternatives would not impact visual resources. If parcel 5903 is leased and eventually proposed for development, BLM VRM requirements would be applied as conditions of approval to mitigate visual impacts.
	Cumulative Impact Summary			
<b>FINAL REVIEW</b>				
	P&E Coordinator <b>Cassel</b>			

**APPENDIX 2**

**CONTACTS for NATIVE AMERICAN CONSULTATION**

Ivan Posey, Chairman Shoshone Business Council Shoshone Tribe Ft. Washakie, WY 82514	Wilford Ferris Tribal Historic Preservation Officer Shoshone Tribe, Cultural Center Fort Washakie, WY 82514
Gary Hayes, Chairman Ute Mountain Ute Tribe Towaoc, CO 81334	Terry Knight, Sr., THPO Director Ute Mountain Ute Tribe Towaoc, CO 81334
Harvey Spoonhunter, Chairman Northern Arapaho Business Council Fort Washakie, WY 82514	Darlene Conrad, THPO Director Northern Arapaho Tribe Fort Washakie, WY 82514
Ernest House, Jr., Executive Secretary Colorado Commissioner of Indian Affairs Denver, Colorado 80203	Robert Goggles, NAGPRA Representative Northern Arapaho Tribe Arapaho, WY 82510
Mathew Box, Chairman Southern Ute Indian Tribe Ignacio, CO 81137	Neil Cloud, NAGPRA Representative Southern Ute Tribe Ignacio, CO 81137
Curtis Cesspooch, Chairman Uintah & Ouray Tribal Business Committee Ft. Duchesne, UT 84026	Betsy Chapoose, Director Cultural Rights & Protection Specialist Uintah & Ouray Tribe Fort Duchesne, UT 84026

### **APPENDIX 3**

#### **PERSONS AND AGENCIES CONTACTED DURING SCOPING, and SCOPING COMMENT SUMMARIES**

ZD Land and Cattle LLC

Casdorf Holdings, LLC

Wingspread West, LLC

Lone Cow Ranch, LLC, c/o Gary J. Ceriani

Kremmling Quarter Circle LLC

Tom Hill

Gore Pass Ranch Trust

Samijean A. Hill

McGee Resources LLC

Gallagher Ranch LLC

Chad K. and Laura A. Gore

Bobby R. and Kate L. Kelley

Eric A. and Rebecca A. Guthrie

Robert J. and Susan G. Bergman

Gretchen E. and William H. Schrader

Peter and Frances V. Rainsford

Lawrence P. and Janet Allen

Tyler Mountain LLC

Wingspread West LLC

Davison Family Trust

Taylor Creek Development LLC, c/o Dave Hammer

T and F Investments

Kirk A. Shiner

Silver Spur Land and Cattle LLC

Double R Ranch

Grand County Commissioners

Jackson County Commissioners

Colorado River Water Conservation District

Colorado Division of Wildlife

Commentor	Parcel(s) Involved	Scoping Comments
ZD Land & Cattle, LLC	5903	<ul style="list-style-type: none"><li>• Conservation easement with Rocky Mountain Elk Foundation</li><li>• Obligated to ensure preservation of wildlife habitat, especially for elk.</li><li>• ZD Land &amp; Cattle does not object to leasing, but will pursue all appropriate measures to comply with conservation easement.</li></ul>
Casdorf Holdings, LLC; Tyler Mountain, LLC; Wingspread West, LLC; McGee Resources, LLC, by Whit Stolz	5904, 5934, 5935, 5936	<ul style="list-style-type: none"><li>• Parcels contain active lek sites, historic habitat, production area, brood area and winter range for sage grouse.</li><li>• Parcels contain big game habitat, winter range and migration corridors.</li><li>• Primary water source from wells and springs and ground water from surrounding creeks which all could be contaminated from drilling.</li><li>• Parcels are used for guided hunting which could be impacted if there is a detrimental impact to wildlife.</li></ul>
Rebecca Guthrie	5907	<ul style="list-style-type: none"><li>• Parcel is intended for a single family residence and concerned about contaminated water well.</li><li>• Parcels are home to big game and sage grouse.</li></ul>
Colorado Cattlemen's Agricultural Land Trust, Chris West, Executive	5904	<ul style="list-style-type: none"><li>• Parcel is covered by a conservation easement that requires any mineral extraction which occurs on the property to</li></ul>

Director		ensure the property is not irretrievably destructive of significant conservation interests, has a limited localized impact and that all facilities be concealed with existing topography.
Bob and Susie Bergman	5907	<ul style="list-style-type: none"> <li>Parcel is intended for a single family residence and concerned about contaminated water well.</li> <li>Drilling would ruin privacy, view and wildlife habitat.</li> </ul>
Jack Treece	5936	<ul style="list-style-type: none"> <li>BLM should defer all parcels until the revision of their Resource Management Plan is completed.</li> <li>Parcel contains wilderness characteristics and Wild Lands policy should protect those characteristics by not allowing drilling.</li> <li>Parcel contains extensive riparian area with springs, wetlands, ponds and high water table.</li> <li>Drilling will destroy scenic view.</li> </ul>
Dave Hammer	5936, 5937, 5938	<ul style="list-style-type: none"> <li>Visual impacts depending on location of drilling.</li> <li>Parcels contain sage grouse habitat and active leks.</li> <li>Parcels contain wildlife winter range.</li> </ul>
Aspen Hills Ranch, Patrick L. Miller, General Counsel	5907	<ul style="list-style-type: none"> <li>Parcel contains wildlife habitat and migration area.</li> <li>Parcel contains Possible of T&amp;E species, both wildlife and plant.</li> <li>Parcel contains historical sage grouse habitat.</li> <li>Substantial investment in property for hunting that could be affected by detrimental effects to wildlife.</li> <li>Concern about environmental effects from pollutants into creeks, streams, rivers and lakes.</li> </ul>
Grand County, Board of Commissioners	All Grand County Parcels	<ul style="list-style-type: none"> <li>Water resources are critical to the ranching and fishing economy in county. Concern regarding availability of water to support the current populations and tourism sector.</li> <li>BLM should not take actions that will limit the choice of alternatives during an RMP revision.</li> <li>Drilling would impact wildlife, especially</li> </ul>

		<p>sage grouse.</p> <ul style="list-style-type: none"> <li>• Drilling could impact wetlands and therefore impact many threatened and endangered species.</li> <li>• BLM cannot support leasing parcels under conservation easements or parcels with wilderness characteristics or habitat for sage grouse and big game.</li> <li>• According to the conservation easement, “No sub-surface or other exploration or extraction of oil, gas, rock, gravel, sand or other minerals, including the lease, sale or other disposition of the rights to such material may impair or result in the destruction of the Conservation values”.</li> <li>• County wants the proposed leases to be delayed in order for the county to amend current regulations in preparation for this type of industrial application to fund the increased traffic on their road system.</li> <li>•</li> </ul>
Colorado Division of Wildlife	All Grand County Parcels	<ul style="list-style-type: none"> <li>• Significant numbers of parcels are covered by conservation easements to protect wildlife.</li> <li>• Critical wildlife habitat, migration corridors and winter range.</li> <li>• Greater sage-grouse production area, bro</li> </ul>
Double R Ranch, LLLP (Tointon Ranches, LLC)	5948	<ul style="list-style-type: none"> <li>• Conservation Easement with Nature Conservancy.</li> </ul>
Tim Thomson	5904	<ul style="list-style-type: none"> <li>• Sent maps showing sage grouse habitat.</li> </ul>
Town of Kremmling	All Grand County parcels	<ul style="list-style-type: none"> <li>• The town feels all agencies involved in the oil and gas industry have sufficient safeguards to ensure the protection of wildlife and water quality.</li> <li>• Town supports retrieval of resources at home rather than abroad.</li> <li>• Sale of parcels will help economy in the area.</li> <li>• Recreation should not be prioritized to the exclusion of mineral development.</li> </ul>
Ed Perlmutter	5904, 5934, 5935, 5936	<ul style="list-style-type: none"> <li>• Concerned of potential for significant adverse impacts on natural and wildlife resources.</li> <li>• Concern for watershed.</li> </ul>

Davis and Ceriani	5904	<ul style="list-style-type: none"><li>• Requested names and addresses of all persons who were sent notices regarding the EA.</li><li>• Requested comments and protests on the EA</li><li>• Requested copy of documents related to nomination of parcel.</li></ul>
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## APPENDIX 4

### SUMMARY COMMENTS FROM THE PUBLIC'S REVIEW OF THE ENVIRONMENTAL ASSESSMENT.

Commentor	Parcel(s) Involved	Comments
David Holmes		<ul style="list-style-type: none"> <li>Contamination of well water concern.</li> </ul>
Rebecca Guthrie 3/10/11 3/24/11	5907	<ul style="list-style-type: none"> <li>Sage grouse concerns, believes leks occur outside of core areas.</li> <li>Why was majority of public land deferred?</li> </ul>
Susie Bergman, via Kremmling Chamber of Commerce		<ul style="list-style-type: none"> <li>Resource Management Plan is outdated.</li> </ul>
Jeff Roberts		<ul style="list-style-type: none"> <li>Asked for detailed map.</li> </ul>
Gary Miller		<ul style="list-style-type: none"> <li>Concerned about the opposition to oil and gas leasing due to the state of national affairs.</li> </ul>
Davis & Ceriani 3/22/2011	5904	<ul style="list-style-type: none"> <li>No visual inspection of the parcel.</li> <li>Sage grouse habitat is based on arbitrary boundaries.</li> <li>Outdated RMP and stipulations.</li> <li>Water resource impacts from development.</li> <li>Wildlife impacts from development.</li> <li>No minerals exist for that parcel according to personal mineral report.</li> </ul>
Bull Basin Outfitters Dean Billington	5904 & 5935	<ul style="list-style-type: none"> <li>Significant wildlife habitat.</li> <li>Impacts to outfitting business.</li> <li>These parcels have habitat improvements that would be destroyed by drilling.</li> </ul>
Bob Timberman, Partners for Fish and Wildlife Program	5904 & 5935	<ul style="list-style-type: none"> <li>Counter-productive to shared goals of improving habitat for federal trust species and sage grouse.</li> </ul>
Mark Volt, NRCS	5904 & 5935	<ul style="list-style-type: none"> <li>Large amount of money spent on Conservation Program Contracts.</li> <li>Developments would undermine some of the conservation efforts to protect water, soil, wildlife and sage grouse.</li> </ul>
Samijeane Lechman		<ul style="list-style-type: none"> <li>Who determines what is acceptable for excessive use of land?</li> <li>How do conservation easements play a role in mineral leasing?</li> <li>Disturbance of poor soil conditions.</li> <li>Against destruction of land for personal gain.</li> </ul>
Glenda Hill 2 letters		<ul style="list-style-type: none"> <li>Same as above.</li> <li>Property value losses would occur due to development.</li> <li>Studies show gas wells causing health problems.</li> <li>Quality rangeland number one priority.</li> </ul>

Nellie Thomson	5904 & 5935	<ul style="list-style-type: none"> <li>• Beauty of land would be destroyed.</li> </ul>
Tim Thomson	5904 & 5935	<ul style="list-style-type: none"> <li>• Irreparable damage to natural resources.</li> <li>• Would destroy improvements made in water conservation.</li> <li>• Area provides critical breeding habitat, summer and winter concentration areas and major migration corridor for wildlife.</li> <li>• Leopard Frogs exist on parcels.</li> <li>• Sensitive raptor species occur on parcels.</li> <li>• Historical lek sites and increased number of sage grouse occur on parcels.</li> <li>• DOW and BLM maps do not accurately show the full extent of critical sage grouse habitat.</li> <li>• Impact to water resources.</li> <li>• Scenic beauty and visual resources would be impacted.</li> <li>• Increased noise, air pollution and other contamination would occur.</li> <li>• Dire consequences on community and businesses that are dependent on the natural resources of the ranch.</li> </ul>
Caitlyn Taussig		<ul style="list-style-type: none"> <li>• Scenic value reduced.</li> <li>• Contamination of water resources could occur.</li> <li>• Stress on wildlife species would occur.</li> <li>• Property value losses.</li> </ul>
Susan & Thomas Duncan		<ul style="list-style-type: none"> <li>• Damage to water resources would occur.</li> <li>• BLM has a lack of regard for wildlife species.</li> <li>• Scenic views destroyed</li> </ul>
Paul Menhennett	5904 & 5935	<ul style="list-style-type: none"> <li>• Critical wildlife habitat.</li> <li>• Great water resources and wetlands occur on parcels.</li> <li>• Larger concentration of sage grouse than BLM shows.</li> <li>• Impact of outfitting business and agricultural business in county.</li> </ul>
Law Office of Paul Zogg	5904 & 5935	<ul style="list-style-type: none"> <li>• Threats to sage grouse, old information on numbers and poor maps.</li> <li>• Threats to wildlife.</li> <li>• Surface and groundwater quality concerns.</li> <li>• Air quality concerns.</li> <li>• EA does not look at impacts from development.</li> <li>• Did not confer with U.S.F. &amp;W.S.</li> <li>• Concern of hydraulic fracking.</li> <li>• BLM has wide discretion to defer leases.</li> <li>• No site specific analysis or visits.</li> <li>• NEPA did not take a hard look at environmental impacts, based on reasonable forecasting of likely impacts and rigorous consideration of reasonable alternatives.</li> <li>• Old RMP. Oil and gas leasing is inconsistent with</li> </ul>

		<p>priorities in RMP.</p> <ul style="list-style-type: none"> <li>• Leasing inconsistent with Conservation Plan for Greater Sage-grouse for Middle Park.</li> <li>• New oil and gas development technologies not considered in EA.</li> <li>• Visual concerns.</li> <li>• Economic impact to ranch from outfitters.</li> <li>• Economic impact to community from loss of tourists due to noise and development.</li> <li>• Failure to consider reasonable alternatives i.e.: no surface occupancy or “green” fracking.</li> <li>• Should allow County to address oil and gas activities.</li> <li>• Ignored federal Endangered Species Act.</li> <li>• Sensitive species on these parcels.</li> <li>• Stipulations inadequate.</li> </ul>
Center for Native Ecosystems	All	<ul style="list-style-type: none"> <li>• Energy development has severe impacts on sage grouse leks, nesting habitat, breeding habitat, wintering habitat and brood-rearing habitat.</li> <li>• BLM should be applying at least a 0.6 mile buffer in core areas.</li> <li>• Need to develop a range of alternatives for oil and gas development and to develop and analyze the likely effectiveness of lease notices and stipulations.</li> <li>• BLM has failed to consider an alternative to maximize conservation of sagebrush and sage-grouse habitat in the RMP to which the proposed leasing is tiered.</li> <li>• Need to consider studies that show effects of human activities that have caused heavy loss and fragmentation and degradation of sagebrush ecosystem, and the effects of the species that rely on sagebrush habitat.</li> <li>• BLM has not considered setting aside key habitat from oil and gas development, has not adequately analyzed cumulative impacts of oil and gas development and continues to use mitigation measures that have been demonstrated to be ineffective.</li> <li>• BLM should consider the best available science and research on greater sage-grouse in determining whether or not to lease the area for energy development and what protective measures to apply.</li> <li>• Section 7 consultation should be conducted with the FWS prior to leasing parcels that overlap with occurrences of the North Park phacelia.</li> <li>• BLM should avoid parcels that overlap active colonies of the white tailed prairie dog.</li> <li>• BLM did not apply a NSO to protect lynx habitat, prepare any NEPA analysis of the impacts of leasing on Canada lynx and did not complete required Section 7</li> </ul>

		<p>consultation prior to deciding to lease parcels in lynx habitat.</p> <ul style="list-style-type: none"> <li>• BLM should refrain from offering lease parcels in Grand County until the parcels are modified or withdrawn to the satisfaction of the Grand County Commissioners.</li> <li>• BLM should look at a reasonable foreseeable development scenario for air quality and green house emissions during the leasing process.</li> <li>• BLM failed to analyze the impacts of connected actions, i.e., pipelines, transportation.</li> <li>• BLM should not defer analysis of environmental impacts until the APD.</li> </ul>
Rebecca Watson	5904 & 5935	<ul style="list-style-type: none"> <li>• BLM has failed to comply with BLM IM 2010-117, “Oil and Gas Leasing Reform-LUP and Lease Parcel Reviews”, nor IM 2010-071 “Gunnison and Greater Sage-grouse Management Considerations of Energy Development”.</li> <li>• BLM has not conducted a site visit to these parcels which are in an undeveloped area as required by the Leasing Reform IM.</li> <li>• BLM has not exercised the discretion provided to it in the Sage-grouse IM to defer leasing in priority sage-grouse habitat.</li> <li>• Do not believe the proposed lease sale is in conformity with an adequate RMP decision and stipulations in such an outdated document will not adequately address anticipated oil and gas impacts. SO has discretion to temporarily defer leasing on specific tracts of land based on information under review during planning.</li> <li>• The EA does not take the required “hard look” at impacts to the environment from the lease sale.</li> <li>• The IDPR Team did not include other federal agencies or state and local agencies as per Secretary’s leasing reforms.</li> <li>• In undeveloped area, non-mineral resource values (water quality, wildlife, visual, etc.) are greater than potential mineral development values.</li> <li>• Stipulations constraints in existing or proposed leases make access to and/or development of the parcel or adjacent parcels operationally infeasible.</li> <li>• Parcel configurations would lead to unacceptable impacts to resources on the parcels or on surrounding lands and cannot be remedied by reconfiguring.</li> <li>• The topographic, soils, and hydrological properties of the surface will not allow successful final landform restoration and revegetation.</li> <li>• Construction and use of new access roads or upgrading existing access roads to an isolated parcel would have</li> </ul>

		<p>unacceptable impacts to important resource values.</p> <ul style="list-style-type: none"> <li>• Sending a letter to tribes that may have an interest in the area is not in compliance with applicable law, regulation and policies (Exec Order 13175).</li> <li>• Mapping of sage grouse habitat incorrect.</li> <li>• Developing the proposed leases will negatively influence the sage grouse population reliant on habitats surrounding the active lek. Breeding, nesting, early brood-rearing and late brood rearing/summering and wintering habitats may be directly impacted by development.</li> <li>• EA does not adequately discuss the impacts of oil and gas development on recreation.</li> <li>• DOW believes these parcels to be the “most important unleased wildlife habitats remaining”.</li> <li>• Water resources and wetland impacts were not considered in the EA.</li> <li>• Socio-economic impacts were not considered.</li> <li>• Impacts to T&amp;E species unknown on the private land were not considered as there was not site visit.</li> <li>• Air quality, noise and unstable soils were not adequately considered in the EA.</li> <li>• The Leasing Reform IM is meant to focus consideration of direct, indirect and cumulative effects at an early stage not at the development stage.</li> </ul>
Tom and Linda Hill 3/22/2011		<ul style="list-style-type: none"> <li>• Same comments as Davis &amp; Ceriani, Law Office of Paul Zogg and Rebecca Watson.</li> </ul>
Colorado River District	5904, 5907 & 5935	<ul style="list-style-type: none"> <li>• Surface disturbances associated with oil and gas development could impact water quality at Wolford Mountain Reservoir by increasing surface runoff, erosion, sedimentation, and an increase in salt loading.</li> <li>• Oil and gas operations that produce tributary ground water could injure River District and its constituents vested water rights</li> <li>• Concern with location of parcels and potential for petroleum or chemical release that could impact water quality at reservoir and reservoir’s downstream beneficiaries.</li> <li>• Parcels located near Deer Creek, Red Dirt Creek and Pass Creek all flow directly into Wolford Mountain Reservoir.</li> </ul>
Kurt Peters		<ul style="list-style-type: none"> <li>• Concern about water quality.</li> </ul>
Gail Van Gundy & William Sheeder		<ul style="list-style-type: none"> <li>• Concern about habitat destruction.</li> <li>• Concern about water quality.</li> <li>• Who are the drillers and will they be given government subsidies.</li> <li>• What are the contingency plans if something goes wrong and is there any recourse against the drilling companies.</li> </ul>

Eldon Holland		<ul style="list-style-type: none"> <li>• Hydrofracking should not be allowed due to potential damage to well water.</li> <li>• Concern about watershed damage.</li> <li>• Concern about view and noise of industrial uses.</li> <li>• Concern about decrease of private property values.</li> </ul>
Gretchen Schrader	5907	<ul style="list-style-type: none"> <li>• Strong opposition of leasing oil and gas parcels in Grand County.</li> </ul>

**Attachment A**  
**Pre- EA Parcels Nominated for Leasing with Proposed Stipulations**  
**August 2011 – Colorado Competitive Oil & Gas Lease Sale**

**PARCEL ID: 5903:**

T. 0020N., R 0790W., 6TH PM  
Sec. 5: Lot 1,5-8;  
Sec. 5: S2NE,W2SW,S2SE;  
Sec. 6: SENE,E2SE;  
Sec. 7: SENE,E2SE;  
Sec. 8: SENE,W2,E2SE;

Grand County  
Colorado 1093.660 Acres

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

The following lands are subject to Exhibit CO-15 to protect grouse winter habitat:

T. 0020N., R 0790W., 6TH PM  
Sec. 8: S2SW;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0020N., R 0790W., 6TH PM  
Sec. 5: Lot 1;  
Sec. 6: SENE,E2SE;  
Sec. 8: SW,E2SE;

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; CDO: KRA

**PARCEL ID: 5946:**

T. 0080N., R 0800W., 6TH PM  
Sec. 15: SWNW;

Jackson County  
Colorado 40.000 Acres

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

All lands are subject to Exhibit CO-30 to alert lessee of closure period for nesting grouse species.  
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; CDO: KRA

**PARCEL ID: 5948:**

T. 0090N., R 0800W., 6TH PM  
Sec. 2: Lot 1-4;  
Sec. 2: S2N2,S2;  
Sec. 3: SENE,E2SW,SE;  
Sec. 4: Lot 4;  
Sec. 4: SWNW;  
Sec. 10: ALL;  
Sec. 11: ALL;

Jackson County  
Colorado 2277.720 Acres

The following lands are subject to Exhibit CO-03 to protect raptor nests:

T. 0090N., R 0800W., 6TH PM  
Sec. 3: E2SW,W2SE;  
Sec. 10: NWNE,N2NW;

The following lands are subject to Exhibit CO-08 to protect special status plant species:

T. 0090N., R 0800W., 6TH PM  
Sec. 2: Lot 1-4;  
Sec. 2: S2N2,S2;  
Sec. 3: SENE,E2SW,SE;  
Sec. 10: ALL;  
Sec. 11: N2NE,NENW,W2W2;

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

The following lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat:

T. 0090N., R 0800W., 6TH PM  
Sec. 3: SENE,E2SW,SE;  
Sec. 10: NWNE,NW;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0090N., R 0800W., 6TH PM  
Sec. 2: Lot 3,4;  
Sec. 3: SENE,E2SE;  
Sec. 4: SWNW;  
Sec. 10: NWNW,NESE,S2SE;  
Sec. 11: NE,NENW,S2NW;  
Sec. 11: NWSW,W2SE;

The following lands are subject to Exhibit CO-30 to alert lessee of closure period for nesting grouse species:

T. 0090N., R 0800W., 6TH PM  
Sec. 2: SESW,SE;  
Sec. 4: Lot 4;  
Sec. 4: SWNW;

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;BLM; CDO: KRA

**PARCEL ID: 5949:**

T. 0090N., R 0800W., 6TH PM

Sec. 14: ALL;

Sec. 15: ALL;

Sec. 17: N2NE;

Jackson County

Colorado 1360.000 Acres

The following lands are subject to Exhibit CO-08 to protect special status plant species:

T. 0090N., R 0800W., 6TH PM

Sec. 14: NWNW;

Sec. 15: N2,N2S2,SWSW;

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0090N., R 0800W., 6TH PM

Sec. 14: ALL;

Sec. 15: ALL;

All lands are subject to Exhibit CO-15 to protect grouse winter habitat.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0090N., R 0800W., 6TH PM

Sec. 14: NWSW,NESE,S2SE;

Sec. 14: NWNE,SENE,NENW,S2NW;

Sec. 15: N2SE;

The following lands are subject to Exhibit CO-30 to alert lessee of closure period for nesting grouse species:

T. 0090N., R 0800W., 6TH PM

Sec. 14: NE,NENW,S2NW,S2;

Sec. 15: S2NE,SENW,S2;

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; CDO: KRA

**PARCEL ID: 5951**

T. 0090N., R 0800W., 6TH PM  
Sec. 22: ALL;  
Sec. 23: ALL;  
Sec. 27: ALL;  
Sec. 34: ALL;

Jackson County  
Colorado 2560.000 Acres

The following lands are subject to Exhibit CO-02 to protect grouse dancing grounds:

T. 0090N., R 0800W., 6TH PM  
Sec. 22: NE,NESE,S2SE;  
Sec. 23: SWNW,W2SW;

The following lands are subject to Exhibit CO-08 to protect special status plant species:

T. 0090N., R 0800W., 6TH PM  
Sec. 22: W2W2;  
Sec. 27: W2NW,NWSW;

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0090N., R 0800W., 6TH PM  
Sec. 22: ALL;  
Sec. 23: ALL;  
Sec. 27: ALL;  
Sec. 34: ALL;

The following lands are subject to Exhibit CO-15 to protect grouse winter habitat:

T. 0090N., R 0800W., 6TH PM  
Sec. 23: W2NE,SENE,W2,SE;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0090N., R 0800W., 6TH PM  
Sec. 22: S2NE,SE;  
Sec. 23: S2;  
Sec. 23: W2NE,SENE,N2NW,SWNW;  
Sec. 27: N2NE,NENW,N2S2,SESE;  
Sec. 34: NE,S2NW;  
Sec. 34: W2SW,SESW,W2SE;;

The following lands are subject to Exhibit CO-30 to alert lessee of closure period for nesting grouse species:

T. 0090N., R 0800W., 6TH PM  
Sec. 22: ALL;  
Sec. 23: ALL;  
Sec. 27: N2,N2SW,SE;

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.

The following lands are subject to Exhibit KR-02 to protect endangered plants of the North Park Phacelia Area of Critical Environmental Concern:

T. 0090N., R 0800W., 6TH PM  
Sec. 22: W2NW,NWSW;  
Sec. 22: W2W2;

BLM; CDO: KRA

**PARCEL ID: 5954:**

T. 0090N., R 0800W., 6TH PM  
Sec. 20: N2NW,SWNW;  
Sec. 21: E2E2,SWSE;  
Sec. 28: NE,NENW,S2NW,S2;  
Sec. 32: N2NE,SENE,SWNW,SE;  
Sec. 33: ALL;

Jackson County  
Colorado 1880.000 Acres

The following lands are subject to Exhibit CO-02 to protect grouse dancing grounds:

T. 0090N., R 0800W., 6TH PM  
Sec. 28: NE;

The following lands are subject to Exhibit CO-08 to protect special status plant species:

T. 0090N., R 0800W., 6TH PM  
Sec. 21: E2E2,SWSE;  
Sec. 28: NE,NENW,S2NW,S2;  
Sec. 32: N2NE,SENE,SE;  
Sec. 33: ALL;

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0090N., R 0800W., 6TH PM  
Sec. 21: E2E2SWSE;  
Sec. 28: NE,NENW,S2NW,S2;  
Sec. 32: N2NE,SENE,SE;  
Sec. 33: ALL;

The following lands are subject to Exhibit CO-15 to protect grouse winter habitat:

T. 0090N., R 0800W., 6TH PM  
Sec. 20: N2NW,SWNW;  
Sec. 21: SENE,NESE,S2SE;  
Sec. 28: NE,NENW;

The following lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat:

T. 0090N., R 0800W., 6TH PM  
Sec. 32: N2NE,SWNW;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0090N., R 0800W., 6TH PM  
Sec. 28: SWNW,W2SW;  
Sec. 33: W2NW,NWSW,SESE;

The following lands are subject to Exhibit CO-30 to alert lessee of closure period for nesting grouse species:

T. 0090N., R 0800W., 6TH PM  
Sec. 21: E2E2,SWSE;  
Sec. 28: NE,NENW;

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.

The following lands are subject to Exhibit KR-02 to protect endangered plants of the North Park Phacelia Area of Critical Environmental Concern:

T. 0090N., R 0800W., 6TH PM  
Sec. 21: E2E2,SWSE;  
Sec. 28: N2NE;

PVT/BLM;BLM; CDO: KRA

**PARCEL ID: 5957:**

T. 0100N., R 0800W., 6TH PM  
Sec. 10: SENW,W2SE;  
Sec. 15: W2SE;

Jackson County  
Colorado 200.000 Acres

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

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0100N., R 0800W., 6TH PM  
Sec. 10: SWSE;  
Sec. 15: NWSE;

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; CDO: KRA

**PARCEL ID: 5904:**

T. 0020N., R 0810W., 6TH PM  
Sec. 5: Lot 5-8,10,13,14;  
Sec. 6: Lot 8-19;  
Sec. 7: Lot 1-4;

Sec. 7: NE,E2W2,N2SE,SWSE;

Grand County

Colorado 1192.920 Acres

The following lands are subject to Exhibit CO-08 to protect special status plant species:

T. 0020N., R 0810W., 6TH PM  
Sec. 5: Lot 5;

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0020N., R 0810W., 6TH PM  
Sec. 5: Lot 5-8,10,13,14;  
Sec. 6: Lot 8-19;  
Sec. 7: Lot 1-3;  
Sec. 7: NE,E2W2,N2SE,SWSE;

The following lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat:

T. 0020N., R 0810W., 6TH PM  
Sec. 5: Lot 7,8,10;  
Sec. 6: Lot 8,9,14,15;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0020N., R 0810W., 6TH PM  
Sec. 7: Lot 2,3;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0020N., R 0810W., 6TH PM  
Sec. 7: Lot 2,4;  
Sec. 7: NENW;

The following lands are subject to Exhibit CO-30 to alert lessee of closure period for nesting grouse species:

T. 0020N., R 0810W., 6TH PM  
Sec. 5: Lot 5;

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; CDO: KRA

**PARCEL ID: 5907:**

T. 0020N., R 0810W., 6TH PM  
Sec. 15: E2NE,S2;  
Sec. 17: ALL;  
Sec. 18: Lot 1,2;  
Sec. 18: E2,E2NW;

Grand County  
Colorado 1526.320 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0020N., R 0810W., 6TH PM  
Sec. 15: E2NE,S2;  
Sec. 17: ALL;  
Sec. 18: E2,E2NW;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0020N., R 0810W., 6TH PM  
Sec. 15: E2NE;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0020N., R 0810W., 6TH PM  
Sec. 18: Lot 1;

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; CDO: KRA

**PARCEL ID: 5934:**

T. 0030N., R 0810W., 6TH PM  
Sec. 21: N2,N2SW;  
Sec. 22: W2NW,SENE,SW;  
Sec. 28: S2SW;  
Sec. 33: Lot 3-6,11;

Grand County  
Colorado 940.490 Acres

The following lands are subject to Exhibit CO-02 to protect grouse dancing grounds:

T. 0030N., R 0810W., 6TH PM  
Sec. 28: S2SW;  
Sec. 33: Lot 3-6;

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

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0030N., R 0810W., 6TH PM  
Sec. 22: S2SW;  
Sec. 33: Lot 3;

The following lands are subject to Exhibit CO-30 to alert lessee of closure period for nesting grouse species:

T. 0030N., R 0810W., 6TH PM

Sec. 28: S2SW;  
Sec. 33: Lot 3-6,11;

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; CDO: KRA

**PARCEL ID: 5935:**

T. 0030N., R 0810W., 6TH PM  
Sec. 29: SENE,W2E2,W2;  
Sec. 30: Lot 1-4;  
Sec. 30: E2,E2W2;  
Sec. 31: Lot 1-4;  
Sec. 31: E2,E2W2;  
Sec. 32: Lot 1-14;

Grand County  
Colorado 2372.140 Acres

The following lands are subject to Exhibit CO-03 to protect raptor nests:

T. 0030N., R 0810W., 6TH PM  
Sec. 31: SWNE;

The following lands are subject to Exhibit CO-08 to protect special status plant species:

T. 0030N., R 0810W., 6TH PM  
Sec. 32: Lot 14;

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

The following lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat:

T. 0030N., R 0810W., 6TH PM  
Sec. 31: Lot 1-4;  
Sec. 31: E2,E2W2;  
Sec. 32: Lot 5,11,12;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0030N., R 0810W., 6TH PM  
Sec. 30: Lot 4;  
Sec. 31: Lot 1-4;  
Sec. 31: SESW,SWSE;

The following lands are subject to Exhibit CO-30 to alert lessee of closure period for nesting grouse species:

T. 0030N., R 0810W., 6TH PM  
Sec. 29: W2E2,SENE,SENW,SW;  
Sec. 32: Lot 1-11,13,14;

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; CDO: KRA

**PARCEL ID: 5936:**

T. 0030N., R 0810W., 6TH PM  
Sec. 17: SW,N2SE,SWSE;  
Sec. 17: NE,N2NW,SENW;  
Sec. 18: Lot 1,3,4;  
Sec. 18: E2,E2W2;  
Sec. 19: Lot 1-4;  
Sec. 19: E2,E2W2;  
Sec. 20: W2;

Grand County  
Colorado 2129.820 Acres

The following lands are subject to Exhibit CO-02 to protect grouse dancing grounds:

T. 0030N., R 0810W., 6TH PM  
Sec. 17: NE;

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0030N., R 0810W., 6TH PM  
Sec. 17: NE,N2NW,SWNW,SW;  
Sec. 17: N2SE,SWSE;  
Sec. 18: Lot 1,3,4;  
Sec. 18: E2,E2W2;  
Sec. 19: Lot 1-4;  
Sec. 19: E2,E2W2;  
Sec. 20: W2;

The following lands are subject to Exhibit CO-30 to alert lessee of closure period for nesting grouse species:

T. 0030N., R 0810W., 6TH PM  
Sec. 17: NE,N2NW,SENW;  
Sec. 17: N2S2,SESW,SWSE;  
Sec. 18: NE,NESE;

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; CDO: KRA

**PARCEL ID: 5937:**

T. 0030N., R 0810W., 6TH PM  
Sec. 5: Lot 1-3;  
Sec. 5: S2N2,S2;

Sec. 6: NESE,S2SE;  
Sec. 7: Lot 2;  
Sec. 7: E2,SENE,E2SW;  
Sec. 8: ALL;

Grand County  
Colorado 1836.300 Acres

The following lands are subject to Exhibit CO-02 to protect grouse dancing grounds:

T. 0030N., R 0810W., 6TH PM  
Sec. 8: SE;

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0030N., R 0810W., 6TH PM  
Sec. 5: Lot 1-3;  
Sec. 5: S2N2,S2;  
Sec. 6: NESE,S2SE;  
Sec. 7: Lot 2;  
Sec. 7: E2,SENE,E2SW;  
Sec. 8: ALL;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0030N., R 0810W., 6TH PM  
Sec. 8: SWSE;

The following lands are subject to Exhibit CO-30 to alert lessee of closure period for nesting grouse species:

T. 0030N., R 0810W., 6TH PM  
Sec. 5: S2S2,NESE;  
Sec. 7: NENE,S2NE,SE;  
Sec. 8: E2,SENE,NESW;

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; CDO: KRA

**PARCEL ID: 5938:**

T. 0030N., R 0810W., 6TH PM  
Sec. 4: SW,W2SE,SESE;  
Sec. 9: N2,S2S2,NESE;  
Sec. 10: NENW,NWSW,S2SW,SESE;  
Sec. 14: E2SW;  
Sec. 15: NE,N2SE;

Grand County  
Colorado 1320.000 Acres

The following lands are subject to Exhibit CO-02 to protect grouse dancing grounds:

T. 0030N., R 0810W., 6TH PM  
Sec. 9: S2NE,E2SE,SWSE;  
Sec. 10: NWSW;

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0030N., R 0810W., 6TH PM  
Sec. 4: SW,W2SE,SESE;  
Sec. 9: N2,S2S2,NESE;  
Sec. 10: NENW,W2SW,SESW,SESE;  
Sec. 14: E2SW;  
Sec. 15: NE,N2SE;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0030N., R 0810W., 6TH PM  
Sec. 4: S2SE;

The following lands are subject to Exhibit CO-30 to alert lessee of closure period for nesting grouse species:

T. 0030N., R 0810W., 6TH PM  
Sec. 4: SW,W2SE,SESE;  
Sec. 9: N2,S2S2,NESE;  
Sec. 10: NENW,W2SW,SESW,SESE;  
Sec. 15: NE,NWSE;

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; CDO: KRA

**Attachment B Parcels Recommended for Deferral from Leasing,  
August 2011 - Colorado Competitive Oil & Gas Lease Sale**

**Defer All of PARCEL ID: 5946:**

T. 0080N., R 0800W., 6TH PM      Parcel deferred to protect proposed Wildlife Core Area  
Sec. 15: SWNW;

Jackson County  
Colorado            40.000 Acres

**Defer All of PARCEL ID: 5948:**

T. 0090N., R 0800W., 6TH PM      Parcel deferred to protect Sage Grouse Core Area  
Sec. 2: Lot 1-4;  
Sec. 2: S2N2,S2;  
Sec. 3: SENE,E2SW,SE;  
Sec. 4: Lot 4;  
Sec. 4: SWNW;  
Sec. 10: ALL;                      Defer to protect proposed Wildlife Core Area and Sage Grouse dancing ground  
Sec. 11: ALL;                      Defer to protect proposed Wildlife Core Area and Sage Grouse dancing ground

Jackson County  
Colorado            2277.720 Acres

**Defer All of PARCEL ID: 5949:**

T. 0090N., R 0800W., 6TH PM      Parcel deferred to protect Sage Grouse Core Area  
Sec. 14: ALL;                      Defer to protect proposed Wildlife Core Area and Sage Grouse dancing ground  
Sec. 15: ALL;                      Defer to protect proposed Wildlife Core Area and Sage Grouse dancing ground  
Sec. 17: N2NE;

Jackson County  
Colorado            1360.000 Acres

**Defer All of PARCEL ID: 5951:**

T. 0090N., R 0800W., 6TH PM      Parcel deferred to protect Sage Grouse Core Area and proposed  
Wildlife Core Area  
Sec. 22: ALL;  
Sec. 23: ALL;  
Sec. 27: ALL;  
Sec. 34: ALL;

Jackson County  
Colorado            2560.000 Acres

**Defer ALL of PARCEL ID: 5954:**

T. 0090N., R 0800W., 6TH PM	
Sec. 20: N2NW,SWNW;	Defer to protect proposed Sage Grouse Core Area
Sec. 21: E2E2,SWSE;	Defer to protect proposed Sage Grouse Core Area and Wildlife Core Area
Sec. 28: NE,NENW,S2NW,S2;	Defer to protect proposed Sage Grouse Core Area and Wildlife Core Area
Sec. 32: N2NE,SENE,SWNW,SE;	Defer to protect proposed Sage Grouse Core Area and Wildlife Core Area. In Floodplain of North Platte River - NSO
Sec. 33: ALL;	Defer to protect proposed Sage Grouse Core Area and Wildlife Core Area

Jackson County  
Colorado           1880.000 Acres

**Defer All of PARCEL ID: 5957:**

T. 0100N., R 0800W., 6TH PM	Defer to protect proposed Sage Grouse Core Area	Sec. 10: SENW,W2SE;
Sec. 15: W2SE;		

Jackson County  
Colorado           200.000 Acres

**Defer All of PARCEL ID: 5904:**

T. 0020N., R 0810W., 6TH PM	
Sec. 5: Lot 5-8,10,13,14;	Defer to protect proposed Sage Grouse Core Area
Sec. 6: Lot 8-19;	Defer to ensure time to respond to comments on EA
Sec. 7: Lot 1-4;	Defer to ensure time to respond to comments on EA
Sec. 7: NE,E2W2,N2SE,SWSE;	Defer to ensure time to respond to comments on EA

Grand County  
Colorado           1192.92 Acres

**Defer All of PARCEL ID: 5907:**

T. 0020N., R 0810W., 6TH PM	
Sec. 15: E2NE,S2;	Defer to protect proposed Sage Grouse Core Area
Sec. 17: ALL;	Defer to protect proposed Sage Grouse Core Area
Sec. 18: Lot 1,2;	Defer to ensure time to respond to comments on EA
Sec. 18: E2,E2NW;	Defer to ensure time to respond to comments on EA

Grand County  
Colorado           1526.32 Acres

**Defer All of PARCEL ID: 5934:**

T. 0030N., R 0810W., 6TH PM	Parcel deferred to protect proposed Sage Grouse Core Area
Sec. 21: N2,N2SW;	
Sec. 22: W2NW,SENW,SW;	
Sec. 28: S2SW;	
Sec. 33: Lot 3-6,11;	

Grand County  
Colorado           940.490 Acres

**Defer All of PARCEL ID: 5935:**

T. 0030N., R 0810W., 6TH PM  
Sec. 29: SENE,W2E2,W2;  
Sec. 30: Lot 1-4;  
Sec. 30: E2,E2W2;  
Sec. 31: Lot 1-4;  
E2NW, NESW, SESW;  
Sec. 32: Lot 1-14;

Defer to protect proposed Sage Grouse Core Area

Defer to ensure time to respond to comments on EA Sec. 31: E2,

Grand County  
Colorado 2372.14 Acres

**Defer All of PARCEL ID: 5936:**

T. 0030N., R 0810W., 6TH PM  
Sec. 17: SW,N2SE,SWSE;  
Sec. 17: NE,N2NW,SENW;  
Sec. 18: Lot 1,3,4;  
Sec. 18: E2,E2W2;  
Sec. 19: Lot 1-4;  
Sec. 19: E2,E2W2;  
Sec. 20: W2;

Parcel deferred to protect proposed Sage Grouse Core Area

Grand County  
Colorado 2129.820 Acres

**Defer All of PARCEL ID: 5937:**

T. 0030N., R 0810W., 6TH PM  
Sec. 5: Lot 1-3;  
Sec. 5: S2N2,S2;  
Sec. 6: NESE,S2SE;  
Sec. 7: Lot 2;  
Sec. 7: E2,SENW,E2SW;  
Sec. 8: ALL;

Parcel deferred to protect proposed Sage Grouse Core Area

Grand County  
Colorado 1836.300 Acres

**Defer All of PARCEL ID: 5938:**

T. 0030N., R 0810W., 6TH PM  
Sec. 4: SW,W2SE,SESE;  
Sec. 9: N2,S2S2,NESE;  
Sec. 10: NENW,NWSW,S2SW,SESE;  
Sec. 14: E2SW;  
Sec. 15: NE,N2SE;

Parcel deferred to protect proposed Sage Grouse Core Area and Sage Grouse dancing ground

Grand County  
Colorado 1320.000 Acres

**Attachment C**  
**Parcel Recommended for Leasing, With Stipulations**  
**August 2011 - Colorado Competitive Oil & Gas Lease Sale**

**PARCEL ID: 5903:**

T. 0020N., R 0790W., 6TH PM  
Sec. 5: Lot 1,5-8;  
Sec. 5: S2NE,W2SW,S2SE;  
Sec. 6: SENE,E2SE;  
Sec. 7: SENE,E2SE;  
Sec. 8: SENE,W2,E2SE;

Grand County  
Colorado           1093.660 Acres

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

The following lands are subject to Exhibit CO-15 to protect grouse winter habitat:

T. 0020N., R 0790W., 6TH PM  
Sec. 8: S2SW; E2SE

The following private lands are subject to Exhibit CO-27 to protect soil resources:

T. 0020N., R. 0790W., 6<sup>th</sup> PM  
Sec. 5: Lot 1; S2NE; Lot 5; NWSW;  
Sec. 8: NWNW;

The following private lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0020N., R 0790W., 6TH PM  
Sec. 6: SENE;  
Sec. 7: SESE; SENE;  
Sec. 8: N2NW; S2SW; SESE;

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-30 to alert lessee of closure period for nesting grouse species.

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; CDO: KRA

**Attachment D**  
Section 6 of the Standard Lease Terms and Conditions  
and  
Leasing Stipulations for Parcels Recommended for Sale

The lease instrument (contract) has standard lease terms and conditions that are requirements of lessees regarding operation of the lease, including development. Section 6 applies specifically to resource protection. The standard lease terms and conditions, and stipulations applied to a lease, constrain a lease; they are requirements that must be met.

“Sec. 6 Conduct of Operations – Lessee must conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee must take reasonable measures deemed necessary by lessor to accomplish the intent of this section. To the extent consistent with lease rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-way. Such uses must be conditioned to as to prevent unnecessary or unreasonable interference with lease rights.

Prior to disturbing the surface of the leased lands, lessee must contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee must immediately contact lessor. Lessee must cease any operations that would result in the destruction of such species or objects.”

The following leasing stipulations are to be applied to the parcel recommend for sale. The following lease notices are to be applied to the recommended parcel, as well, but serve to inform a lessee of requirements that may be imposed.

**EXHIBIT CO-09**

Lease Number: <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

On the lands described below:

<LEGAL\_DESCRIPTIONS>

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.

## EXHIBIT CO-15

Lease Number: <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 16 through March 15

On the lands described below:

<LEGAL\_DESCRIPTIONS>

For the purpose of (reasons):

To protect grouse (including sage and mountain sharp-tailed grouse, and lesser and greater prairie chickens) crucial winter habitat

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.)

## EXHIBIT CO-18

Lease Number: <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.

February 1 through August 15

On the lands described below:

<LEGAL\_DESCRIPTIONS>

For the purpose of (reasons):

To protect raptor (this includes golden eagles, all accipiters, falcons [except the kestrels], all butteos, and owls) nesting and fledgling habitat during usage for one-quarter mile around the nest site.

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:

Exceptions may be granted during years when the nest site is unoccupied, when occupancy ends by or after May 15, or once the young have fledged and dispersed from the nest.

## EXHIBIT CO-27

Lease Number: <LEASE\_NUMBER>

### CONTROLLED SURFACE USE STIPULATION

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

On the lands described below:

<LEGAL\_DESCRIPTIONS>

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, gullyng, piping, 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.

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.)

## EXHIBIT CO-28

Lease Number: <LEASE\_NUMBER>

### CONTROLLED SURFACE USE STIPULATION

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

On the lands described below:

<LEGAL\_DESCRIPTIONS>

For the purpose of:

To protect perennial water impoundments and streams, and/or riparian/wetland vegetation by moving oil and gas exploration and development beyond the riparian vegetation zone.

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.)

Exception Criteria:

Exceptions may be granted only if an on-site impact analysis shows no degradation of the resource values.

**EXHIBIT CO-29**

Lease Number: <LEASE\_NUMBER>

LEASE NOTICE

An inventory of fossil resources in Class I and II paleontological areas must be performed by an accredited paleontologist approved by the Authorized Officer.

On the lands described below:

<LEGAL\_DESCRIPTIONS>

## EXHIBIT CO-30

Lease Number: <LEASE\_NUMBER>

### LEASE NOTICE

In order to protect nesting grouse species, surface-disturbing activities proposed during the period between March 1 and June 30 will be relocated, consistent with lease rights granted and section 6 of standard lease terms, out of grouse nesting habitat.

Sage grouse nesting habitat is described as sage stands with sagebrush plants between 30 and 100 centimeters in height and a mean canopy cover between 15 and 40 percent.

Greater prairie chicken nesting habitat is described as tall to mid-grass communities with a mean height density index of 5.85 decimeters with 11 percent bare ground and an average height of sandsage at 84 centimeters; grasses 111 centimeters; and forbs 83 centimeters. (Nesting occurs within an average distance of 2.4 km of a lek.)

Lesser prairie chicken nesting habitat is described as short-mid grass and sandsage communities with a mean height density index of 3.5 decimeters with an average grass canopy coverage of 30 percent and 7 percent sandsage. The predominate plant associated with nesting cover is sandsage with an average height of 40-50 centimeters. (Nesting occurs within an average distance of 1.8 km [.2 to 4.8 km] of the lek site.)

Sharptail grouse nesting habitat is described as mountain shrub communities with a density of shrub plants from 1,700 to 32,000 shrubs per hectare and average shrub height of 30 centimeters. Nests are found primarily in shrub clumps where the shrubs are taller than average. (Nesting occurs within an average distance of 2 km of a lek.)

On the lands described below:

<LEGAL\_DESCRIPTIONS>

## EXHIBIT CO-34

Lease Number: <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.

On the lands described below:

<LEGAL\_DESCRIPTIONS>

## EXHIBIT CO-39

Lease Number: <LEASE\_NUMBER>

### CONTROLLED SURFACE USE STIPULATION

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.)

On the lands described below:

<LEGAL\_DESCRIPTIONS>