

**U.S. Department of the Interior
Bureau of Land Management
White River Field Office
220 E Market St
Meeker, CO 81641**

ENVIRONMENTAL ASSESSMENT (EA)

NUMBER: DOI-BLM-CO-110-2011-0056-EA

PROJECT NAME: August 2011 Oil and Gas Lease Sale, White River Field Office

LEGAL DESCRIPTION: Please see Attachments A, B, and C.

APPLICANT: Bureau of Land Management (BLM) Colorado State 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, to make mineral resources available for disposal and to encourage development of mineral resources to meet national, regional, and local needs.

The BLM Colorado State Office conducts a quarterly competitive lease sale to sell available oil and gas lease parcels. A Notice of Competitive Lease Sale (NCLS), which lists lease parcels to be offered at the auction, is published by the BLM State Office at least 90 days before the auction is held. It gives the particulars regarding the conduct of the sale. Lease stipulations applicable to each parcel are specified in the Sale Notice.

In the process of preparing a lease sale, the BLM State Office sends a draft parcel list to each field office where the parcels are located. Field Office staff then review the legal descriptions of the parcels to determine if they are in areas open to leasing, if appropriate stipulations have been included, if new information has become available which might change any analysis conducted during the planning process, if appropriate consultations have been conducted, and if there are any 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 parcels and stipulations is made available to the public through a NCLS.

Lease stipulations are posted on the Colorado BLM website
http://www.blm.gov/co/st/en/BLM_Programs/oilandgas/leasing.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 sale.

The following Environmental Assessment (EA) documents the review of the parcels offered in the August 2011 Competitive Oil and Gas Lease Sale that are under the administration of the White River Field Office (WRFO). It serves to verify conformance with the approved land use

plan and provides the rationale for deferring or dropping parcels from a lease sale as well as providing rationale for attaching additional lease stipulations to specific parcels.

NEED FOR PROPOSED ACTION: The purpose of offering parcels for competitive oil and gas leasing is to allow private individuals or companies to explore and develop oil and gas resources for sale on public markets. The sale of oil and gas leases is needed to meet the “present and future [energy] needs of the American people” 43 U.S.C. § 1702 (c). 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.

PUBLIC SCOPING PROCESS: The EA was posted in the public room and on the National Environmental Policy Act (NEPA) register on the WRFO website for a 30-day public review and comment period which occurred from February 22, 2011 through March 21, 2011.

BACKGROUND: The WRFO encompasses 2.675 million acres of land located in northwestern Colorado, primarily in Rio Blanco County, but also includes a small portion of Garfield and Moffat counties. Approximately 2.2 million acres (83 percent) overlie federal mineral estate. Approximately 1.7 million acres of BLM administered oil and gas mineral estate are available for oil and gas leasing, of which 77 percent are currently under federal oil and gas leases. Nearly 294,899 acres of federal lands, including lands in the National Park System, lands designated as wilderness areas, and BLM wilderness study areas are not available for oil and gas leasing.

The WRFO has a long history of oil and gas drilling and production activity, with over 5,800 wells having been drilled since the early 1920s. Many of those wells are located on the western portion of the WRFO in the Rangely oil field. Extensive natural gas resources exist in the geologic Piceance Basin covering much of the WRFO. The Mesaverde Gas Play area for natural gas is located in the northern Piceance Basin and is characterized by Upper Cretaceous tight gas sand reservoirs occurring in a concentrated area involving 712,190 acres in the central portion of the field office (BLM 2007).

The decision as to which parcels are available for leasing and which stipulations may be applicable is made during the land use planning process. Surface management of split-estate lands overlying federally owned minerals is determined by BLM in consultation with the appropriate surface management agency or the private surface owner.

Twenty-eight parcels were proposed for leasing in the May 2011 Colorado Competitive Oil and Gas Lease Sale and included in the environmental analysis DOI-BLM-CO-110-2010-267-EA, which was open for public comment from November 12, 2010 through December 14, 2010. Of these, five parcels (see Attachment D) were administratively deferred to comply with the Federal Land Policy Management Act which requires BLM to ensure its resource inventory is maintained and current. These parcels were deferred both to allow BLM to take a closer look at these areas and to allow for another comment period in which the evaluation of these parcels could be discussed.

Parcels that were carried over from the proposed May 2011 lease to the proposed August 2011 lease sale were given new parcel numbers. Table 1 identifies how parcels were labeled previously in DOI-BLM-CO-110-2010-0267-EA and in this EA.

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

May 2011 Lease Sale DOI-BLM-CO-110-2010-267- EA	August 2011 Lease Sale DOI-BLM-CO-110-2011-0056- EA
5841	6003
5843	6005
5844	6004
5846	6006
5866	6007

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

PROPOSED ACTION: Five parcels (6003, 6005, 6004, 6006, and 6007; see maps in Attachment D) comprising approximately 8,669.97 acres in the WRFO are proposed for leasing in the August 2011 Colorado Competitive Oil and Gas Lease Sale (see Attachment A for complete legal descriptions). This figure is comprised of 8,149.33 acres of federal land and 520.64 acres of split-estate land. These parcels will be offered at public auction. Following the auction, any unsold parcels could be sold non-competitively. Each lease would be issued subject to stipulations identified in the White River Record of Decision and Approved Resource Management Plan (ROD/RMP). These stipulations are specified in the attached parcel listing (Attachment E). Additional site specific analyses would take place upon submission of individual Applications for Permits to Drill (APD).

NO ACTION ALTERNATIVE: The BLM NEPA Handbook (H-1790-1) states that for Environmental Assessments (EAs) on externally initiated proposed actions, the No Action Alternative generally means that the proposed action would not take place. In the case of a lease sale, this would mean that an expression of interest to lease (parcel nomination) would be denied or rejected.

The No Action Alternative would withdraw the lease parcels from the May 2011 lease sale. The parcels would remain available for inclusion in future lease sales. Surface management would remain the same and ongoing oil and gas development would continue on surrounding private, State, and Federal leases.

No mitigation measures would be required as no new oil and gas development would occur on the unleased lands. No rental or royalty payments would be made to the Federal government. It is not expected that demand would decrease. It is likely that continuing demand would be addressed through production elsewhere.

It is an assumption that the No Action Alternative (no lease option) may result in a slight reduction in domestic production of oil and gas. This would likely result in reduced Federal and State royalty income. Oil and gas consumption is driven by a variety of complex interacting factors including energy costs, energy efficiency, availability of other energy sources, economics, demographics, and weather or climate. If the BLM were to forego its leasing decisions and potential development of those minerals, the assumption is that the public's demand for the resource would not be expected to change. Instead, the resource foregone would be replaced by other sources that may include a combination of imports, fuel switching, alternative fuels, and other domestic production.

LAND USE PLAN (LUP) CONFORMANCE REVIEW:

Name of Plan: White River Record of Decision and Approved Resource Management Plan (1997 WRFO ROD/RMP).

Date Approved: July 1, 1997

The Proposed Action is in conformance with the LUP because it is specifically provided for in the following LUP decision(s):

“Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values.”

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Since the lease sale itself causes no surface disturbance, these standards will be addressed in subsequent environmental analyses required for specific lease development.

NATURAL, BIOLOGICAL, AND CULTURAL RESOURCES:

AIR QUALITY AND CLIMATE

Since the White River ROD/RMP was signed in 1997, new information about GHGs and their effects on national and global climate conditions has emerged. On-going scientific research has identified the potential impacts of greenhouse gas (GHG) emissions such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), 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 resources 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.

Air Quality

The U.S. Environmental Protection Agency (EPA) established national air quality standards (NAAQS) for criteria pollutants. Criteria pollutants include carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), sulfur dioxide (SO₂), 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 where air quality is 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 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 Mount Zirkel and Flat Tops 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_x) and sulfur dioxide (SO₂), 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 (H₂SO₄) and nitric (HNO₃), sometimes referred to as acid rain
- Air toxics, such as pesticides, herbicides, and volatile organic compounds (VOCs)
- Heavy metals, such as mercury
- Nutrients, such as nitrates (NO₃-) and ammonium (NH₄+

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

Affected Environment: The proposed lease parcels are located in rural northwest Colorado in the White River Basin, more than ten miles from designated air quality management areas (including PSD Class I or non-attainment areas). Such designated areas may require special consideration from the air quality regulatory agencies of CDPHE and EPA. Industrial facilities in White River Basin include coal mines, soda ash mines, natural gas processing plants, and power plants. Due to these industrial uses, increased local population, and oil and gas development, emissions of air pollutants in the White River Basin (primarily due to engine exhaust and dust from roads and exposed areas) are likely to increase into the future. Despite increases in emissions, overall air quality conditions in the White River Basin are likely to continue to be good due to effective emission controls and strong atmospheric dispersion conditions.

BLM recently established two air quality monitoring sites, one in Rangely and one in Meeker, which measure ozone, fine particulate matter, and nitrogen oxides. Also, the cities of Grand Junction, Steamboat Springs, Rifle, and Parachute all host air quality monitoring stations. Available monitoring data at these stations indicate that the ambient concentrations of criteria pollutants are less (better) than the applicable air quality standards (NAAQS and CAAQS). However it should be noted, there is not continuous monitoring of all criteria pollutants at any of the stations. Also, differences in the atmospheric conditions, proximity to emissions, and climate at any of these monitoring sites may not represent specific conditions at individual parcel locations.

The White River Basin and the nearby portions of the Colorado River Basin have been classified as either attainment or unclassified for all air pollutants (NAAQS and CAAQS standards), and most of the area has been designated as Clean Air Act Prevention of Significant Deterioration (PSD) Class II. There are several Class I areas in proximity of the Field Office boundary, including both the Mount Zirkel and Flat Tops Wilderness Areas. Because the historic air quality

in the White River Basin has been good, small changes in air quality may have noticeable localized effects, especially on visibility.

Environmental Consequences of the Proposed Action: The decision to sell the leases would not result in any direct criteria pollutants, hazardous pollutants, and greenhouse gas emissions. However, the future development of these leases will 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 the proposed tracts available for leasing, some general assumptions however can be made (e.g., the selling the proposed tracts may contribute to drilling new wells). Subsequent development of any leases sold would contribute an incremental increase in overall hydrocarbon emissions, including GHGs. In 2010 the BLM completed an emissions inventory as part of an on-going Oil and Gas Amendment for the White River RMP. The no-action alternative (Alternative A) represents emissions as a result of the current on-going management scenario analyzed in the White River RMP/ROD (see Table 2).

Table 2: Total Project (BLM WRFO) and Non-Project Emissions

		Emissions (tons/yr)						
		NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	VOCs	Benzene
Alternative A	BLM	2,181	4,016	8	4,174	512	17,052	248
	Non-BLM	287	529	1	550	67	2,244	33
	Total	2,468	4,646	9	4,724	580	19,296	281

Table 2 Continued

		Emissions (tons/yr)							
		Toluene	Ethyl-benzene	Xylene	Hexane	Form.	CO ₂	CH ₄	N ₂ O
Alternative A	BLM	201	2	97	430	186	1,613,422	42,880	11
	Non-BLM	26	0	13	57	24	212,402	5,645	1
	Total	227	3	110	487	210	1,825,824	48,525	12

While the act of leasing the parcels would produce no significant 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 engine exhausts. Since it is unknown if the parcels would be developed, or the extent of the development, it is not possible to reasonably quantify potential air quality impacts through dispersion modeling at this time. Current emission data (see Table 2) within the project area demonstrates the low potential for air quality impacts. At the APD stage additional air analysis will be completed to evaluate the site specific issues of development proposed in the APD. The site-specific proposal will identify reasonably foreseeable activities, equipment, and locations. All proposed activities including, but not limited to, exploratory drilling activities would be subject to applicable local, State, and Federal air quality laws and regulations. Before the leases can be developed or explored, the impacts from the proposed actions will be evaluated as required by Council on Environmental Quality (CEQ) regulations.

Lease development at the APD stage may result in emissions of particulate matter, mainly dust, becoming airborne when drill rigs and other vehicles travel on existing dirt roads to drilling locations. Air quality would also be affected by engine exhaust emissions.

Wells may be drilled during exploration. If the area is for natural gas development, gas may be flared and/or vented to evaluate the characteristics and potential of the resource available. The development stage is likely to include the installation of pipelines for transportation of raw product, as well as possible new gas processing facilities. During this period volatile organic compounds (VOCs) would be released from the reserve pit or tanks and during completion activities.

During active development there would likely be a density of two to three multi-well pads per section with up to 32 well bores per pad in the Mesaverde Gas Play area (parcel 6005 and portions of parcel 6004). The remaining parcels are outside the Mesaverde Gas Play area, where it is likely there would be more exploration and the type of development would probably be single well pads with four to eight pads per section. Development of all areas will require road, pipeline and gas processing networks. These networks would result in traffic and air pollutant emissions throughout the development period.

Soil disturbance resulting from construction of pads and roads, pipeline construction, and drilling is expected to cause increases in fugitive dust and inhalable particulate matter (specifically PM₁₀ and PM_{2.5}) in the project area and immediate vicinity. In addition, increases in the following criteria pollutants: carbon monoxide, ozone (a secondary pollutant, formed photochemically by combining VOC and NO_x emissions), nitrogen dioxide, and sulfur dioxide would also occur due to combustion of fossil fuels during exploration and development activities. Non-criteria pollutants such as carbon dioxide, methane and nitrous oxide (GHGs), air toxics (e.g., benzene), total suspended particulates (TSP), increased impacts to visibility, and atmospheric deposition may also increase as a result of exploration and development (no national ambient air quality standards have been set for non-criteria pollutants). Additional low, short-term impacts to air quality may occur due to venting of gas from the wells during exploration. Even with these increased pollutants, development of only the offered lease parcels is unlikely to exceed NAAQ and CAAQ standards, and is likely to comply with applicable PSD increments and other significant impact thresholds. As described above, exploration and development would release VOCs from pits and tanks and from venting and flaring. Engines used for drilling, transportation, gas processing, compressing gas for pipelines, and other uses would contribute to associated air pollutant emissions.

EPA Region 8 has reported that “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 the impacts of oil and gas exploration and development in terms on the global climate, and apply appropriate management techniques and BMPs to address changing conditions. Research has identified the general potential impacts of anthropogenic greenhouse gas emissions and their effects on global climatic conditions. These anthropogenic GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and several trace gases which differentially absorb and emit thermal radiation in the atmosphere and therefore may contribute to climate change. However, current research on climate change impacts is an emerging and rapidly evolving area of science, and given the lack of adequate analysis methods, it is not possible to identify reasonably foreseeable local, regional, or global

climate change impacts based on assumed potential GHG emissions. Changes in global temperatures and climate vary significantly with time, and are subject to a wide range of driving factors and complex interrelationships, the level of GHG emissions can generally be quantified and compared to overall estimates to provide some measures of the level and significance of any potential impacts.

Oil and or gas may be developed and produced as part of the proposed lease sale and subsequently utilized to produce energy. The potential GHG impacts associated with the development of the oil and gas resources would be addressed in a subsequent environmental analysis.

Substantial air pollutant (including GHG) emission generating activities cannot occur without further BLM analysis and approval. Based on proposals for exploration and development operations, approval of these activities would be made subject to conditions of approval addressing air pollutant emissions as appropriate.

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

Mitigation: No additional mitigation measures beyond those required by applicable local, State and Federal air quality laws and regulations would be required for leasing. However, additional requirements could be imposed based on site-specific proposals during later approval of exploration and development activities.

SOILS

Affected Environment: The magnitude and location of direct and indirect effects on soil resources cannot be predicted until site-specific proposals are made for exploration and development. Soil classifications for the proposed lease parcels are shown in Table 3.

Table 3: Soil Classifications for Lease Areas Greater than 1 Acre in Size

Soil Classification	Acres
Abor Clay Loam, 5-30% slopes	117
Badland	241
Barcus channery loamy sand, 2-8% slopes	35
Blazon, moist-rentsac complex, 6-65% slopes	886
Borollic calciorthids-guben complex, 6-50% slopes	376
Bulkley-abor clay loams, 5-30% slopes	524
Caballo very channery loam, 40-80% slopes	248
Castner channery loam, 5-50% slopes	181
Dollard silty clay loam, 15-40% slopes	122
Forelle loam, 3-8% slopes	141
Forelle loam, 8-15% slopes	52
Glendive fine sandy loam	124
Havre loam, 0-4% slopes	23
Hesperus-empedrado, moist-pagoda complex, 5-35% slopes	60
Jerry-Thornburgh-Rhone complex, 8-65% slopes	155
Kobar silty clay cloam, 3-8% slopes	143

Soil Classification	Acres
Kobar silty clay loam, 0-3% slopes	10
Kobar silty clay loam, 8-15% slopes	9
Moyerson stony clay loam, 15-65% slopes	341
Northwater-adel complex, 5-50% slopes	19
Parachute-irigul complex, 5-30% slopes	41
Parachute-rhone loams, 5-30% slopes	155
Patent loam, 3-8% slopes	86
Patent loam, 8-15% slopes	115
Rabbitex flaggy loam, 10-65% slopes	288
Rentsac channery loam, 5-50% slopes	1,365
Rentsac-moyerson-rock outcrop, complex, 5-65% slopes	1,458
Rentsac-piceance complex, 2-30% slopes	206
Rhone loam, 30-75% slopes	5
Rock outcrop	6
Rock outcrop-torriorthents, 15-90% slopes	113
Tisworth fine sandy loam, 0-5% slopes	120
Torrifluvents, gullied	75
Torriorthents-rock outcrop, complex, 15-90% slopes	414
Trembles loam, Wet	7
Turley fine sandy loam, 3-8% slopes	14
Utso-rock outcrop complex, 40-90% slopes	19
Veatch channery loam, 12-50% slopes	240
Wrayha-rabitex-veatch complex, 45-65% slopes	20
Yamac loam, 2-15% slope	138

Environmental Consequences of the Proposed Action: The proposed action allows the subsequent exploration and development of the lease. Exploration and development includes activities which would physically disturb soils (e.g., building well pads, access roads, installation of pipelines, etc.). Estimates for well pad density would be one to two pads per section during exploration, two to three pads per section during development in the MPA, and four to eight pads per section in areas outside of the MPA. The size of well pads will depend on the number of wells and the type of drilling that is being done. Access roads, pipelines and other infrastructure would be developed during both exploration and development activities.

Direct impacts resulting from the construction of well pads, access roads, pipelines and reserve pits would include removal of vegetation, exposure of the soil, mixing of horizons, compaction, loss of topsoil productivity, susceptibility to wind and water erosion, and possible contamination of soils with petroleum constituents. These impacts would likely result in increased indirect impacts such as runoff, erosion, and off-site sedimentation. This increased surface run-off could be expected in areas downstream of surface disturbance and could cause increased sheet, rill, and gully erosion in some areas.

Decreased soil productivity as a result of the loss of topsoil has the potential to hinder revegetation efforts and leave soils further exposed to erosion. Grading, trenching, and backfilling activities may cause mixing of the soil horizons which could diminish soil fertility and reduce the potential for successful revegetation. Segregation and reapplication of surface soils would result in the mixing of shallow soil horizons, resulting in a blending of soil

characteristics and types. This blending would modify physical characteristics of the soils, including structure, texture, and rock content, which could lead to reduced permeability and increased runoff from these areas.

The erosion potential for the soil types likely to be disturbed ranges from slight to very high. Impacts are directly related to the erosion potential of soils and the steepness of the slopes in the proposed lease areas

Contamination of surface and subsurface soils can occur from leaks or spills of oil, produced water, and condensate liquids from wellheads, produced water sumps, and condensate storage tanks. Leaks or spills of drilling and hydraulic fracturing chemicals, fuels, and lubricants could also result in soil contamination. Such leaks or spills could compromise the productivity of the affected soils. Of these materials, leaks or spills of condensate would have the greatest potential environmental impact. Depending on the size and type of spill, the impact to soils would primarily consist of the loss of soil productivity. Typically, contaminated soils would be removed and disposed of in a permitted facility or would be bioremediated in place using techniques such as excavating and mulching to increase biotic activities that would break down petrochemicals into inert and/or common organic compounds.

The White River ROD/RMP has lease stipulations for the protection of soils with landslide potential (NSO-1) and require a construction/reclamation plan for fragile soils on slopes greater than 35 percent (CSU-1). These lease stipulations were reviewed and applied based on data from 10 meter DEM data and the USDA Soil Survey for Rio Blanco County. All of the parcels have portions with fragile soils and will be subject to CSU-1.

Based on 10 meter DEM data, many of the proposed lease parcels have areas with slopes that are greater than 50 percent (see Table 4). These soils are unstable and unusable from the standpoint of building roads, infrastructure, and drill pad locations and construction in these areas could increase the risk of landslides. Landslides are the rapid downhill movement of a mass of soil and loose rock, generally when wet and saturated. The White River ROD/RMP applies an NSO in areas that are considered unstable and subject to slumping and mass movement. Short sections of roads and linear features such as pipelines could still be constructed in areas with steep slopes depending on construction techniques and will be allowed based on a site specific analysis.

Table 4: Summary of Lease Parcel Attributes

Parcel	Acres	In Mesaverde Gas Play Area?	Above 50% slope	Above 35% slope
6003	681	No	34%	47%
6005	2,276	Yes	21%	46%
6004	2,077	Yes	9%	25%
6006	2,180	No	18%	50%
6007	1,456	Yes	4%	12%

Construction and use of roads, structures, and drill pad locations in areas with slopes that are greater than 50 percent would likely destabilize soils, would result in severe cut and fill slopes,

and would be extremely difficult to reclaim. These direct impacts would result in increased potential to make these areas unstable and subject to slumping and mass movement even after reclamation. Parcel 6003 has the greatest percentage of slopes greater than 50 percent (see Table 4). This parcel has 34 percent of the area with slopes greater than 50 percent. Applying an NSO-1 in these areas would still leave 66 percent of the lease areas available for locating roads, infrastructure, and drilling pads and most lease parcels could be developed along with an NSO on these steep slopes by drilling on more moderate slopes. Therefore this NSO application is unlikely to impede the development of the mineral resources, but will protect areas that may have landslide potential.

Environmental Consequences of the No Action Alternative: There would be no impacts to the soils from the No Action Alternative.

Mitigation: For the purpose of protecting areas from slumping and mass movement of soils or landslides, WR-NSO-01 lease stipulation should be applied on aliquot parts with greater than 10 percent of the aliquot part having slopes steeper than 50 percent as identified by the 10-meter DEM slope data of the lands within the proposed parcels (see Attachment C). These lands can still be leased and the mineral resources explored and developed from surrounding areas within aliquot parts with more moderate slopes. Specific locations within aliquot parts that have slopes steeper than 50 percent would be identified during site specific proposals for exploration and development.

All of the lease parcels with fragile soils on slopes greater than 35 percent are subject to Exhibit WR-CSU-01 (See Attachment C).

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the proposed lease sale parcels.

Environmental Consequences of the Proposed Action: A determination will be made as to whether solid or hazardous wastes have been previously used, stored, or disposed of at proposed oil and gas construction sites at the time individual APDs are submitted. Substances emitted during and used in the exploration, development, and production of oil and gas reserves may pose a risk of harm to human health and the environment. Potential impacts will be analyzed in subsequent environmental analysis.

Environmental Consequences of the No Action Alternative: There would be no impacts from the No Action Alternative, as there would be no action authorizing the generation, use, or storage of hazardous materials.

Mitigation: Oil and gas operations will, at a minimum, comply with the Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development “The Gold Book” (BLM 2007). In addition, management of waste in oil and gas operations will be managed in accordance with all Federal, State, and local regulations.

At the time of APD approval, Conditions of Approval (COAs) will be attached to ensure compliance with environmental obligations, 43 CFR §3162.5.

WATER QUALITY, SURFACE AND GROUND

Affected Environment: Surface Water: Parcel 6003 is located near Douglas Pass and portions of the parcel drain into the Upper Colorado River Basin while the rest drains into the White River Basin. Parcels 6005 and portions of 6007 are in Yellow and Piceance Creek near their confluence with the White River. The rest of the parcels (6005, 6004, and 6006) are in tributaries to the White River. Exploration and development activities in these parcels would be assessed for environmental impacts based on the water quality classification for the locations before they would be approved.

Groundwater: Precipitation in this area generally moves from areas of recharge to surface waters via alluvial aquifers and on the surface during spring melt and rain storms. A portion of annual precipitation infiltrates to deeper bedrock aquifers that contribute to contact springs. Springs and ground water inputs generally occur in both bedrock and alluvial aquifers along valley bottoms. Many of the drainages have interrupted flow characteristics (i.e., some reaches are ephemeral with water moving in the alluvium and other reaches there is surface expression) as a result of groundwater recharge characteristics.

Contact springs are common in the area and are often the result of upper bedrock aquifers consisting of fractured, lean oil shale zones and siltstones of the Green River Formation above and below the Mahogany Zone or from fractured marlstone of the saturated portion of the overlying Uinta Formation. Perched groundwater zones occur locally within the Uinta Formation. These perched zones can occur in the ridges between surface water drainages and may be manifested as springs and seeps above the valley floor in outcrop areas. Parcel 6005 and portions of 6007 are within the above described geologic area.

Environmental Consequences of the Proposed Action: The lease sale would lease parcels with lease stipulations to protect resources. There are no specific lease stipulations for water resources, however NSO-1 and CSU-1 are protective of fragile soils and steep slopes and would help protect areas from excessive erosion that could impact water quality.

Surface Water: Clearing, grading, and soil stockpiling activities associated with exploration and development actions would alter overland flow and natural groundwater recharge patterns. Potential impacts include surface soil compaction caused by construction equipment and vehicles, which would likely reduce the soil's ability to absorb water, increasing the volume and rate of surface runoff. New oil and gas roads and pads could intersect shallow groundwater along cut slopes and alter channel and floodplain characteristics at drainage crossings. The combination of increased surface runoff, decreased infiltration, and changes in drainage features would likely result in increased peak flows and an increase in the frequency and extent of flooding for downstream streams in proportion to the amount of area in a watershed that is impacted by oil and gas development activity.

The success or failure of BMPs designed to manage stormwater and reduce erosion during construction and operation of oil and gas facilities will determine much of the impact with regard to surface waters. Runoff associated with storm events would likely increase sediment/salt loads in surface waters down gradient of the disturbed areas. Sediment may be deposited and stored in minor drainages where it would be readily moved downstream during heavy convection storms. Some sediment from future development activity may eventually be carried into Douglas Creek

and the White River where water quality classifications would limit the amount of sediment and salts that could be present and meet standards. The distance to impacted surface waters would have an attenuating effect on the amount of sediment contributed by lease exploration and development activities. Surface erosion would be greatest during construction and would be controlled using BMPs for storm water.

The magnitude of the impacts to surface water resources from future development activities depends on the proximity of disturbances to drainage channels, slope aspect and gradient, degree and area of soil disturbance, soil character, duration of construction activities, and the timely implementation and success/failure of mitigation measures. Natural factors which attenuate the transport of sediment into creeks include water available for overland flow; the texture of the eroded material; the amount and kind of ground cover; the slope shape, gradient, and length; and surface roughness. Impacts would likely be greatest shortly after the start of construction activities and would likely decrease in time due to stabilization, reclamation, and revegetation efforts.

Parcel 6005 is in a unique area of the Yellow Creek drainage. Currently the only road into this area is Rio Blanco County Road 88 that goes up Barcus Creek. Most of the parcel is below the confluence of Barcus Creek and Yellow Creek in very steep terrain. This area has 46 percent of the area on slopes steeper than 35 percent and 21 percent of this area on slopes steeper than 50 percent. A stream assessment was done on September 9, 2010 and a streamflow measurement site was established below the Yellow Creek confluence with Barcus Creek. Yellow Creek is perennial below Barcus Creek and although total dissolved solids are generally high through this reach there is important aquatic habitat as displayed by a high amount of frogs. This assessment and monitoring site will be used to evaluate potential future impacts from exploration and development. Impacts could include changes in chemistry and/or flow dynamics, increased salinity and sediment from surface disturbance, and other potential impacts.

Groundwater: Impacts to groundwater resources could occur due to failure of well integrity, surface spills, or the loss of drilling, completion, and hydraulic fracturing fluids into groundwater. Chemical additives used in completion activities would be introduced into the producing formations. Loss of drilling fluids may occur at any time in the drilling process due to changes in porosity or other properties of the rock being drilled through. When this occurs, drilling fluids may be introduced into groundwater. Site specific conditions and drilling practices determine the probability of this occurrence and determine the groundwater resources that could be impacted. In addition to changing the producing formations' physical properties by increasing the flow of water, gas, and/or oil around the well bore, hydraulic fracturing can also introduce chemical additives into the producing formations. Types of chemical additives used in drilling activities may include acids, hydrocarbons, thickening agents, lubricants, and other additives that are operator and location specific. These additives are not always used in these drilling activities and some are likely to be benign such as bentonite clay and sand. Concentrations of these additives also vary considerably and are not always known since different mixtures can be used for different purposes in the same oil and gas development and even in the same well bore.

If contamination of aquifers from oil and gas development occurs, changes in groundwater quality could impact springs and residential wells if these springs and residential wells are sourced from the same aquifers that have been affected. Parcels 6005, 6004, 6006, and 6007

could impact springs and the alluvial aquifer for the White River which would include residential springs associated with rural homes along the river and the water source for Rangely downstream which is the White River.

Known water bearing zones in the project area are protected by drilling requirements, regulations, and industry practice. Groundwater resources include the contact springs, perched aquifers, and groundwater zones described in the Affected Environment. With proper drilling and completion practices contamination of groundwater resources is unlikely.

Environmental Consequences of the No Action Alternative: No impacts identified.

Mitigation: See Soils mitigation. Additional site-specific mitigation measures will be implemented at the APD stage based on the submitted Surface Use and Drilling Plans.

WETLANDS AND RIPARIAN ZONES

Affected Environment: A number of the lease parcels encompass perennial or intermittent channel systems that support riparian communities (see Table 5).

Table 5: Parcels Supporting Riparian Communities

Parcel number	Approx. channel length involved (meters)	Channel Name
6005	225 above Barcus Creek falls; 950 below falls	Yellow Creek
6003	525	West Douglas Creek
6007	0	White River

Environmental Consequences of the Proposed Action: Although specific influences associated with lease development cannot be predicted at the leasing stage, management direction in the White River ROD/RMP requires that land use activity that degrades riparian habitat be avoided where possible. BLM policy and current White River ROD/RMP decisions allow for the site-specific development of COAs at the APD stage that are effective in substantially reducing direct involvement and indirect influences on riparian vegetation and channel function, including facility relocations of up to 200 meters and providing for rapid stabilization and restoration in the event of unavoidable involvement (e.g., typically linear alignments).

Special circumstances are associated with lease parcel 6007 as it encompasses the White River and riverine riparian communities within its 100-year floodplain. Controlled Surface Use stipulations were developed in the White River ROD/RMP to protect unique vegetation communities (CSU-2) and promote functions that insure continued development and availability of riverine cottonwood communities as bald eagle habitat (CSU-5). Four portions of lease parcel 6007, involving 2.1, 3.0, 0.03, and 0.3 acres, involve these floodplain features. Considering the

extent of the 100-year floodplain that lies between the upstream and downstream extremes of the lease parcel, the lease parcel itself involves about 2% of 269 total floodplain acres. These shrubland and herbaceous communities are situated on the outer margin of the floodplain, with the larger parcels separated from the active river channel by 80 and 250 meters, respectively, and both are subject to CSU provisions as lease stipulations (T2N R98W section 12: Lots 3, 36). Since none of these parcels are more than 120 meters from the outside margin of the 100-year floodplain, there is no reasonable likelihood that routine avoidance and reclamation strategies would not remain capable of avoiding unnecessary involvement of floodplain features or, where necessary, rapidly restoring those features to a functional state that meets or exceeds their current condition such that the overall effect on system function and associated values would be discountable.

A 56-acre portion of parcel 6003 is encompassed by the East Douglas Area of Critical Environmental Concern (ACEC). This parcel straddles the East Douglas/West Douglas watershed divide and is separated from perennial portions of Brush Creek (East Douglas system) by a minimum 1,100 meters of ephemeral channel. At a minimum elevation of 8,400 feet, about 43% of that portion of the parcel (24 acres) within the East Douglas ACEC is composed of slopes less than 25% and pose no extraordinary soil stabilization or reclamation challenges. Thirty percent (17 acres) of this parcel lies on slopes exceeding 50%, which are routinely avoided during project siting. The remaining 25-50% slopes are forested with aspen and mixed conifers—a vegetation complex where RMP prescription allow for avoidance “..to the extent possible.”

This ACEC was established primarily to coordinate all land uses in a manner that complements maintenance and improvement of aquatic habitat for Colorado River cutthroat trout (CRCT). Provisions of CSU-06 applied to lands within the watersheds that contribute to occupied cutthroat waters are explicitly tied to riparian conditions and channel function important to these fisheries. Although the ACEC has not supported intensive oil and gas development activity in the past, conventional single-well development is dispersed throughout East Douglas Creek and its tributaries, including pads at roughly 160-acre spacing in lower Cathedral and Willow Creeks. Although decades old, this development has not been implicated in notable forms of channel or water quality deterioration. Since any development within this lease parcel would be separated from the nearest riparian and aquatic habitat within the ACEC (Brush Creek) by a minimum 1,100 meters of ephemeral channel, there is no reasonable likelihood that CSU-guided siting adjustments, State and federally-imposed sedimentation and storm-control measures, and WRFO reclamation strategies would fail to provide adequate means to effectively prevent substantive off-site transport and delivery of sediments or fluids that may impair downstream riparian or aquatic conditions. Associated infrastructure that may extend off-lease (e.g., pipelines) is likely to follow more gentle ridgeline grades, but in any case, linear facilities would be subject to RMP-prescribed resource avoidance criteria and the provisions of CSU-06, as well. With the opportunity to avoid more erosion prone situations and apply modern technologies and standards as necessary to stabilize soils and achieve effective reclamation, there is no imminent likelihood that lease development within the ACEC would contradict the riparian/aquatic habitat objectives established in CSU-06.

Environmental Consequences of the No Action Alternative: There would be no action authorized that would have potential to influence riparian zones and wetlands.

Mitigation: Exhibits: WR-CSU-02, WR-CSU-05, WR-CSU-06 applied as addressed above (see Attachment C).

VEGETATION

Affected Environment: The ecological sites and acres potentially affected by the lease sale are shown in Table 6. The exact impacts to vegetation cannot be determined until site specific proposals have been submitted to WRFO for analysis.

Table 6: Ecological Sites within the Proposed Lease Parcels

Ecological Site	Acres
Alkaline Slopes	124
Brushy Loam	220
Clayey Foothills	763
Clayey Slopes	341
Deep Clay Loam	161
Douglas-fir Woodlands	267
Foothill Swale	182
Loamy Slopes	240
Mountain Loam	155
Mountain Loam/Loamy Slopes	41
Mountain Pinyon	20
None	412
Pinyon-Juniper Woodlands	4380
Quaking Aspen	19
Rolling Loam	519
Salt Meadow	3
Stoney Foothills	414
Stony Foothills/Rolling Loam	365

Note: Acreages in the above table do not sum exactly to the total acreage being proposed for leasing since the above acreage analysis was done in GIS and is not based on direct calculations from the legal descriptions.

The White River ROD/RMP objectives for vegetation management are to “... sustain a landscape composed of plant community mosaics that represent successional stages and distribution patterns that are consistent with natural disturbance and regeneration regimes, and compatible with the goals identified in Standard Three of the Standards for Public Land Health.”¹ In general desired plant communities are managed in an ecological status of high-seral or healthy mid-seral for all rangeland plant communities within the WRFO.

In general most parcels in the lease area are currently meeting land health standards and would be classified at mid to late-seral. There are a few areas within Spring Creek, Blacks Gulch, and

¹ http://www.blm.gov/co/st/en/BLM_Programs/grazing/rm_stds_guidelines.html

Indian Valley that may be classified as early seral and are not currently meeting land health standards. This is generally as a result of a lack of desirable vegetation, ground cover, and diversity. Cheatgrass (*Bromus tectorum*) along with other undesirable invasive annuals generally make up the majority of the ground cover and do not have root structures capable of anchoring and protecting soils in the area. Vegetation conditions will be further evaluated during the onsite inspections for individual oil and gas activities as they are proposed.

Environmental Consequences of the Proposed Action: Specific impacts associated with vegetation cannot be predicted at the leasing stage, however management direction in the White River ROD/RMP allows for the site-specific development of COAs at the APD stage, including facility relocations of up to 200 meters and providing for rapid stabilization and restoration. Generally oil and gas development involves complete removal of vegetation and at times re-contouring of the landscape to allow for resources to be retrieved. Vegetation is removed in an amount commensurate with the level of oil and gas development. Conditions of Approval, including reclamation/restoration procedures, are developed at the approval stage and are followed throughout the life of the development. These COAs generally include plans for interim reclamation, re-seeding, re-contouring, and soil stabilization on the site. With appropriate COAs all developed land ultimately will be reclaimed and restored, albeit in some instances up to 30 years after initial disturbance. The type of ground activity associated with oil and gas development does result in increased susceptibility to adverse impacts such as weed infestations and erosion (See Soils and Invasive, Non-Native Species sections).

Environmental Consequences of the No Action Alternative: There would be no impacts to vegetation under the No Action Alternative.

Mitigation: Proposed mitigation measures, including reclamation practices, are developed upon environmental analysis of a site specific APD.

INVASIVE, NONNATIVE SPECIES

Affected Environment: Invasive species and noxious weeds occur within the affected area. Downy brome (cheatgrass) and other annual weeds are common along roadsides and on other disturbed areas. Houndstongue, Canada thistle, bull thistle, musk thistle, Russian thistle, spotted and diffuse knapweeds, leafy spurge, and hoary cress are also known to occur in these areas. Other species of noxious weeds can be introduced by vehicle traffic, livestock, and wildlife and will readily spread into newly disturbed areas. The BLM, Rio Blanco County, livestock operators, and oil and gas companies collaborate in their efforts to find the best integrated approaches to control weeds. For all actions on public lands that involve surface disturbance or rehabilitation, reasonable measures are required to prevent the introduction or spread of noxious weeds. These measures may include power washing or air blasting of construction equipment to remove soil and vegetative parts and requirements for using certified weed-free seed and weed-free hay, mulch, and straw. In addition, any actions that result in the introduction or spread of invasive non-native or noxious weeds would be mitigated by standard weed management guidelines under the direction of BLM.

Environmental Consequences of the Proposed Action: If drilling were to occur on these parcels, subsequent activities would create an environment for and provide a mode of transport

for invasive species and other noxious weeds to become established. Construction equipment and any other vehicles or equipment brought onto the site can introduce weed species. Wind, water, recreation vehicles, livestock and wildlife would also assist with the distribution of weed seed into the newly disturbed areas. The annual invasive weed species (downy brome and other annual weeds) that occur on adjacent rangelands would occupy the disturbed areas; the bare soils and the lack of competition from a perennial plant community would allow these weed species to grow unchecked and can affect the establishment of seeded plant species. Establishment of perennial grasses and other seeded plants as part of interim reclamation is expected to reduce the presence of invasive annual weeds within two or three years.

The perennial and biennial noxious weeds in the area are less frequently established on the uplands but some potential exists for their establishment in draws and swales or areas that would collect additional water. The largest concern in the project area would be for these species to become established and not be detected, providing seed which can move onto adjacent rangelands. At the APD stage, the operator would be required to control any invasive and/or noxious weeds that become established within the disturbed areas involved with drilling and operating the well and continue weed control actions throughout the life of the project.

Environmental Consequences of the No Action Alternative: There would be no impacts from the No Action Alternative.

Mitigation: Principles of integrated pest management, including herbicide application, are employed in controlling noxious and invasive weeds. Proposed mitigation measures, including noxious and invasive weed control, are developed upon environmental analysis of a site specific APD.

THREATENED, ENDANGERED, AND SENSITIVE PLANT SPECIES

Affected Environment: None of the proposed lease parcels contain known occupied or potential habitat for special status plant species.

Environmental Consequences of the Proposed Action: Implementation of the proposed action should have no effects on special status plant species.

Environmental Consequences of the No Action Alternative: The No Action Alternative would have no conceivable influence on special status plant species or their associated habitats.

Mitigation: None.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES

Affected Environment: The only listed species that has potential to be directly influenced by development of the proposed leases is the Colorado pikeminnow. While the species occurs in the White River below Taylor Draw Dam and Kenney Reservoir, the White River and its 100-year floodplain from Rio Blanco Lake to the Utah state line are designated critical habitat for the pikeminnow. The White River in Colorado does not appear to support spawning activity, young-of-year nurseries, or juvenile concentrations areas for the Colorado pikeminnow. Additionally, while the listed bonytail, humpback chub, and razorback sucker do not occur in the White River,

water depletions in the White River adversely affect these species' downstream habitats in the Green River. Lease parcel 6003 located in the Douglas Creek basin drains directly into occupied habitat via Douglas Creek and is separated from the White River by about 34 valley miles of the intermittent mainstem of Douglas Creek. Lease parcel 6007 drains into the White River above Kenney Reservoir and is separated from occupied habitat by about 28 valley miles.

A number of BLM sensitive animal species are known to inhabit or may be indirectly influenced from development of the proposed lease parcels, including the greater sage-grouse, northern goshawk, Brewer's sparrow, Townsend's big-eared bat, big free-tailed bat, fringed myotis, Great Basin spadefoot, northern leopard frog, Colorado River cutthroat trout, flannelmouth sucker, mountain sucker, roundtail chub, and bluehead sucker.

The roundtail chub and bluehead sucker are confined to the White River (see Table 7). Flannelmouth and mountain suckers also inhabit the White River, but are also common and well distributed in the larger perennial streams in the Piceance Basin, including Yellow Creek. Relatively frequent, but patchily distributed, the northern leopard frog is closely associated with Yellow Creek's aquatic and riparian community. These frogs are found more sporadically in the mainstem and West Douglas Creeks. The headwater tributaries of East Douglas Creek support small, but well-established populations of Colorado River cutthroat trout (CRCT). Habitat conditions for these trout in East Douglas Creek proper likely begin to diminish (e.g., water temperature) below Cathedral Creek and there is probably little, if any, permanent occupation below its confluence with mainstem Douglas Creek. Because of flow and/or water quality constraints, Yellow Creek and its tributaries, mainstem Douglas Creek, and West Douglas Creek and its tributaries are not capable of supporting CRCT nor do they contribute to downstream habitats. Approximately 56 acres in the headwaters of Brush Creek (of the Douglas Creek/White River system) are located on the extreme western edge of the East Douglas/Soldier Creek ACEC. Recent CDOW/BLM surveys suggest that the lower three miles of Brush Creek, beginning about 1.3 channel miles downstream of the lease boundary, is seasonally occupied by low densities of introduced trout (rainbow) and hybridized forms of cutthroat trout. The lease parcel acreage is located in upland communities well removed (about 0.7 mile) from the perennial system and the likelihood of development influencing downstream aquatic habitats, particularly those suited for occupation by trout, is considered low (see discussion in Riparian/Wetland section).

Table 7: Parcels with Aquatic Habitats and Affiliated Species Groups

Summary of Aquatic Habitats and Affiliated Species Groups			
Parcel number	Approx. length of occupied habitat in lease parcel (meters)	Channel Name	Species involved
6005	950 below Barcus Ck.	Yellow Creek	Sensitive and native amphibians and fish
6003	0 (minimum 4.3 channel miles upstream of East Douglas Creek fishery; about 1.3 channel miles upstream of Brush Creek fishery)	East Douglas Creek watershed	Contributes to CRCT habitat in East Douglas Creek
6007	0, but ~4.5 acres of floodplain	White River	T/E fish, sensitive and native fish and amphibians

Although the distribution of bats in the WRFO is incompletely understood, recent acoustic surveys in the Piceance Basin and along the lower White River have documented the localized presence of Townsend’s big-eared and big free-tailed bats along larger perennial waterways. These bats typically use caves, mines, bridges, and unoccupied buildings for night, nursery, and hibernation roosts, but in western Colorado, single or small groups of bats use rock crevices and tree cavities. Although rock outcrops and mature conifers suitable as temporary daytime roosts for small numbers of bats are widely available in the project area, and relatively extensive riparian communities are available along the White River and in the mainstem and larger tributaries of Yellow Creek, there are no underground mines or known caves, and unoccupied buildings are extremely limited in the proposed areas of oil and gas development. Birthing and rearing of young for these bats occurs in May and June, and young are volant by the end of July. The big free-tailed bat is not known to breed in Colorado.

The WRFO has about six recent records of goshawk nesting in the Piceance Basin, though none in close proximity to the proposed lease parcels. Based on BLM’s experience, goshawks nest at low densities throughout the Basin in mature pinyon-juniper woodlands above 6,500 ft and Douglas-fir stands. Goshawks establish breeding territories as early as March and begin nesting by the end of April. Nestlings are normally fledged and independent of the nest stand by mid-August. An influx of migrant goshawk appears to elevate densities in this Resource Area during the winter months.

Brewer's sparrows are common and widely distributed in virtually all big sagebrush, greasewood, saltbush, and mixed brush communities throughout the planning area. These birds are typically one of the most common members of these avian communities and breeding densities generally range between 10-40 pairs per 100 acres. Although most abundant in extensive stands of sagebrush, the birds appear regularly in small (one to two acre) sagebrush parks scattered among area woodlands and there is a strong possibility that they may be found nesting on every lease parcel. Typical of most migratory passerines in this area, nesting activities normally take place between mid-May and mid-July.

Northwest Colorado lies on the eastern margin of Great Basin spadefoot toad distribution. Spadefoots are known recently from western Rio Blanco County (west of Douglas Creek) and neighboring Uintah County, Utah and appear to be associated with ephemeral stock ponds in valley and basin terrain. There are scattered historical records of spadefoot from Powell Park (White River valley near Meeker, 1997) and a single record from Piceance Creek near Black Sulphur Creek (1973). BLM surveys over the past several years have not been successful in locating Great Basin spadefoot toads in or near any of the proposed lease parcels. Although seemingly rare and sporadically distributed in the WRFO, it remains possible that toads occupy shrublands and woodlands in close association with stockponds distributed throughout the project area that retain water over the minimum five week reproductive and larval development period.

The White River corridor is the hub for seasonal bald eagle use of the White River valley. Particularly during the late fall and winter months, several dozen bald eagles make regular foraging use of open upland communities along the river and its larger tributaries. These foraging forays from nocturnal roosts along the White River are dispersed and opportunistic. Concentrated diurnal use and nocturnal roosting functions during the winter, and summer use attributable to a number of nest sites situated in river corridor's cottonwood stands, occur in close proximity to lease parcel 6007.

Greater sage-grouse were once distributed widely throughout the WRFO, but have since contracted in range such that birds are strongly confined to higher elevations along the Roan Plateau and Cathedral Bluffs (comprising the bulk of the Parachute-Piceance-Roan (PPR) population area) and Blue Mountain (a subgroup of the Northwest Colorado (NWCO) population area). Remnant populations along the lower White River, including Dripping Rock, Boise Creek, Red Wash, Hall Draw, and Smizer Gulch (lease parcel 6007) may have blinked out.

Environmental Consequences, Proposed Action: Cumulative water depletions from the Colorado River Basin are considered likely to jeopardize the continued existence of the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker and result in the destruction or adverse modification of their critical habitat. In 2008, BLM prepared a Programmatic Biological Assessment (PBA) that addressed water depleting activities associated with BLM's fluid minerals program in the Colorado River Basin in Colorado, including water used for well drilling, hydrostatic testing of pipelines, and dust abatement on roads. In response, the U.S. Fish and Wildlife Service (FWS) prepared a Programmatic Biological Opinion (PBO) that addressed water depletions associated with fluid minerals development on BLM lands. The PBO included reasonable and prudent alternatives which allowed BLM to authorize oil and gas wells that result in water depletion while avoiding the likelihood of jeopardy to the endangered fishes and

avoiding destruction or adverse modification of their critical habitat. The reasonable and prudent alternative authorized BLM to solicit a one-time contribution to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) in an amount based on the average annual acre-feet depleted by fluid minerals activities on BLM lands. This contribution was ultimately provided to the Recovery Program through an oil and natural gas development trade association. Development associated with this lease sale would be covered by this agreement and water-use values associated with this project would be entered into the WRFO fluid minerals water depletion log that is submitted to the Colorado State Office at the end of each Fiscal Year.

Implementation of State and federally-imposed design measures to control erosion and spills would limit the risk of contaminants migrating off-site and degrading water quality in the White River.

Greater sage-grouse: A spate of recent research offers strong indications that traditional forms and application of sage-grouse protection measures, formerly endorsed by state and federal wildlife managers, are ineffective in maintaining local sage-grouse populations in the face of even modest levels of fluid mineral development (e.g., Holloran 2005, Doherty et al. 2008, Walker et al. 2007). These data suggest that reduced lek attendance, avoidance and displacement from areas of energy development, lower survival of nesting hens, and reduced nest success are attributable to oil and gas development at well densities that exceed one well per section. The proposed lease parcels encompass sage-grouse habitats of varying suitability and level of current occupation and each will be discussed separately based on its individual character.

The two westernmost portions of lease parcel 6007 consist of 88 acres on the southern margin of mapped habitat, 70 percent of which is largely unsuitable for use by sage-grouse (i.e., woodlands, steep slopes). The remaining 220 acres in Smizer Gulch is composed of a long narrow corridor of sagebrush habitat (1 mile long and 0.25 mile wide) that lies between steep woodland slopes to the south and wooded hillslopes to the north. BLM is not aware of Smizer Gulch having supported sage-grouse for as long as 30 years, although BLM witnessed large concentrations of birds on Blair Mesa, immediately to the north and west of Smizer Gulch during the severe winter of 1978-1979.

A long narrow extension of parcel 6007 (70 meters wide) extends north about 400 meters toward the center of Blair Mesa. Due to the prospects of this open mesa serving as emergency winter range during winters with extreme snow accumulations, it is recommended that Lot 6 of Section 11 (T2N R98W) be deferred from leasing for the same reasons as addressed above. BLM believes it improbable that Smizer Gulch and the southeast margin of Blair Mesa will serve prominently as sage-grouse habitat, now or in the foreseeable future. It is recommended that the remainder of this parcel be leased with a timing limitation (TL-10) that acknowledges the limited utility of the parcel to serve as winter range under extraordinary circumstances.

Northern goshawk: There are no known goshawk nests within the proposed lease parcels, although limited potential exists for any parcel that involves mature pinyon-juniper, mixed conifer, or aspen woodlands. The combination of expanded NSO and TL lease stipulations and complementary siting criteria that minimize or avoid adverse modification of nest habitat character have been effective in preventing reproductive failures and maintaining the integrity of

the nest substrate or woodland stand for subsequent nest functions. Raptor nest surveys are required prior to project implementation in those areas potentially influenced by proposed development activities. Information on functional nest sites found in the course of surveys are used as the basis for developing siting alternatives or applying timing limitations that reduce the risk of nest activity disruptions that could result in reproductive failure or compromising the long-term utility of nest habitat.

Bald eagle: Bald eagle foraging use is dispersed and opportunistic across the entire WRFO area, but surface disturbing activities that have potential to disrupt important bald eagle seasonal use activities are subject to NSO and TL provisions established in the White River ROD/RMP. These stipulations have been successful in protecting ongoing nest efforts and maintaining the long term utility of roost and nest sites along the White River. Controlled Surface Use stipulations (CSU 2 and 5) are applied to all Federal estate within the White River's 100-year floodplain and provide the means to develop site-specific measures that ensure that lease development remains compatible with the continued development and availability of riverine gallery forests for bald eagle roost, perch, and nest functions.

Brewer's sparrow: Inglefinger and Anderson (2004) documented 40-60 percent declines in Brewer's sparrow abundance within 100 meters of well access roads in Wyoming, and it is likely that this effect operates similarly in the WRFO. Indirect habitat loss attributable to this behavioral response adds substantially to the effects of habitat lost to long term facility occupation and shrubland modification that attends shrubland clearing (temporary workspace, reclaimed areas, pipeline installation). Considering that full field development may assume 5-10 percent of the land base, the collective impact of these avoidance responses on breeding populations would be dependent on facility siting criteria and the distribution of development activity through time. Efforts are made at the APD stage to locate facilities on habitat patch interfaces and avoid bisects of cohesive stands of sagebrush. Assuming these birds are capable of reoccupying these corridors to some degree once activity subsides to production and maintenance levels, prompt and effective reclamation, encouraging the use of BMPs that reduce vehicle traffic, restricting public use of well access roads, and promoting clustered development would help reduce the duration and extent of nest habitat disuse. Many leaseholders, in cooperation with the BLM and CDOW, are actively pursuing and implementing these technologies. Although lease parcel development would contribute incrementally to reduced abundance of Brewer's sparrow in the WRFO, it is expected that losses at any given time during the life of a field would not compromise the viability of Brewer's sparrow populations nor alter the distribution of the species at any landscape level.

Bats: It is unlikely that the proposed lease parcels offer habitat suitable for hibernation or rearing of young for the three species of bat (big free-tailed bat not known to reproduce in Colorado). Perhaps widely distributed singly or in small groups during the summer months, roosting bats may be subject to localized disturbance from development activity and, considering siting criteria that avoids mature woodland involvement where possible, relatively minor but long term reductions in the areal extent of mature woodland stands as sources of roost substrate.

Great Basin spadefoot: Absent specific location information for this species, BLM will continue to survey for seasonal reproductive activity in suitable habitat throughout the WRFO. Due to this species more sedentary patterns of movement (average 500 meters), providing separation

(generally up to 200 meters) between reproductive sites (waters or hibernaculum) and surface disturbance associated with development, reducing involvement of other forms of suitable habitat, and restricting vehicular access as COAs at the APD stage would help reduce the probability of adverse breeding and summer foraging habitat modification as well as toad mortality.

BLM sensitive fish and northern leopard frog: Considering RMP-derived management emphasis on riparian and channel avoidance, sedimentation control, and channel reclamation (see Riparian section), it is unlikely that lease development would have any substantive consequence on the condition or function of channel features associated with aquatic habitats occupied by special status fish and amphibians. Implementation of State and federally imposed design measures to control erosion and spills would limit the risk of contaminants migrating off-site and degrading water quality in the White River and its contributing tributaries. However, it is likely that populations of fish and amphibians in this system would also be subject to depletion-related effects, to which the development of proposed lease parcels would incrementally contribute.

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

Mitigation: Mitigation that is used to reduce the duration or severity of impacts to special status species is presented integral with the discussions above. Potential mitigation applied to subsequent lease development includes RMP-derived No Surface Occupancy (NSO 2 and 5), Controlled Surface Use (CSU 2, 5, and 6), and Timing Limitation (TL 1, 2, 5, 6, 10) stipulations (see Attachment C). All parcels are also subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

MIGRATORY BIRDS

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

The proposed lease parcels encompass a wide variety of habitats, but they are largely dominated by pinyon-juniper woodlands and shrublands composed variously of big sagebrush and deciduous shrubs (e.g., Utah serviceberry), with lesser representation or scattered inclusions of douglas-fir, Engelman spruce-subalpine fir, aspen, and riparian communities. These habitats support a large array of migratory birds during the breeding season (generally May through July).

The BLM lends increased management attention to migratory birds listed by the FWS as Birds of Conservation Concern (BOCC). These are bird populations that monitoring suggests are undergoing range-wide declining trends and are considered at risk for becoming candidates for listing under the Endangered Species Act if not given due consideration in land use decisions. Those species associated with the Southern Rockies/Colorado Plateau region (FWS 2008a) and the proposed lease parcels are presented by habitat affiliation below.

Pinyon-juniper woodland associates within the WRFO include four species that are considered BOCC: the gray vireo, juniper titmouse, Cassin's finch, and pinyon jay. The titmouse and finch occur widely in virtually all available woodlands, but occur at relatively low densities. Pinyon jays are loosely colonial nesters and are patchily distributed throughout the WRFO's woodlands. This species is reportedly an aggressive and persistent re-nester. Gray vireos are associated with juniper-dominated habitats below 6,000 ft. The current lease offerings are generally outside the normal distribution of this species.

BOCC associated with shrubland habitats is limited to the BLM-sensitive Brewer's sparrow, which is addressed in the Threatened, Endangered, and Sensitive (TES) Animal Species section. Conifer and aspen inclusions support nesting Cassin's finch in greater abundance than in lower elevation woodlands and, particularly in higher elevation aspen, likely support localized breeding pairs of flammulated owl.

More generally, birds associated with these lease parcels are well distributed in extensive suitable habitats throughout the WRFO and northwest Colorado and habitat-specific bird assemblages appear to be composed and distributed appropriately to the normal range of habitat variability.

Environmental Consequences of the Proposed Action: The actual lease sale would not impact any migratory bird species or their habitat, however, potential future development of the proposed leased parcels would influence both localized populations and their associated habitats. The potential effects of lease development on migratory birds are adequately represented by the discussion for Brewer's sparrow in the TES Animal Species section.

Environmental Consequences of the No Action Alternative: There would be no impacts to migratory bird species or their habitat from the No Action Alternative.

Mitigation: Mitigation that is effective in reducing the duration or severity of impacts to migratory birds is presented integral with the discussion for Brewer's Sparrow in the TES Animal Species section. Further, it is standard procedure to include a COA on all APDs that alerts the operator to their responsibility under the Migratory Bird Treaty Act to effectively preclude migratory bird access to, or contact with, reserve pit contents that possess toxic properties (i.e., through ingestion or exposure) or have potential to compromise the water-repellent properties of birds' plumage.

WILDLIFE, AQUATIC

Affected Environment: The proposed lease parcels encompass three perennial channels that support aquatic habitats (see Table 7). The majority of these systems are discussed in the TES Animal section and the Riparian/Wetland section. The lower portions of the Douglas Creek system (including West Douglas Creek) are marginally capable of supporting fish (e.g., speckled dace) due primarily to low or intermittent flows, but more consistently provide habitat for native amphibians (e.g., western chorus and northern leopard frogs).

Environmental Consequences of the Proposed Action: See discussions in the TES Animal and Riparian/Wetland sections. RMP-derived management emphasis on riparian and channel avoidance, sedimentation control, and channel reclamation provide a sufficient range of measures and objectives that, applied to lease development, effectively avoids substantive

consequence on the condition or function of channel features associated with aquatic habitats. Implementation of State and federally-imposed design measures to control erosion and spills also work to limit the risk of contaminants migrating off-site and degrading water quality in these systems.

Environmental Consequences of the No Action Alternative: There would be no actions authorized that would directly or indirectly influence aquatic habitats.

Mitigation: Mitigation intended to protect aquatic habitat is discussed integral with the Environmental Consequences of the Proposed Action. See also discussions in the TES Animal and Riparian/Wetland sections.

WILDLIFE, TERRESTRIAL

Affected Environment: The area encompassing the proposed lease parcels includes nearly all of the big game (deer, elk) seasonal ranges. Lease parcel 6003, in the southwest quarter of the project area, is situated at a higher elevation and represents important big game summer range components, while the remaining ranges are primarily represented by general winter ranges (both deer and elk) and critical winter/severe winter range (mule deer). These ranges fulfill their most important function during the later winter and early spring months prior to widespread plant emergence. By definition, these ranges harbor the majority of the area's big game populations under the most severe winter weather conditions when big game energetic demands are highest and access to nutritional forage lowest.

Parcel 6007 is the only parcel containing a known/documented raptor nest site that may potentially be influenced by lease development. Lease stipulations, including 200-meter radius NSO stipulations that help maintain suitable nest site character and 400-meter radius timing limitations that reduce inappropriate disruption of adult attendance during the nesting sequence are imposed on functional nest sites.

Small mammals that are likely to inhabit the lease parcels display broad ecological tolerance and are widely distributed throughout the region in suitable habitats. No narrowly-distributed or highly-specialized species or sub-specific populations are known to inhabit the WRFO.

Environmental Consequences of the Proposed Action: Traditional timing limitations continue to be applied to these important summer and winter (i.e., severe winter and critical winter) ranges by the State and BLM, although these measures were not designed or intended to deal effectively with new drilling and completion technologies (e.g., deep directional, multi-well pads) and the disposal of large quantities of produced fluids. Sawyer (2006) demonstrated strong avoidance response of natural gas development activity in Wyoming deer and the pronounced influence of residual activity associated with maintenance/production phases and subsequent recreational use of well access roads. Later, Sawyer (2009) acknowledged that avoidance response in deer could be substantially reduced (40-60 percent) in these fields by employing technologies that reduce the truck transport of produced fluids (i.e., fluid transport via pipeline). These studies provide compelling evidence that behavioral impacts (habitat disuse from avoidance, elevated energetic demands) associated with human and vehicular activity attributable to oil and gas development are the primary impact imposed on big game and are, in these circumstances, more expansive and deleterious than direct habitat loss associated with

longer term infrastructure occupation and shorter term vegetation modifications. Industry is actively planning or implementing fluids gathering systems that would drastically reduce the frequency of vehicle activity on affected big game ranges. Complementary actions that are being employed to further reduce direct or indirect impacts include pooled employee transport, on-site employee housing, adjusting lease requirements or offering year-round development incentives to promote clustered development, increasing the number of wells sequentially drilled at each location, and phased reclamation instituted soon after the pad is constructed. Site-specific conditions and opportunities are also reflected in COAs developed at the APD stage, including restricting public access on well access roads and pipeline rights-of-way and siting facilities and infrastructure in a manner that balances the interspersion of cover and forage compatible with the behavioral traits of deer and elk. Although all proposed lease parcels may not be developed in this manner, more advanced objectives and principles are likely to be universally promoted and applied where practical. With continued cooperation from industry and the State, and assuming the BLM will adapt lease and unit obligations to encourage clustered development patterns (reduced exposure to disturbance, increased efficiency of wildlife-oriented reclamation), BLM believes serious impacts to big game abundance and distribution can be largely averted.

Oil and gas development's interference with and/or interruption of big game seasonal range movements has surfaced as a serious issue in some Wyoming natural gas fields. Because drilling operations at present tend to be clustered, increasingly sedentary (i.e., a rig may be at one location for up to two years while drilling multiple wells on pad versus a few months or less for a single well) and quiet, with a declining trend in well visitation and landscape footprint, BLM and CDOW biologists do not feel at this time that big game migration movements have potential to be impaired sufficiently to adopt timing limitations as a remedy.

The combination of NSO and TL lease stipulations and complementing siting criteria that attempts to minimize or avoid adverse modification of raptor nest habitat character have been effective in preventing reproductive failures and maintaining the integrity of the nest substrate or woodland stand for subsequent nest attempts. Raptor nest surveys are required prior to project implementation in those areas potentially influenced by proposed development activities. Information on functional nest sites found in the course of survey are used as the basis for developing siting alternatives or applying timing limitations that reduce the risk of nest activity disruptions that could result in reproductive failure or compromising the long-term utility of nest habitat. The most prevalent habitat-related risk attending fluid minerals development in the WRFO is the clearing of pinyon-juniper woodlands which alters stand conformation for centuries. Recent BLM monitoring efforts indicate that woodland nesting species, primarily Cooper's hawk and long-eared owl, continue to nest in more heavily developed fields at densities generally comparable to those found in sparsely developed areas. A limited amount of data suggest that brood size may be reduced under circumstances of concentrated development activity, but it would seem unlikely that these effects would persist at levels that would impair the long term viability of local populations.

Lease development's influence on small mammal populations, at least in the short term, is likely primarily confined to on-site mortality and direct habitat loss attributable to facility occupation and vegetation clearing. Due to the relatively small areal extent of actual surface occupation and the large intervening matrix of undisturbed lands, it is unlikely that present infrastructure extent or patterns are eliciting widespread species-area effects or (for most species) imposing barriers

(e.g., roads) that preclude occasional genetic interchange. WRFO’s practice of redistributing large woody debris on reclaimed pipeline corridors is, among other purposes, intended to provide cover for more secure small mammal movements and moderate the width and contrast in foreign substrate that must be crossed. These assumptions are tempered by the possibility that certain species may rarely, if ever, cross barren roadbeds. The expanse of continuous habitat usually available on either side of a ridge (typical pattern of development) and its present ability to support robust populations of small mammals would likely mask declining population fitness for long periods of time.

Environmental Consequences of the No Action Alternative: There would be no impacts to wildlife species or their habitat from the No Action Alternative.

Mitigation: Mitigation that is used to reduce the duration or severity of impacts to big game and raptors are presented integral with the discussions above. Potential mitigation applied to subsequent lease development includes RMP-derived No Surface Occupancy (NSO 3), and Timing Limitation (TL 4, 7, 8, 9) stipulations (see Attachment C).

WILD HORSES

Affected Environment: Within the WRFO there are three wild horse use areas: West Douglas Herd Area (WDHA), North Piceance Herd Area (NPHA), and Piceance-East Douglas Herd Management Area (PEDHMA). In accordance with the White River ROD/RMP, and the West Douglas Herd Area Amendment (WDHAA) to the White River RMP, wild horses will be managed in the long term only within the PEDHMA. Wild horses are to be managed within the PEDHMA within the range of 135-235 animals and all wild horses are to be removed from the West Douglas and North Piceance Herd Areas. Table 8 is a breakdown of lease parcels located within wild horse use areas and the total acres of lease parcels located in each area.

Table 8: Lease Parcels within Wild Horse Areas

Wild Horse Area	Parcel Number	Acres
Piceance-East Douglas Herd Management Area	6005, 6007	3,483
North Piceance Herd Area		0
West Douglas Herd Area		0
	Total	3,483

As shown in Table 8, approximately 3,483 acres (40 percent) of the total 8,670 acres proposed for leasing are located within wild horse use areas. Currently BLM estimates the population within wild horse use areas as follows: approximately 383 wild horses in areas within the PEDHMA and approximately 78 wild horses outside of the PEDHMA (this includes the NPHA as an area outside of the PEDHMA) and 103 wild horses in areas within and outside the WDHA.

Environmental Consequences of the Proposed Action: Although there are no direct impacts to wild horses attributable to leasing alone, there are impacts associated with activity during the development of oil and gas resources within parcels proposed for leasing. As infrastructure is built, wild horses can be temporarily displaced due to the presence of human activity. There is usually a loss of forage associated with development which may be short or

long term. Water sources used by wild horses may also be damaged during the development phase. In those parcels that are intersected by the HMA boundary, there is a risk that boundary fences which limit wild horse distribution to the HMA will be damaged or destroyed which would allow wild horses to freely move outside of the area designated for management. Following successful reclamation of areas disturbed during the development phase, lost forage may be replaced or increased for use by grazing animals including wild horses. Increases in available forage occur when vegetation communities which were previously ungrazeable (such as woodlands) are converted to grazeable rangeland or where forage production is increased as a result of reclamation practices. As APDs are submitted to develop oil and gas resources within the parcels proposed for leasing, site specific analyses will occur to determine impacts to wild horses.

Environmental Consequences of the No Action Alternative: There would be no impacts to the wild horses from the No Action Alternative.

Mitigation: Parcels carried forward for leasing that are within the HMA will have Exhibit WR-LN-03 attached. This lease notice informs the lessee of potential mitigation measures that may be utilized during lease development (See Attachments C and F). If necessary, mitigation measures will be developed and applied as site specific analysis associated with the submission of an APD. See also mitigation within the Rangeland Management section of this document.

CULTURAL RESOURCES

Affected Environment: Four of the five parcels proposed for the August 2011 Oil and Gas Lease Sale occur in the north-central portion of the WRFO resource area, in a region generally thought to have a low to moderate potential for important cultural resources. One parcel, 6003, occurs near Douglas Pass in the southwest portion of the field office area – a region thought to have moderate to high potential for cultural resources.

The northern group of parcels (including parcels 6005, 6004, 6006, and 6007) occurs in 6th P.M. T2N R97W, T2N R98W, and T3N R96W. In total, these parcels encompass about 8,000 acres of BLM lands and no private or state lands. A small fraction, approximately 3.6 percent, of these parcels has been inventoried for cultural resources to either current or outdated standards. These parcels contain 14 known historic properties, including one historic road officially Eligible for listing on the National Register of Historic Places (NRHP), one prehistoric Ute open architectural (wickiup) site officially Eligible for NRHP listing, two prehistoric sites officially Not Eligible, one historic site officially Not Eligible, and 10 Isolated Finds (categorically Not Eligible for NRHP listing). According to available data, the townships containing these parcels contain about 9,133 acres of inventoried lands and approximately 80 known historic properties potentially Eligible for NRHP listing. Based on these figures, the estimated density of potentially Eligible sites (Needs Data, Eligible, or sites lacking official determination) for this region is approximately 1 in 114 acres.

The isolated parcel 6003 lies in 6th P.M. T5S R101W and T5S R102W, encompassing about 680 acres. It includes approximately 520 acres of private surface and 160 managed by the BLM. About 6 percent of this parcel has been inventoried for cultural resources to either current or

outdated standards, resulting in the recording of one historic property; an Isolated Find, categorically Not Eligible for NRHP listing. The portions of T5S R101W and T5S R102W that lie in the WRFO resource area encompass about 23,660 acres, including 703 acres that have been inventoried for cultural resources and found two historic properties potentially Eligible for NRHP listing. While the small size of the available sample data prevents high-confidence estimates, these figures provide an estimated density of potentially Eligible sites in this region of 1 in 352 acres.

Cultural resources in northwestern Colorado, including both analytic regions, range from the Paleoindian Era (from circa 13,000 BC) to the historic period (to AD 1960). These include several types of prehistoric and protohistoric Native American site types as well as historic Euroamerican habitations and roads. Of particular note are Native American rock art, Fremont masonry architectural sites, and Ute wooden architectural sites near parcel 6003 and Ute wooden architectural sites in and near the northern group of parcels.

Environmental Consequences of the Proposed Action: The five parcels (6003, 6005, 6004, 6006, and 6007) proposed for the August 2011 Oil & Gas Lease Sale were among the twenty-eight parcels analyzed in DOI-BLM-CO-110-2010-267-EA and previously reported to the office of the Colorado State Historic Preservation Officer (SHPO) to comply with NHPA (National Historic Preservation Act) Section 106. The SHPO did not comment within the 10-day review period as required by the Colorado Protocol agreement (1998) for implementing the Programmatic Agreement between the National Council of State Historic Preservation Officers (NCSHPO), the Advisory Council on Historic Preservation (ACHP), and the BLM (1997) or at any time since the close of such period, to-date. BLM has determined a finding of no historic properties affected for the leasing of all parcels analyzed in BLM-CO-110-2010-267-EA.

The WRFO requires a minimum 40-acre inventory block around proposed well locations, per its current standards and practices. This buffer typically allows for the relocation of proposed well pads more than 100m away from newly discovered sites potentially Eligible for NRHP listing. With an estimated potentially-Eligible site density of about 1 in 114 acres for the northern group of lease parcels and about 1 in 352 acres for parcel 6003, there is little doubt that proposed construction or operation activities associated with development of these lease parcels could be relocated to avoid potentially-Eligible sites by at least 100 meters, or that any related undertaking's Area of Potential Effect (APE) could be situated to avoid such sites.

The BLM is required by law and regulation to ensure that Bureau-initiated or Bureau-authorized actions do not inadvertently harm or destroy cultural resource values. Because most cultural resources are unidentified, irreplaceable, and highly sensitive to ground disturbance, it is necessary that the resources are properly identified, evaluated, and reported prior to any future activity that may affect their integrity or condition. Before any APDs are approved for exploration or drilling, a Class III cultural resource survey would be undertaken to comply with Section 106 of the National Historic Preservation Act.

Environmental Consequences of the No Action Alternative: There would be no impacts to cultural resources.

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

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

PALEONTOLOGY

Affected Environment: The project area contains portions of geological formations known to produce few to several scientifically valuable fossils, resulting in Potential Fossil Yield Classifications (PFYCs) between 2 and 5. The formations affected, their known fossil types, and their PFYC values are as follows (Tweto 1979, Armstrong and Wolny 1989, BLM Colorado State Office PFYC chart):

Mesaverde Group or Formation, Upper part—PFYC 5—dinosaurs, reptiles (turtles & crocodilians), mammals, fish, ichnological traces, snails, plants, and coal beds.

Modern Alluvium—PFYC 2—Holocene animals, including Bison and horses.

Fort Union Sandstone—PFYC 3—Paleocene mammals, reptiles, amphibians, fish, invertebrates (including pelecypoda and gastropoda), and floras (including pollen). Also contains dinosaur bones, presumably redeposited from the erosion of earlier sediments or formations.

Green River Formation, Lower part—PFYC 4—fish and ostracoda.

Green River Formation, Parachute Creek Member—PFYC 5—fossil reptiles (lizards, crocodilians, turtles), bats, insects (including eggs & larvae, scorpion ants, beetles, gnats, and mosquitoes), and plants (including algae reefs, ferns, horse-tails (*Equisetum*), seeds, flowers, fruit, oaks, maples, sassafras, figs, magnolias, etc.).

Uinta Formation—PFYC 5—Eocene mammals (titanotheres, uintatheres, miacid carnivores, possibly others), reptiles (turtles and crocodilians), fish (vertebrae, spines, and scales, likely including *Lepisosteidae*), gastropods (high-spined and turitellid snails), insect larvae, and plants (leaves, wood, algae, etc.).

Wasatch Formation—PFYC 5—Paleocene and Eocene mammals (including perissodactyls, tapiroids, condylarths, primates, insectivores, marsupials, creodonts, carnivores, and multituberculates), reptiles (including crocodilians, turtles, and lizards), birds (including eggs), amphibians, fish, invertebrates (non-marine mollusks and ostracoda), and various floras.

Environmental Consequences of the Proposed Action: Each August 2011 lease sale parcel contains areas mapped as PFYC 3 to PFYC 5 formations and has a moderate to likely potential

to impact scientifically valuable fossil resources. Locations for proposed oil or gas well pads, pipelines, and associated infrastructure will be subject to further analysis for the protection of paleontological resources. Areas of new surface disturbance occurring on or adjacent to bedrock (native sedimentary stone) exposures must be inventoried by a permitted paleontologist and approved by the appropriate WRFO specialist during each project's NEPA review. Surface disturbing activities in many areas will require monitoring by a permitted paleontologist.

Environmental Consequences of the No Action Alternative: There would be no impacts from the No Action Alternative.

Mitigation: Mitigation will be developed during the NEPA review of individual ground disturbing activities. Typically, mitigation includes provisions for the monitoring of ground disturbance by a permitted paleontologist, a requirement for the operator to inform all persons associated with the project of relevant Federal laws protecting fossil resources, and requirements regarding the disclosure of inadvertent fossil discoveries during construction or operation to the WRFO while operating on federally-managed surface. Other notification and reporting requirements may exist for split-estate parcels with privately-owned surface.

As all parcels analyzed predominately contain PFYC 3 to PFYC 5 lands, all lands are subject to Exhibit WR-LN-02 to alert lessee of potential requirements to protect paleontological values.

NATIVE AMERICAN RELIGIOUS CONCERNS

No Native American Religious Concerns or Traditional Cultural Properties (TCPs) are known in the area. Letters requesting consultation with the Southern Ute Tribe, the Ute Mountain Ute Tribe, the Ute Tribe of the Uintah and Ouray Reservation, and the Eastern Shoshone were mailed October 27th, 2010 and received between November 1st and November 22nd, 2010. Tribal officials did not comment on the proposed action within 30 days from receipt of these letters. Through follow-up phone calls on December 10th and 15th, 2010, WRFO personnel discussed the proposed lease sale with the NAGPRA representatives of the Southern Ute Tribe and Ute Tribe of the Uintah and Ouray Reservation. Neither representative voiced concerns with the leasing of the parcels identified in BLM-CO-110-2010-267-EA, including parcels 6003, 6005, 6004, 6006, and 6007. The discovery of TCPs or Native American religious concerns through any future consultation may require further mitigation to protect affected areas.

ELEMENTS NOT PRESENT OR NOT AFFECTED:

No flood plains or prime and unique farmlands exist within the area affected by the proposed action. There are no environmental justice concerns associated with the proposed action.

OTHER ELEMENTS:

For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Visual Resources			X
Fire Management		X	
Forest Management		X	
Hydrology/Water Rights			X
Range Management			X
Realty Authorizations			X
Recreation			X
Access and Transportation		X	
Geology and Minerals			X
Areas of Critical Environmental Concern			X
Wilderness	X		
Wild and Scenic Rivers	X		
Socio-Economics	X		
Law Enforcement	X		

VISUAL RESOURCES

Affected Environment: Visual resource management (VRM) is broken into four classes. The areas where the proposed parcels for this lease sale are within VRM Classes II and III.

Environmental Consequences of the Proposed Action: The objective of the VRM Class II is to retain the existing character of the landscape. Management activities may be visible but should not attract attention. The objective of the VRM Class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape could be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. Every attempt, however, should be made to reduce or eliminate

activity impacts through careful location, minimal disturbance, and repeating the basic landscape elements. Facilities such as condensate and produced water or oil storage tanks that rise above eight feet would provide a geometrically strong vertical and horizontal visual contrast in form and line to characteristic landscape and vegetation. The construction of access roads, well pads, and other ancillary facilities would modify the existing visual resources with the greatest impact occurring in VRM Class II areas.

Environmental Consequences of the No Action Alternative: There would be no impacts to visual resources from the No Action Alternative.

Mitigation: For both VRM Classes II and III, all facilities, including meter buildings, would be painted a color determined by the Authorized Officer at the time of development to blend with the vegetative and/or landform setting and minimize contrast as much as possible. Additional COAs may be added on a case by case basis for each APD. Each COA will be developed based on site specific analysis of the APD to reduce contrasts with the form, line, color, and texture of the surrounding landscape to ensure that the objectives of the VRM Class may be retained.

HYDROLOGY AND WATER RIGHTS

Affected Environment: Water will be used for construction, drilling, completion and fracing operations as part of this action. Sources of water would be identified during project proposals and evaluated for impact to hydrology and water rights.

Environmental Consequences of the Proposed Action: The development of fluid minerals on the proposed lease parcels would deplete water sources from both surface and ground water supplies and has the potential to impact water rights if sources are not properly permitted for this use.

Environmental Consequences of the No Action Alternative: No water would be used to develop fluid minerals on the leases under the no action alternative.

Mitigation: An estimate of the volumes of water used for construction, drilling, completion, fracing ,and dust abatement will be provided as per Onshore Order #1 requirements. The source of this water will be evaluated for potential impacts to hydrology and water rights when the use is proposed.

RANGE MANAGEMENT

Affected Environment: The nominated parcels occur within 10 different livestock grazing allotments administered by the BLM WRFO. White River Field Office grazing allotments involved include Blacks Gulch, Keystone, Colorow, Little Toms Draw, Yellow Creek, Greasewood, River, Twin Buttes, West Shutta, and East Douglas Creek. Within these allotments are fences, water developments, and other rangeland improvement projects along with long term trend monitoring sites that could be impacted by oil and gas development.

Environmental Consequences of the Proposed Action: The actual amount of direct and indirect effects to livestock grazing in any given allotment cannot be predicted until the site-

specific APD stage of development. Generally there is an initial loss of forage (animal unit months or AUMs) associated with each development related disturbance. The amount of forage loss will vary based on the productivity of the affected ecological site prior to disturbance as well as the amount of the disturbance that is reclaimed and the success of re-vegetation actions. Livestock forage loss will also vary based on the distance of that site from livestock water sources. Areas with steeper topography are used less by livestock so forage losses resulting from development in those areas have less impact on livestock grazing. The forage loss is reduced by 50-60 percent after successful interim reclamation. After successful final reclamation, herbaceous forage production will likely be slightly higher than pre-disturbance levels until woody vegetation reestablishes.

Rangeland improvements such as fences, corrals, and watering facilities could be impacted by road and pad construction. Placement of facilities near rangeland improvement projects could compromise their usefulness, particularly during the development stage. In addition closeness to water can increase potential for stock to use the pad areas for resting, rubbing, and potential exposure to other drilling related hazards. Livestock might avoid an area during the period of active development due to the increased activity and noise levels.

Environmental Consequences of the No Action Alternative: There would be no new impacts to the range management from the No Action Alternative.

Mitigation: Development actions would avoid rangeland improvement projects (e.g., ponds, tanks, waterlines, fences, corrals, cattle-guards, gates etc.) if possible but if they could not be avoided, the project proponent would relocate the facilities to an adjacent BLM designated site and reconstruct them to BLM specifications to maintain their original function and purpose. If fences would be affected by development, the project proponent would install temporary fencing to prevent unwanted livestock movement between allotments or pastures. Long term trend monitoring sites would be avoided if at all possible. BLM notifies grazing permittees on a site-by-site basis as part of the APD process. Best Management Practices would be incorporated as COAs during site-specific NEPA analysis.

RECREATION

Affected Environment: The proposed action is located within the White River Extensive Recreation Management Area (ERMA). The ERMA is managed by BLM to provide the general public with a highly diverse range of outdoor recreational activities. Portions of the project area provide opportunities for solitude and primitive, dispersed types of recreation such as primitive camping, hiking, antler shed collecting, hunting, and wildlife watching. Other portions of the project area provide opportunities for a more active type of recreation and are popular for off-highway vehicle (OHV) use. Hunting is the predominant recreational activity within the ERMA, with the highest rate of use occurring during the upland big game hunting season (mid August through December). There are no developed recreation sites or facilities in the project area.

Environmental Consequences of the Proposed Action: Parcel 6005 along with portions of parcels 6003, 6004, 6006, and 6007, will be deferred from the current lease sale. These areas provide unique opportunities for solitude and primitive types of recreation and will be further analyzed by WRFO to determine their suitability for future oil and gas leasing. Overall, oil and

gas field development may provide the public with additional access to existing recreational opportunities, depending on the location of development and the type of access being provided. Conversely, development in areas deemed suitable for solitude and primitive types of recreation may be detrimental to these values and ultimately remove opportunities for this type of recreation.

Recreational hunting patterns depend largely on big game migration within the WRFO. As such, during oil and gas field development when there is typically a higher presence of vehicular traffic and other activity, the public will likely be displaced from the actual sites of oil and gas infrastructure development if big game is displaced. However, as with already developed fields in other portions of the WRFO, hunters generally continue to hunt in close proximity of the actual sites of development, so long as big game is present. The presence of oil and gas infrastructure, in and of itself, does not necessarily deter recreational hunting if the quality and abundance of game is sufficient. The amount and severity of recreational displacement is often highly site specific, based on the development action proposed and is addressed in subsequent site specific analyses. The Terrestrial Wildlife section provides a detailed discussion of big game wildlife activity.

Environmental Consequences of the No Action Alternative: Recreational activities within the areas will continue to occur much as they do currently.

Mitigation: Parcel 6005 along with portions of parcels 6003, 6004, 6006, and 6007 will be deferred from the current lease sale to allow for further analysis of their suitability as high value recreation areas.

The mitigation measures specific to big game that are discussed in the Terrestrial Wildlife section are applicable to recreation.

REALTY AUTHORIZATIONS

Affected Environment: The BLM issues right-of-way (ROW) grants to authorize uses across BLM-administered public lands, in accordance with regulations, to help ensure that public lands are managed to benefit the public and to avoid undue or unnecessary degradation. A ROW is required for all uses outside the boundaries of the oil and gas lease (off-lease) for the purpose of on-lease development, regardless of who owns or controls the development.

The proposed sale parcels are located in areas with limited existing development which consists largely of buried transmission pipelines and distribution power lines. All future projects, whether related to these lease sales or unassociated projects, would be analyzed on a case-by-case basis to avoid impacts to the existing infrastructure or to environmental resources.

Environmental Consequences of the Proposed Action: The level and location of direct, indirect, or cumulative effects cannot be predicted until the site-specific APD stage of development. Existing ROWs can be impacted by development, including roads, pipelines, well pads, and utilities. To avoid impacts to existing uses, the applicant would coordinate with the existing ROW holders at the site-specific APD stage of development. As a result of the

environmental analysis of the proposed site-specific APDs, locations, methods, and materials used for development facilities may be adjusted to mitigate effects.

Environmental Consequences of the No Action Alternative: There would be no impacts from the No Action Alternative.

Mitigation: None.

GEOLOGY AND MINERALS (FLUID MINERALS)

Affected Environment: All of the parcels are located in the Piceance Creek Basin or the Douglas Creek Arch in an area identified as having high potential for oil and gas development. Surficial geology of the parcels ranges from the Uinta Formation to the Wasatch Formation. Site specific geologic formations would be analyzed during the APD NEPA process. All sale parcels or portions of the sale parcels have been previously leased for federal oil and gas minerals. The most recently leased federal oil and gas mineral estate includes sale parcel 6005, which expired on 5/31/2009 (approximately 2,300 acres). All parcels are adjacent to or surrounded by current existing Federal oil and gas leases.

Environmental Consequences of the Proposed Action: Sale of the parcels will allow development and recovery of oil and natural gas resources in the underlying oil and gas bearing formations. During drilling operations on the parcels, loss circulation or problems cementing the surface casing may affect freshwater aquifer zones encountered. The WRFO ensures the APD submitted casing and cementing program would be adequate to protect all of the resources, minerals, and fresh water zones, 43 CFR §3162.5-2(d).

Environmental Consequences of the No Action Alternative: Recoverable natural gas and oil resources in the oil and gas bearing formations would not be developed at this time.

Mitigation: None.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Affected Environment: Two of the nominated parcels intersect the East Douglas Creek and White River ACECs. Specifically:

Parcel 6003; the E2W2 section 19, Township 5 South, Range 101 West 6th PM is within East Douglas Creek ACEC (about 56 acres in 1 parcel).

Parcel 6007; Lots 3, 9, 27, 36, section 12, Township 2 North, Range 98 West 6th PM of are in the White River ACEC (about 5 acres in 4 parcels).

The East Douglas Creek ACEC is designated as an ACEC for important biologically diverse plant communities, riparian habitat, and Federal candidate Colorado River cutthroat trout habitat. The White River Riparian ACEC is designated for important biologically diverse plant communities, riverine riparian habitat, bald eagle roosts, and federally-listed Colorado pikeminnow (i.e., critical habitat below Rio Blanco Lake, occupation below the Taylor Draw Dam).

Environmental Consequences of the Proposed Action: Addressed in TES Animal Species and Wetlands and Riparian Zones sections.

Environmental Consequences of the No Action Alternative: There would be no action authorized that would have potential to influence ACECs.

Mitigation: Addressed in TES Animal Species and Wetlands and Riparian Zones sections.

CUMULATIVE IMPACTS SUMMARY:

Cumulative impacts may result from the development of the proposed leases when added to non-project impacts that result from past, present, and reasonably foreseeable future actions. The potential exists for future oil and gas development throughout the WRFO. Other past or existing actions near the project area that have influence on the landscape are wildfire, recreation, hunting, grazing, oil shale development, sodium solution mining, and coal mining. Reasonably foreseeable development in the White River corridor and in the area of parcels 6004, 6005, and 6006 includes the potential construction of high-voltage electrical transmission power lines. Preparation of environmental impact statements (EISs) for two lines has begun but selection of specific route alternatives is pending. Potential impacts to oil and gas development or to environmental resources would be addressed in the EIS.

As of August 2010, approximately 77 percent of BLM-administered Federal oil and gas mineral estate within the WRFO is leased. Of this leased acreage approximately 16 percent is split estate. As of August 2010, there were 1,460 authorized or pending oil and gas leases administered by BLM within the WRFO.

Since the approval of the White River ROD/RMP on July 1, 1997, 1,091 wells have been drilled on 717 well pads in the WRFO. Approximately 89 percent of the surface well and pad locations are on BLM surface administered lands. On average, 86 wells have been drilled annually over the last 10 years and 103 annually over the last five years. Focus of drilling activity within the last five years is in the Mesaverde Gas Play of the Piceance Creek Basin.

Direct, indirect, and cumulative effects of reasonably foreseeable oil and gas development are analyzed in the White River Draft Resource Management Plan (DRMP) and associated environmental impact statement (EIS). The DRMP/EIS, addresses reasonably foreseeable oil and gas development, including roads and pipelines, over a 20 year period. The impacts of the proposed oil and gas leasing in this EA, as well as cumulative impacts to the Resource Area are within the scope of and analysis of the existing White River RMP/EIS. In preparation for the White River Oil and Gas Resource Management Plan Amendment, a new RFD was developed in 2007. The 2007 RFD assumes that 95 percent of all development will occur within the Mesaverde Gas Play Area (MPA). Four parcels proposed for the August 2011 oil and gas lease sale (encumbering approximately 6,489.50 acres) are within the MPA. One parcel containing 2180.47 acres is partially within the MPA.

Surface disturbance associated with oil and gas activity would increase the potential for erosion and sedimentation. Displacement of hunters and recreationists during the short-term construction

and drilling periods would occur. Contrasts in line, form, color, and texture from development would impact the visual qualities on the landscape.

Cumulative impacts to the plant communities within the leases and adjacent areas include an incremental reduction of continuity in the plant communities in terms of acreages that remain undisturbed. Loss of continuity results in smaller and smaller areas of undisturbed native vegetation and the potential for loss of integrity within the larger plant community. The increased disturbance also makes native plant communities more susceptible to invasion by annual weeds as vectors for increasing weeds. Even with weed control measures applied, the potential for weeds to move further into undisturbed remnant areas increases as these remnants become smaller and more isolated from larger undisturbed areas.

Cumulative impacts to the livestock grazing operations in the area may be increased through the development of the proposed leases. If development occurs, the growth in wells, roads, and human activity has the potential to reduce the availability of forage in this area. The potential impact to grazing activities permitted in the WRFO would be a loss of available AUMs (i.e., a loss of the amount of livestock that allotments can reasonably support).

Development of one or more of these lease parcels would contribute to activity simultaneous with and in addition to ongoing natural gas and mineral development and recreation use in the WRFO. Initial disturbance to wildlife (e.g., construction, drilling, and completion activities), as conditioned by timing limitations, would be relatively localized and temporary. After these initial activities have subsided, human activity would continue throughout the production phase and persist for the life of well or field. The consequences of these behavioral influences on wildlife would vary according to species-specific response through time as modified by habituation or circumstance, such as the use of access restrictions or BMPs that reduce the frequency and duration of well visitation.

Development would result in further unavoidable modifications and reductions in, particularly, pinyon-juniper woodland and shrubland communities as wildlife forage and cover. Roads and working surfaces of pads represent incremental accumulation of acreage removed from cover and forage base for the life of the well or field. Considering the application of NSO and CSU stipulations and siting criteria used at the APD stage that reduces involvement of what WRFO considers more important habitats, it is uncertain, but unlikely that vegetation modifications attributable to development of these lease parcels would exceed the historical range of variability.

Leasing and subsequent development of one or more of these lease parcels is likely to contribute to a sustained reduction in the overall abundance of most affected species through direct and indirect impacts, but it would not be expected to elevate cumulative effects to levels that would compromise the viability of any wildlife population or the utility of broader landscapes as habitat. Under current patterns of development, cumulative effects would be more pronounced in the Piceance Basin and less pronounced in the Douglas watershed and areas north of the White River. The size and distribution of habitat patches ultimately created through lease development (instigating species-area effects) or whether barriers persist long enough to manifest inbreeding depression (reduced fitness of individuals and isolated populations) is subject to much

speculation, but considering only those parcels recommended for leasing, these principles of fragmentation are not known to be operating at a level that prompts imminent concern.

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PERSONS/AGENCIES CONSULTED: Colorado Division of Wildlife Energy Liaison Kim Kaal and Northwest region/Meeker Area wildlife biologists, National Park Service Dinosaur National Monument Superintendent Mary Risser.

INTERDISCIPLINARY REVIEW:

The proposed action was presented to the White River Field Office interdisciplinary team on October 5, 2010.

Name	Title	Area of Responsibility	Date Signed
Bob Lange	Hydrologist	Air Quality, Water Quality (Surface and Ground), Hydrology and Water Rights Soils,	10/25/2010
Geoffrey Haymes	Archaeologist	Cultural Resources, Paleontological Resources	10/26/2010
Matt Dupire	Rangeland Management Specialist	Invasive, Non-Native Species, Vegetation, and Rangeland Management Areas of Critical Environmental Concern, Threatened and Endangered Plant Species	02/16/2011
Ed Hollowed/Lisa Belmonte	Wildlife Biologist	Migratory Birds, Threatened, Endangered and Sensitive Animal Species, Terrestrial and Aquatic Wildlife, Wetlands and Riparian Zones	02/16/2011
Christina Barlow	Natural Resource Specialist/HazMat Coordinator	Wastes, Hazardous or Solid	02/16/2011
Jim Michels	Outdoor Recreation Planner	Wilderness, Access and Transportation, Recreation, Visual Resources	02/09/2011
Jim Michels	Forester /Fire / Fuels Technician	Fire Management, Forest Management	02/09/2011
Paul Daggett	Mining Engineer	Geology and Minerals	10/25/2010
Linda Jones	Realty Specialist	Realty Authorizations	10/13/2010
Melissa Kindall	Range Technician	Wild Horse Management	10/26/2010

NAME OF PREPARER: Jeanne E. Newman

NAME OF ENVIRONMENTAL COORDINATOR: Heather Sauls

DATE: 4/4/2011

ATTACHMENTS: Attachment A - Pre-EA Parcels Proposed for Lease
Attachment B - Parcels Available for Lease with Deferred Portions
Attachment C - Parcels Available for Lease with Applied Stipulations
Attachment D - Location Maps of All Nominated Parcels
Attachment E - Location Maps of Offered Parcels
Attachment F - Exhibits Description
Attachment G - BLM Response to Comments

**Finding of No Significant Impact/Decision Record
(FONSI/DR)
DOI-BLM-CO-110-2011-0056 EA**

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: Based on the analysis of potential environmental impacts contained in the EA and all other available information, I have determined that the proposal and the alternatives analyzed do not constitute a major Federal action that would adversely impact the quality of the human environment. Therefore, an EIS is unnecessary and will not be prepared. This determination is based on the following factors:

- Beneficial, adverse, direct, indirect, and cumulative environmental impacts have been disclosed in the EA. Analysis indicated no significant impacts on society as a whole, the affected region, the affected interests, or the locality. The physical and biological effects are limited to the White River Resource Area and adjacent land.
- Public health and safety would not be adversely impacted. There are no known or anticipated concerns with project waste or hazardous materials.
- There would be no adverse impacts to regional or local air quality, prime or unique farmlands, known paleontological resources on public land within the area, wetlands, floodplain, areas with unique characteristics, ecologically critical areas, or designated Areas of Critical Environmental Concern.
- There are no highly controversial effects on the environment.
- There are no effects that are highly uncertain or involve unique or unknown risk. Sufficient information on risk is available based on information in the EA and other past actions of a similar nature.
- This proposed action does not set a precedent for other actions that may be implemented in the future to meet the goals and objectives of adopted Federal, State, or local natural resource related plans, policies, or programs.
- No cumulative impacts related to other actions that would have a significant adverse impact were identified or are anticipated.
- Based on previous and ongoing cultural surveys, and through mitigation by avoidance, no adverse impacts to cultural resources were identified or anticipated. There are no known American Indian religious concerns or persons or groups who might be disproportionately and adversely affected as anticipated by the Environmental Justice Policy.
- No adverse impacts to any threatened or endangered species or their habitat that was determined to be critical under the Endangered Species Act were identified. If, at a future time, there could be the potential for adverse impacts, proposals would be modified or mitigated not to have an adverse effect or new analysis would be conducted.
- This alternative is in compliance with relevant Federal, State, and local laws, regulations, and requirements for the protection of the environment.

DECISION AND RATIONALE: I have determined that approving the lease sale of a portion of the nominated oil and gas parcels is in conformance with the approved White River Record of Decision and Approved Resource Management Plan (1997 White River ROD/RMP). It is my

decision to offer four (4) parcels, involving 4,187.84 acres of Federal oil and gas minerals in the White River Field Office, for leasing in the Colorado State Office August 2011 Oil and Gas Lease Sale (see Attachment D, Figures 4-6) and to defer the leasing of 4482.13 acres (involving 5 parcels) from the lease sale. Standard terms and conditions as well as special stipulations would apply. Lease stipulations (as required by 43 CFR 3131.3) are added to each parcel as identified by the White River Office to address parcel specific concerns or new information not identified in the land use planning process (see Attachment C and Attachment E).

Availability of all parcels is summarized in the table below:

Parcel Numbers	Status	Acreage Available	Acreage Deferred
6003	Portion Available	520.64	160.00
6004	Portion Available	1359.00	718.40
6005	Deferred	None	2275.80
6006	Portion Available	1020.16	1160.31
6007	Portion Available	1288.04	167.62
TOTAL		4187.84	4482.13

Of the five parcels nominated, one (1) is deferred in its entirety and portions of four (4) parcels are deferred. The rationale for the deferrals is as follows:

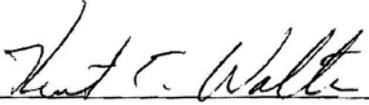
Deferral of 4482.13 acres:

- A portion of parcel 6007 for sage-grouse concerns (5,132.84 acres).
- All of parcel 6005 and portions of parcels 6003, 6004, 6006, and 6007 due to concerns regarding primitive recreation opportunities.

MITIGATION MEASURES: See Attachment C for the stipulations on the nominated parcels. Additional mitigation will be developed at the APD stage.

COMPLIANCE/MONITORING: Should the parcels be developed, monitoring may be required and would be addressed and analyzed under future NEPA documentation.

PUBLIC COMMENTS: On February 22, 2011, this EA was made available for a 30-day public comment period. Colorado Environmental Coalition and Trout Unlimited commented on the EA. Attachment G contains BLM's response to their comments.

SIGNATURE OF AUTHORIZED OFFICIAL: 
Field Manager

DATE SIGNED: 06/29/2011

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

PARCEL ID: 6003 SERIAL #:

T. 0050S., R 1010W., 6TH PM
 Sec. 19: Lot 9-12;
 Sec. 19: E2W2;
T. 0050S., R 1020W., 6TH PM
 Sec. 13: E2SW;
 Sec. 25: NE,N2NW,SENW;

Garfield County
Colorado 680.640 Acres

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

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

All lands are subject to Exhibit WR-CSU-01 to protect fragile soils:

The following lands are subject to Exhibit WR-CSU-02 to protect areas of critical environmental concern:

T. 0050S., R 1010W., 6TH PM
 Sec. 19: E2W2;

The following lands are subject to Exhibit WR-CSU-06 to protect Colorado River cutthroat trout habitat:

T. 0050S., R 1010W., 6TH PM
 Sec. 19: Lot 12;
 Sec. 19: E2W2;

All lands are subject to Exhibit WR-LN-02 to alert lessee of potential requirements to protect paleontological values.

The following lands are subject to Exhibit WR-TL-09 to protect deer and elk summer range:

T. 0050S., R 1020W., 6TH PM
 Sec. 13: E2SW;
T. 0050S., R 1010W., 6TH PM
 Sec. 19: Lot 9-12;
 Sec. 19: E2W2;
T. 0050S., R 1020W., 6TH PM
 Sec. 25: N2N2, SWNE,SENESENW;

The following lands are subject to Exhibit WR-NSO-01 to protect potential landslide areas:

T. 0050S., R 1010W., 6TH PM
 Sec. 19: Lot 9-12;
 Sec. 19: E2W2;

T. 0050S., R 1020W., 6TH PM
 Sec. 25: NE,N2NW,SENW;

PVT/BLM;BLM; CDO: WRRRA

PARCEL ID: 6006 SERIAL #:

T. 0030N., R 0960W., 6TH PM

- Sec. 31: Lot 8;
- Sec. 31: E2,E2SW;
- Sec. 32: ALL;
- Sec. 33: S2N2,NWNW,S2;
- Sec. 34: Lot 3,5,10;
- Sec. 34: SWNW,N2SW,SWSW;
- Sec. 35: SENW,NESW,S2SW,SE;

Rio Blanco County

Colorado 2180.470 Acres

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

All lands are subject to Exhibit WR-TL-09 to protect deer and elk summer range.

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

The following lands are subject to Exhibit WR-CSU-01 to protect fragile soils:

T. 0030N., R 0960W., 6TH PM

- Sec. 31: NE,S2SE;
- Sec. 32: NE,NENW,S2NW,S2;
- Sec. 33: N2SW,SWSW,SE;
- Sec. 33: S2N2,NWNW;
- Sec. 34: Lot 3,5,10;
- Sec. 34: W2SW;
- Sec. 35: SENW,S2SW,SE;

All lands are subject to Exhibit WR-LN-02 to alert lessee of potential requirements to protect paleontological values:

The following lands are subject to Exhibit WR-NSO-01 to protect potential landslide areas:

T. 0030N., R 0960W., 6TH PM

- Sec. 33: S2NE,SENW,NESE;
- Sec. 34: Lot 3;
- Sec. 34: SWNW,N2SW;
- Sec. 35: E2SW,W2SE;

BLM; CDO: WRRRA

PARCEL ID: 6004 SERIAL #:

T. 0020N., R 0970W., 6TH PM

- Sec. 1: Lot 5-8;
- Sec. 1: S2N2,S2;
- Sec. 2: Lot 7,8;
- Sec. 2: S2NW,W2SW,E2SE;
- Sec. 11: W2;
- Sec. 14: W2;
- Sec. 15: NE,SW;
- Sec. 22: N2NE,SWNE;
- Sec. 24: NENW;

Rio Blanco County
Colorado 2077.400 Acres

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

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

The following lands are subject to Exhibit WR-CSU-01 to protect fragile soils:

T. 0020N., R 0970W., 6TH PM
Sec. 1: Lot 5-8;
Sec. 1: S2NE,S2;
Sec. 2: Lot 7,8;
Sec. 2: SENW,W2SW,E2SE;
Sec. 11: W2;
Sec. 14: W2;
Sec. 15: NE,SW;
Sec. 22: N2NE,;
Sec. 24: NENW;

All lands are subject to Exhibit WR-LN-02 to alert lessee of potential requirements to protect paleontological values.

The following lands are subject to Exhibit WR-NSO-01 to protect landslide areas:

T. 0020N., R 0970W., 6TH PM
Sec. 1: Lot 5-7;
Sec. 1: S2N2,NE;
Sec. 11: W2;
Sec. 15: SW;
Sec. 24: NENW;

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

T. 0020N., R 0970W., 6TH PM
Sec. 1: SWSW,SESE;

The following lands are subject to Exhibit WR-TL-04 to protect raptors:

T. 0020N., R 0970W., 6TH PM
Sec. 1: S2S2;
Sec. 2: SESE;

The following lands are subject to Exhibit WR-TL-08 to protect big game severe winter range:

T. 0020N., R 0970W., 6TH PM
Sec. 2: SWSW;
Sec. 11: W2;
Sec. 14: W2;
Sec. 15: NE,SW;
Sec. 22: N2NE,SWNE;
Sec. 24: NENW;

The following lands are subject to Exhibit WR-TL-09 to protect deer and elk summer range:

T. 0020N., R 0970W., 6TH PM
Sec. 1: Lot 5-8;
Sec. 1: S2N2,S2;
Sec. 2: Lot 7,8;
Sec. 2: S2NW,W2SW,E2SE;

BLM; CDO: WRRRA

PARCEL ID: 6007 SERIAL #:

T. 0020N., R 0970W., 6TH PM
Sec. 6: Lot 8-14;
Sec. 6: S2NE,SENE,E2SW,SE;
Sec. 7: SENE;
T. 0020N., R 0980W., 6TH PM
Sec. 11: Lot 6-9,11-20;
Sec. 11: SW, SWSE;;
Sec. 12: Lot 20,27,28,30,36;
Sec. 12: Lot 1-3,9-11,15,17,18;
Sec. 12: E2NE;

Rio Blanco County
Colorado 1455.660 Acres

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

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

All lands are subject to Exhibit WR-CSU-01 to protect fragile soils.

All lands are subject to Exhibit WR-TL-08 to protect big game severe winter range:

All lands are subject to Exhibit WR-LN-02 to alert lessee of potential requirements to protect paleontological values.

The following lands are subject to Exhibit WR-CSU-02 to protect areas of critical environmental concern:

T. 0020N., R 0980W., 6TH PM
Sec. 12: Lot 3,9,27,36;

The following lands are subject to Exhibit WR-CSU-05 to protect bald eagle roosts:

T. 0020N., R 0980W., 6TH PM
Sec. 12: Lot 3,36;

The following lands are subject to Exhibit WR-NSO-01 to protect landslide areas:

T. 0020N., R 0970W., 6TH PM
Sec. 6: Lot 11,14;
Sec. 6: SESW,SWSW;
Sec. 7: Lot 8;
T. 0020N., R 0980W., 6TH PM
Sec. 11: S2SW,E2SE;
Sec. 12: Lot 1-3,9-11,15,17,18;
Sec. 12: Lot 27,28,36;
Sec. 12: NWNE;

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

T. 0020N., R 0980W., 6TH PM
Sec. 11: W2SW;

The following lands are subject to Exhibit WR-TL-04 to protect raptors:

T. 0020N., R 0980W., 6TH PM
Sec. 11: W2SW;

The following lands are subject to Exhibit WR-LN-03 to alert lessee of potential restrictions due to wild horse habitat:

T. 0020N., R 0980W., 6TH PM
Sec. 11: Lot 7-9,11-20;
Sec. 11: SW,SWSE;
Sec. 12: Lot 27,28,30;
Sec. 12: Lot 11;

The following lands are subject to Exhibit WR-NSO-05 to protect bald eagle roosts:

T. 0020N., R 0980W., 6TH PM
Sec. 12: Lot 3;

The following lands are subject to Exhibit WR-TL-05 to protect bald eagle winter roosts and concentration areas:

T. 0020N., R 0980W., 6TH PM
Sec. 11: Lot 13;
Sec. 12: Lot 1-3,9,10;

BLM; CDO: WRRRA

PARCEL ID: 6005 SERIAL #:

T. 0020N., R 0980W., 6TH PM
Sec. 23: ALL;
Sec. 24: ALL;
Sec. 25: NE,SE,SW,S2;
Sec. 26: Lot 16,17,19,22,24;
Sec. 26: Lot 1,3,5,9,11,14;
Sec. 26: E2E2,NWNE;

Rio Blanco County
Colorado 2275.800 Acres

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

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

All lands are subject to Exhibit WR-CSU-01 to protect fragile soils:

All lands are subject to Exhibit WR-LN-02 to alert lessee of potential requirements to protect paleontological values:

All lands are subject to Exhibit WR-LN-03 to alert lessee of potential restrictions due to wild horse habitat.

The following lands are subject to Exhibit WR-NSO-01 to protect landslide areas:

T. 0020N., R 0980W., 6TH PM
Sec. 23: ALL;

The following lands are subject to Exhibit WR-NSO-01 to protect landslide areas:

T. 0020N., R 0980W., 6TH PM
Sec. 23: ALL;

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

T. 0020N., R 0980W., 6TH PM

Sec. 23: S2SW;

Sec. 26: Lot 1,3,5;

The following lands are subject to Exhibit WR-NSO-09 to protect sensitive plants:

T. 0020N., R 0980W., 6TH PM

Sec. 23: E2SW;

The following lands are subject to Exhibit WR-TL-04 to protect raptors:

T. 0020N., R 0980W., 6TH PM

Sec. 23: S2SW,SWSE;

Sec. 26: Lot 1,3,5,9;

Sec. 26: NWNE;

The following lands are subject to Exhibit WR-TL-08 to protect big game severe winter range:

T. 0020N., R 0980W., 6TH PM

Sec. 23: N2NE,SWSW;

Sec. 24: N2N2;

Sec. 26: Lot 16,17,19,22,24;

Sec. 26: Lot 1,3,5,9,14;

BLM; CDO: WRRRA

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

PARCEL ID: 6003 SERIAL #:

AVAILABLE PORTION:

T. 0050S., R 1010W., 6TH PM
 Sec. 19: Lot 9-12;
T. 0050S., R 1020W., 6TH PM
 Sec. 13: E2SW;
 Sec. 25: NE,N2NW,SEW;

Garfield County
Colorado 520.640 Acres
PVT/BLM;BLM; CDO: WRRRA

DEFERRED PORTION:

Primitive Recreation Opportunities
T. 0050S., R 1010W., 6TH PM
 Sec. 19: E2W2;

Garfield County
Colorado 160 Acres
BLM;BLM; CDO: WRRRA

PARCEL ID: 6005 SERIAL #:

AVAILABLE PORTION: NONE

DEFERRED PORTION: ALL

Primitive Recreation Opportunities T. 0020N., R 0980W., 6TH PM
 Sec. 23: ALL;
 Sec. 24: ALL;
 Sec. 25: NE,SEW,S2;
 Sec. 26: Lot 1,3,5,9,11,14;
 Sec. 26: Lot 16,17,19,22,24;
 Sec. 26: E2E2,NWNE;

Rio Blanco County
Colorado 2275.800 Acres
BLM; CDO: WRRRA

PARCEL ID: 6004 SERIAL #:

AVAILABLE PORTION:

T. 0020N., R 0970W., 6TH PM

- Sec. 2: Lot 7,8;
- Sec. 2: S2NW,W2SW;
- Sec. 11: W2;
- Sec. 14: W2;
- Sec. 15: NE,SW;
- Sec. 22: N2NE,SWNE;
- Sec. 24: NENW;

Rio Blanco County

Colorado 1359 Acres

BLM; CDO: WRRRA

DEFERRED PORTION:

Primitive Recreation Opportunities

T. 0020N., R 0970W., 6TH PM

- Sec. 1: All;
- Sec. 2: E2SE;

Rio Blanco County

Colorado 718.400 Acres

BLM; CDO: WRRRA

PARCEL ID: 6006 SERIAL #:

AVAILABLE PORTION:

T. 0030N., R 0960W., 6TH PM

- Sec. 32: SWSE,E2SE;
- Sec. 33: S2;
- Sec. 34: Lot 3,5,10;
- Sec. 34: SWNW,N2SW,SWSW;
- Sec. 35: SENW,NESW,S2SW,SE;

Rio Blanco County

Colorado 1020.160 Acres

BLM; CDO: WRRRA

DEFERRED PORTION:

Primitive Recreation Opportunities

T. 0030N., R 0960W., 6TH PM

- Sec. 31: Lot 8;
- Sec. 31: E2,E2SW;
- Sec. 32: N2,SW,NWSE;
- Sec. 33:S2N2,NWNW

Rio Blanco County

Colorado 1160.310 Acres

BLM; CDO: WRRRA

PARCEL ID: 6007 SERIAL #:

AVAILABLE PORTION:

T. 0020N., R 0970W., 6TH PM

Sec. 6: Lot 8-14;

Sec. 6: S2NE,SENE,E2SW,SE;

Sec. 7: SENE;

T. 0020N., R 0980W., 6TH PM

Sec. 11: Lot 7-9,11-20;

Sec. 11: NESW;

Sec. 12: Lot 1-3, 9-11,15,17,18;

Sec. 12: Lot 20,27,28,30,36;

Sec. 12: E2NE;

Rio Blanco County

Colorado 1288.040 Acres

BLM; CDO: WRRRA

DEFERRED PORTION:

Greater Sage-grouse habitat

T. 0020N., R 0980W., 6TH PM

Sec. 11: Lot 6;

Primitive Recreation Opportunities

T. 0020N., R 0980W., 6TH PM

Sec. 11: NWSW, S2SW, SWSE;

Rio Blanco County

Colorado 167.620 Acres

BLM; CDO: WRRRA

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

PARCEL ID: 6003 SERIAL #:

T. 0050S., R 1010W., 6TH PM
Sec. 19: Lot 9-12;
T. 0050S., R 1020W., 6TH PM
Sec. 13: E2SW;
Sec. 25: NE,N2NW,SEW;

Garfield County
Colorado 520.640 Acres

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

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

All lands are subject to Exhibit WR-LN-02 to alert lessee of potential requirements to protect paleontological values.

All lands are subject to Exhibit WR-CSU-01 to protect fragile soils.

All lands are subject to Exhibit WR-TL-09 to protect deer and elk summer range.

The following lands are subject to Exhibit WR-NSO-01 to protect landslide areas:

T. 0050S., R 1010W., 6TH PM
Sec. 19: Lot 9-12;

T. 0050S., R 1020W., 6TH PM
Sec. 25: NE,N2NW,SEW;

The following lands are subject to Exhibit WR-CSU-06 to protect Colorado River cutthroat trout habitat:

T. 0050S., R 1010W., 6TH PM

Sec. 19: Lot 12;

PVT/BLM;BLM; CDO: WRRRA

PARCEL ID: 6004 SERIAL #:

T. 0020N., R 0970W., 6TH PM
Sec. 2: Lot 7,8;
Sec. 2: S2NW,W2SW;
Sec. 11: W2;
Sec. 14: W2;
Sec. 15: NE,SW;
Sec. 22: N2NE,SWNE;
Sec. 24: NENW;

Rio Blanco County
Colorado 1359 Acres

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

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

All lands are subject to Exhibit WR-LN-02 to alert lessee of potential requirements to protect paleontological values.

The following lands are subject to Exhibit WR-CSU-01 to protect fragile soils.

T. 0020N., R 0970W., 6TH PM

- Sec. 2: Lot 7,8;
- Sec. 2: SENW,W2SW;
- Sec. 11: W2;
- Sec. 14: W2;
- Sec. 15: NE,SW;
- Sec. 22: N2NE;
- Sec. 24: NENW;

The following lands are subject to Exhibit WR-NSO-01 to protect landslide areas:

T. 0020N., R 0970W., 6TH PM

- Sec. 11: W2;
- Sec. 14: NW, NWSW
- Sec. 15: SW;
- Sec. 24: NENW;

The following lands are subject to Exhibit WR-TL-08 to protect big game severe winter range:

T. 0020N., R 0970W., 6TH PM

- Sec. 2: SWSW;
- Sec. 11: W2;
- Sec. 14: W2;
- Sec. 15: NE,SW;
- Sec. 22: N2NE,SWNE;
- Sec. 24: NENW;

The following lands are subject to Exhibit WR-TL-09 to protect deer and elk summer range:

T. 0020N., R 0970W., 6TH PM

- Sec. 2: Lot 7,8;
- Sec. 2: S2NW,W2SW;

BLM; CDO: WRRRA

PARCEL ID: 6006 SERIAL #:

T. 0030N., R 0960W., 6TH PM

- Sec. 32: SWSE,E2SE;
- Sec. 33: S2;
- Sec. 34: Lot 3,5,10;
- Sec. 34: SWNW,N2SW,SWSW;
- Sec. 35: SENW,NESW,S2SW,SE;

Rio Blanco County

Colorado 1020.160 Acres

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

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

All lands are subject to Exhibit WR-LN-02 to alert lessee of potential requirements to protect paleontological values.

All lands are subject to Exhibit WR-CSU-01 to protect fragile soils.

All lands are subject to Exhibit WR-TL-09 to protect deer and elk summer range.

The following lands are subject to Exhibit WR-NSO-01 to protect potential landslide areas:

T. 0030N., R 0960W., 6TH PM

Sec. 33: NESE;

Sec. 34: Lot 3;

Sec. 34: SWNW,N2SW;

Sec. 35: E2SW,W2SE;

BLM; CDO: WRRRA

PARCEL ID: 6007 SERIAL #:

T. 0020N., R 0970W., 6TH PM

Sec. 6: Lot 8-14;

Sec. 6: S2NE,SENE,E2SW,SE;

Sec. 7: SENE;

T. 0020N., R 0980W., 6TH PM

T. 0020N., R 0980W., 6TH PM

Sec. 11: Lot 7-9,11-20;

Sec. 11: NESW;

Sec. 12: Lot 1-3, 9-11,15,17,18;

Sec. 12: Lot 20,27,28,30,36;

Sec. 12: E2NE;

Rio Blanco County

Colorado 1288.040 Acres

All lands are subject to Exhibit WR-TL-10 to protect greater sage-grouse crucial winter habitat.

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

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

All lands are subject to Exhibit WR-LN-02 to alert lessee of potential requirements to protect paleontological values.

All lands are subject to Exhibit WR-CSU-01 to protect fragile soils.

All lands are subject to Exhibit WR-TL-08 to protect big game severe winter range.

The following lands are subject to Exhibit WR-NSO-01 to protect landslide areas:

T. 0020N., R 0970W., 6TH PM

Sec. 6: Lot 11,14;

Sec. 6: SESW;

Sec. 7: SENE

T. 0020N., R 0980W., 6TH PM

Sec. 11: Lot 15,16,19,20;

Sec. 12: Lot 1-3,9;

Sec. 12: Lot 27,28,36;

The following lands are subject to Exhibit WR-CSU-02 to protect areas of critical environmental concern:
T. 0020N., R 0980W., 6TH PM

Sec. 12: Lot 3, 9, 27, 36;

The following lands are subject to Exhibit WR-CSU-05 to protect bald eagle roosts:

T. 0020N., R 0980W., 6TH PM

Sec. 12: Lot 3,36;

The following lands are subject to Exhibit WR-LN-03 to alert lessee of potential restrictions due to wild horse habitat:

T. 0020N., R 0980W., 6TH PM

Sec. 11: Lot 7-9,11-20;

Sec. 12: Lot 11;

Sec. 12: Lot 27,28,30;

The following lands are subject to Exhibit WR-NSO-05 to protect bald eagle roosts:

T. 0020N., R 0980W., 6TH PM

Sec. 12: Lot 3;

The following lands are subject to Exhibit WR-TL-05 to protect bald eagle winter roosts and concentration areas:

T. 0020N., R 0980W., 6TH PM

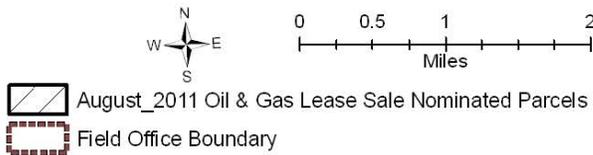
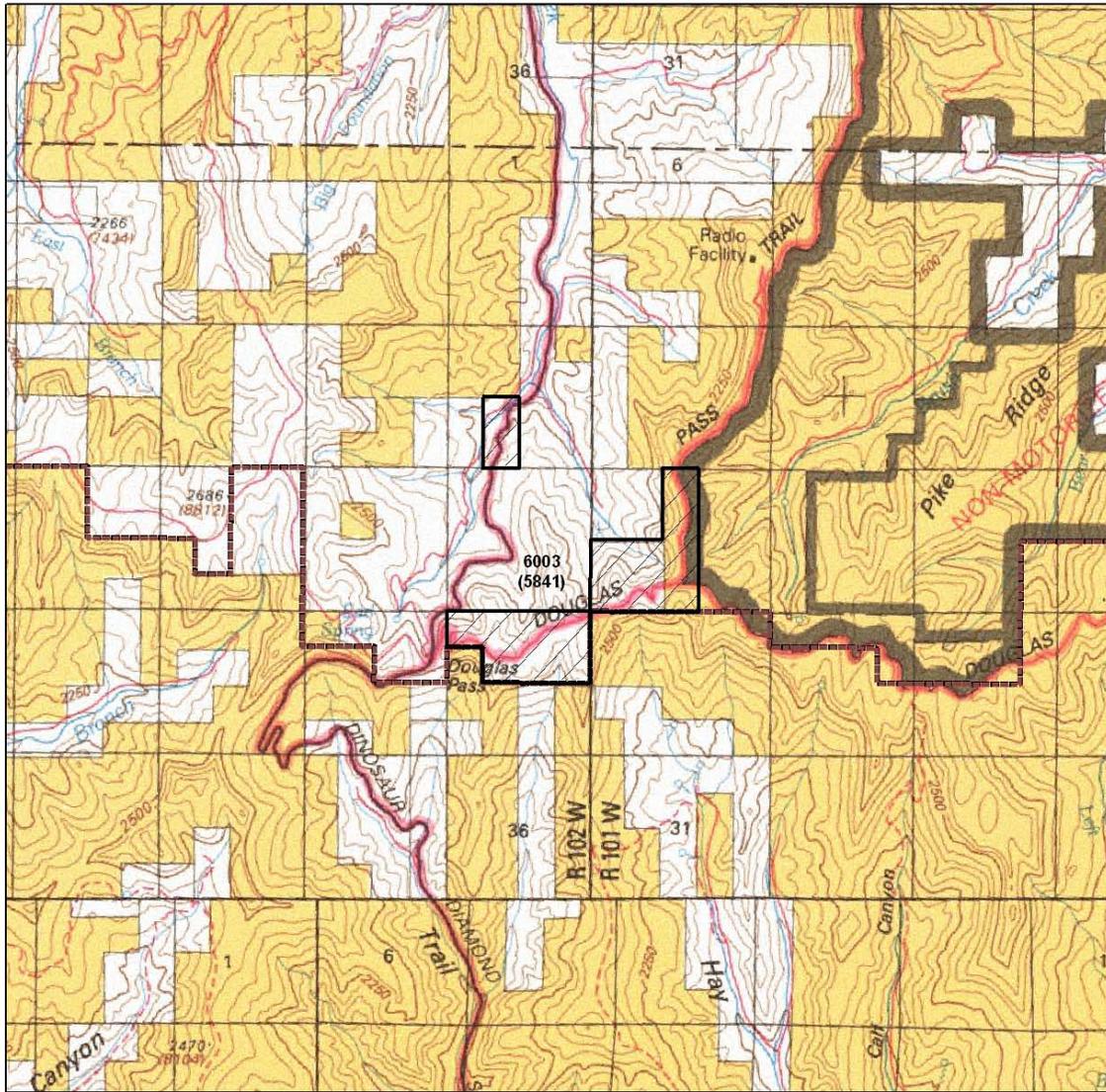
Sec. 11: Lot 13;

Sec. 12: Lot 1-3,9,10;

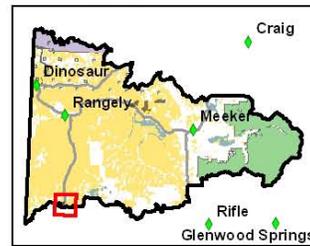
BLM; CDO: WRRRA

Attachment D
Location Map All Parcels
August 2011 - Colorado Competitive Oil & Gas Lease Sale

Figure 1 – Parcel Nominated 6003 (Map 1 of 3)

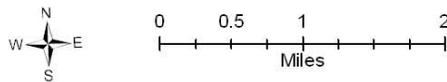
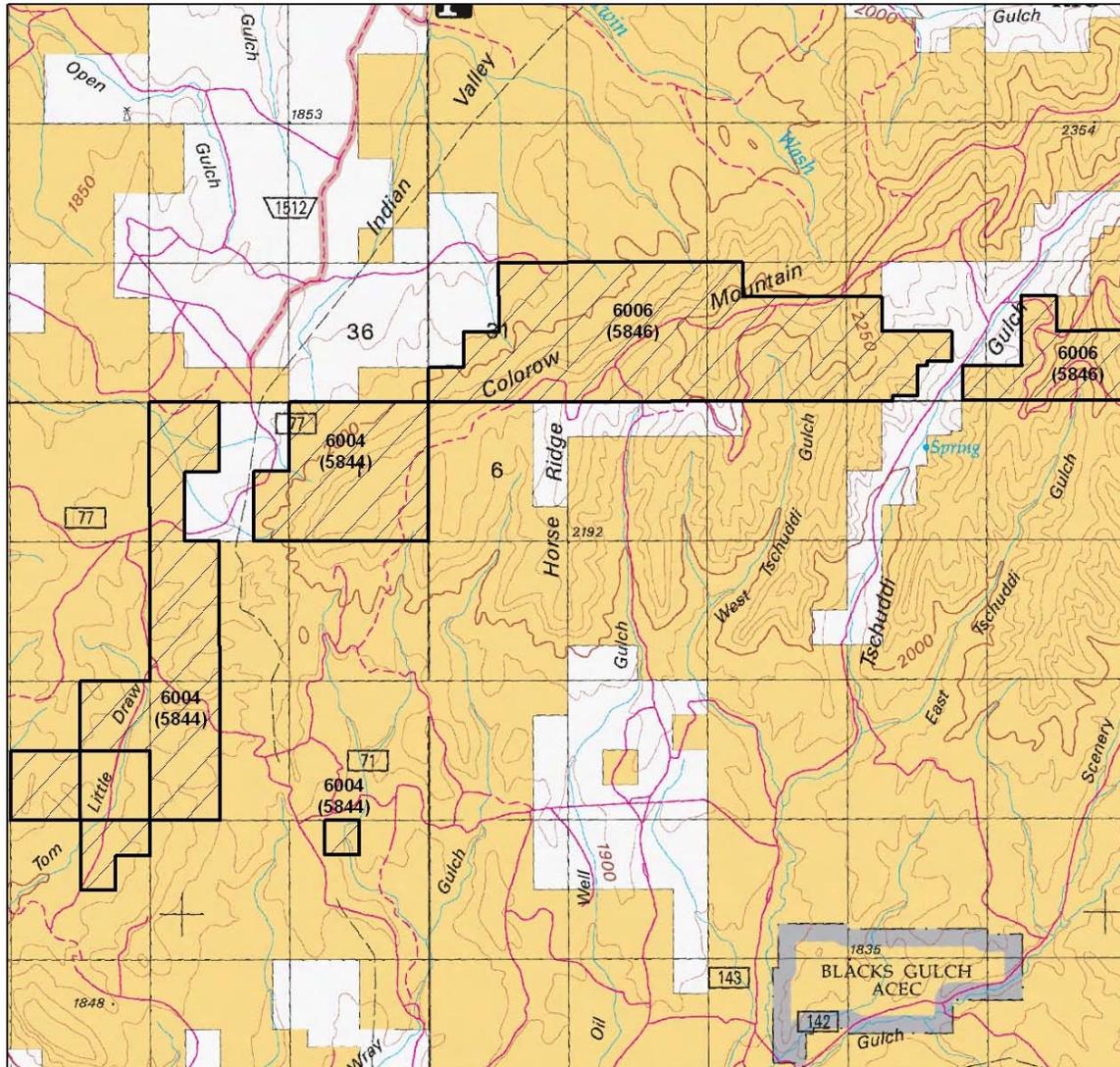


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03/31/2011

Figure 2 – Parcels Nominated 6004 and 6006 (Map 2 of 3)



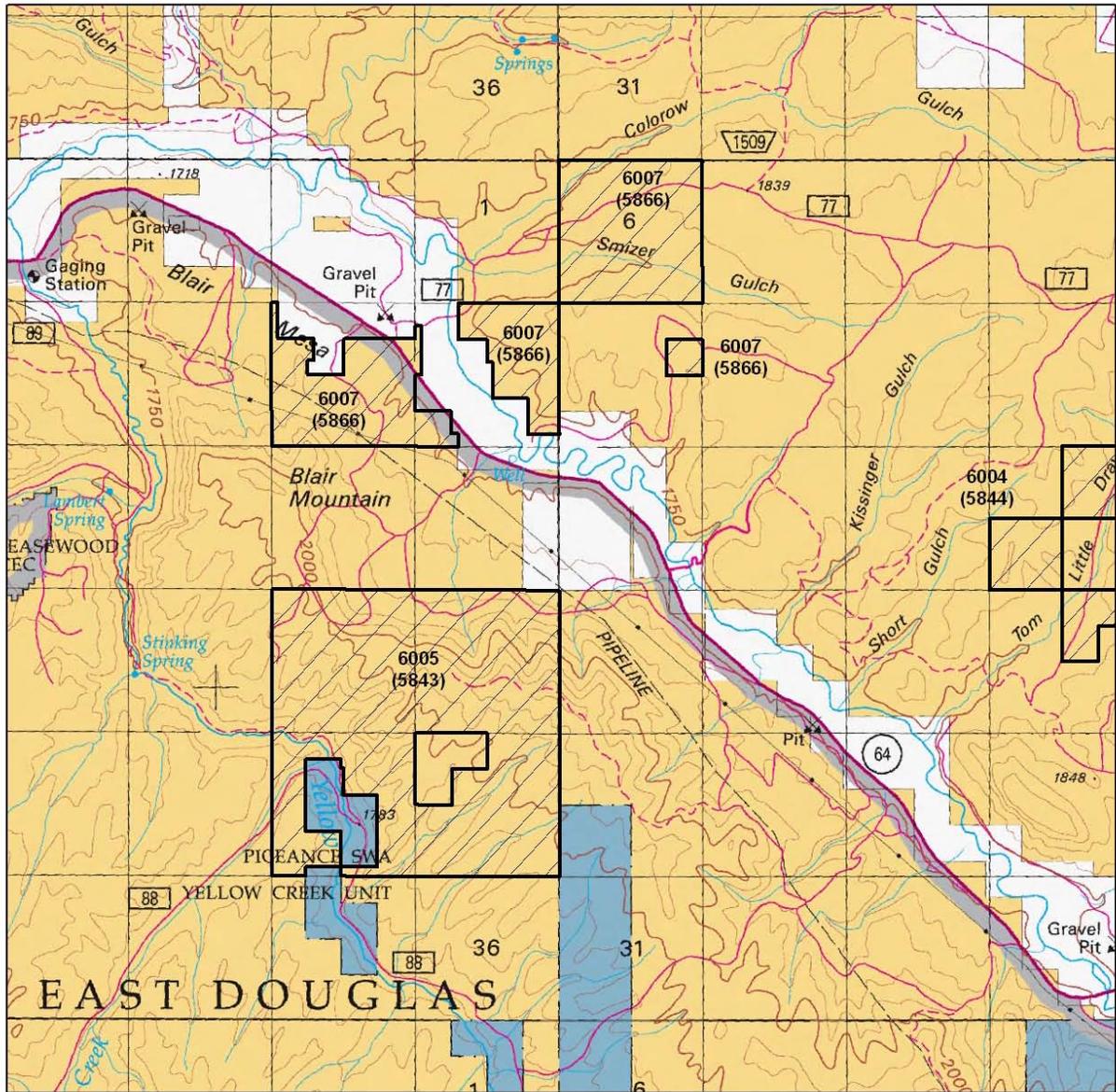
 August_2011 Oil & Gas Lease Sale Nominated Parcels

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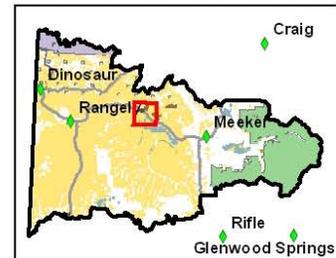
03/31/2011

Figure 3 – Parcels Nominated 6005 and 6007 (Map 3 of 3)



 August_2011 Oil & Gas Lease Sale Nominated Parcels

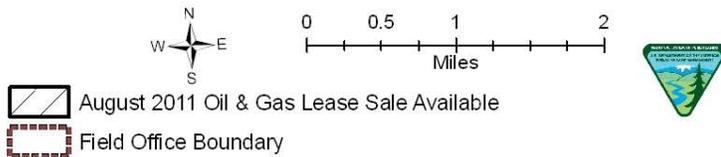
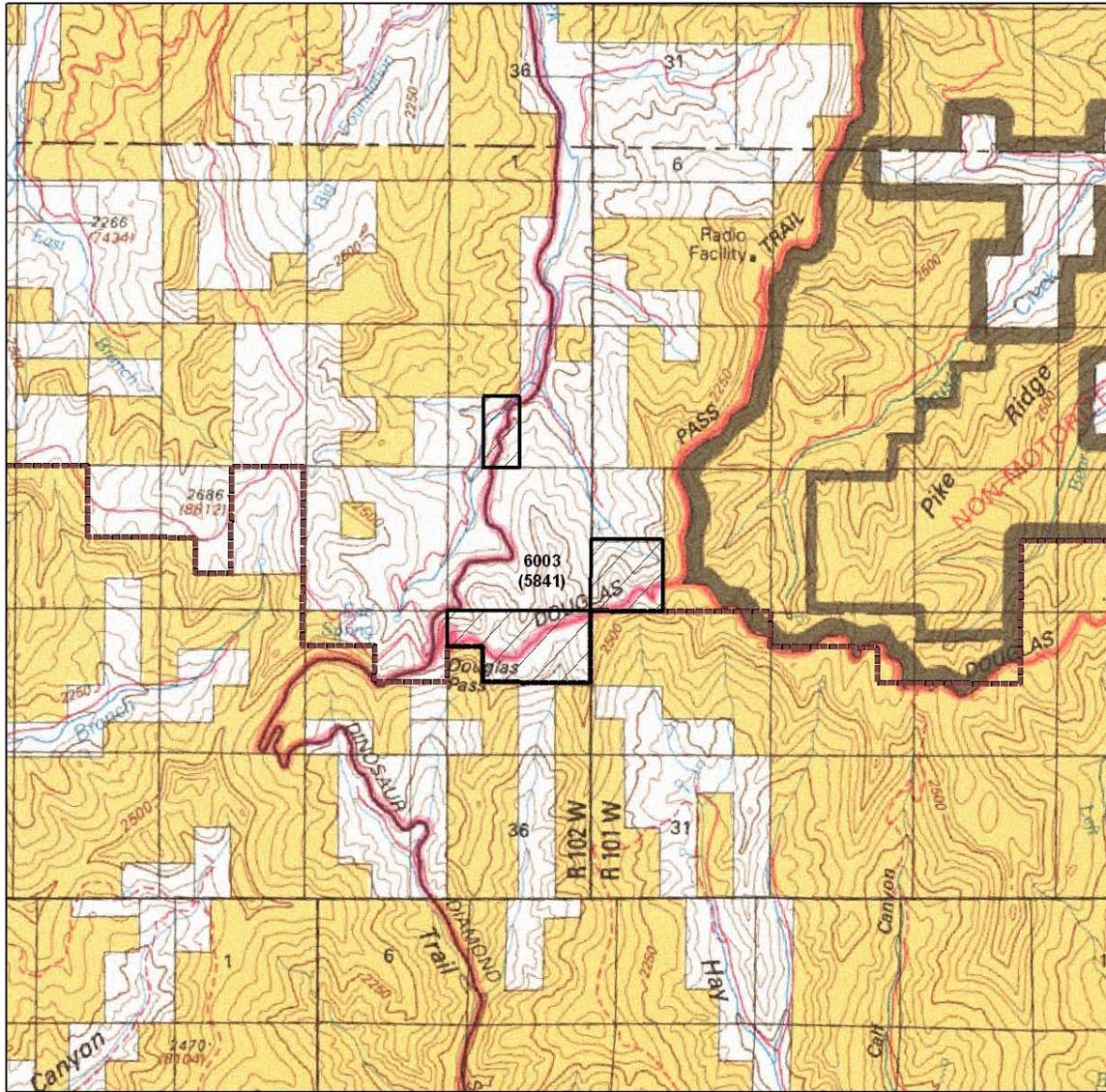
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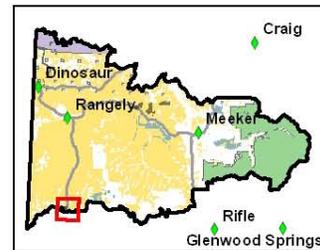
03/31/2011

Attachment E
Location Map of Offered Parcels
August 2011 - Colorado Competitive Oil & Gas Lease Sale

Figure 4 – Parcel Offered 6003 (Map 1 of 3)

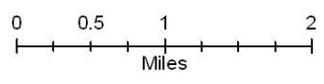
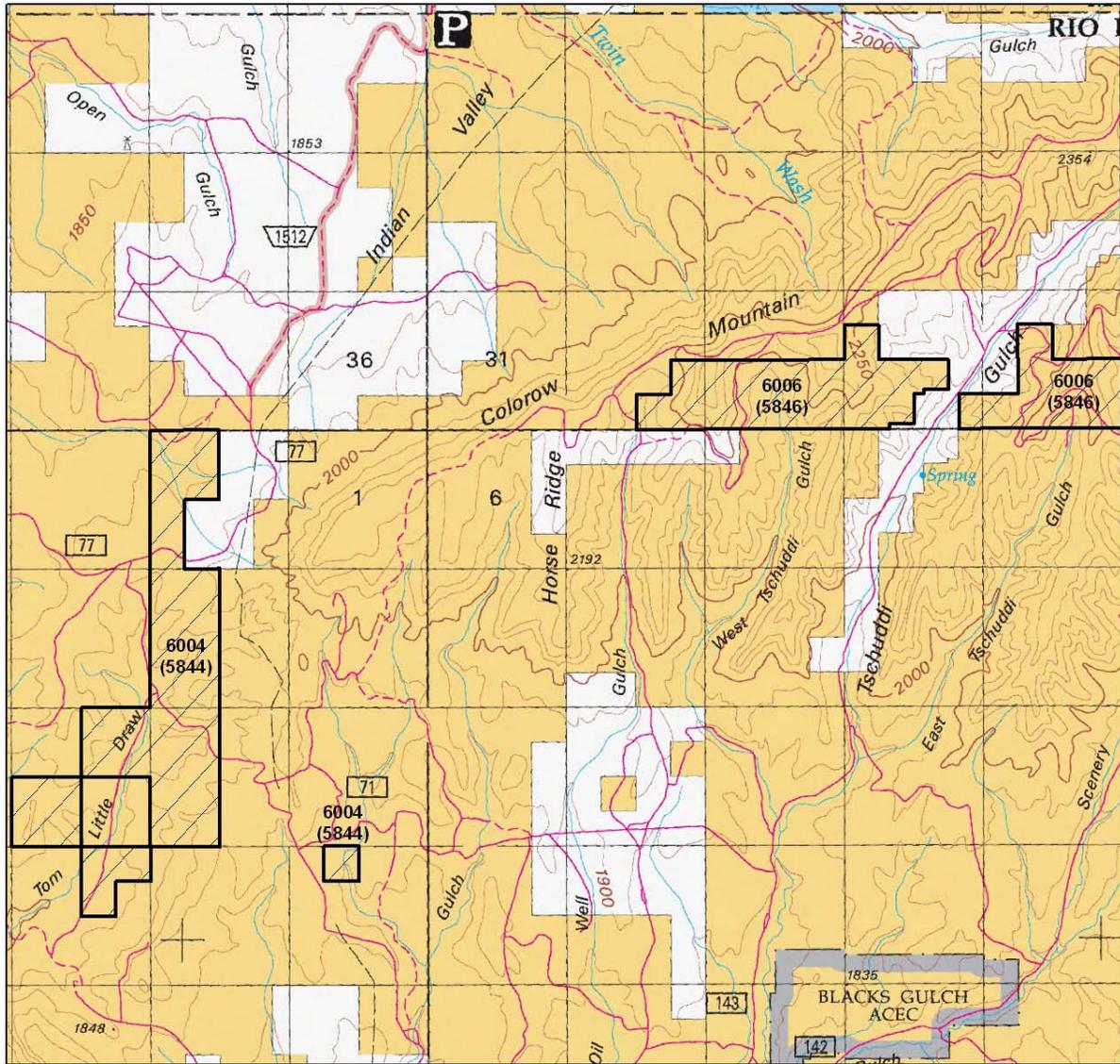


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03/31/2011

Figure 5 – Parcels Offered 6004 and 6006 (Map 2 of 3)



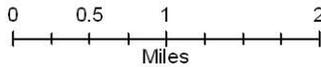
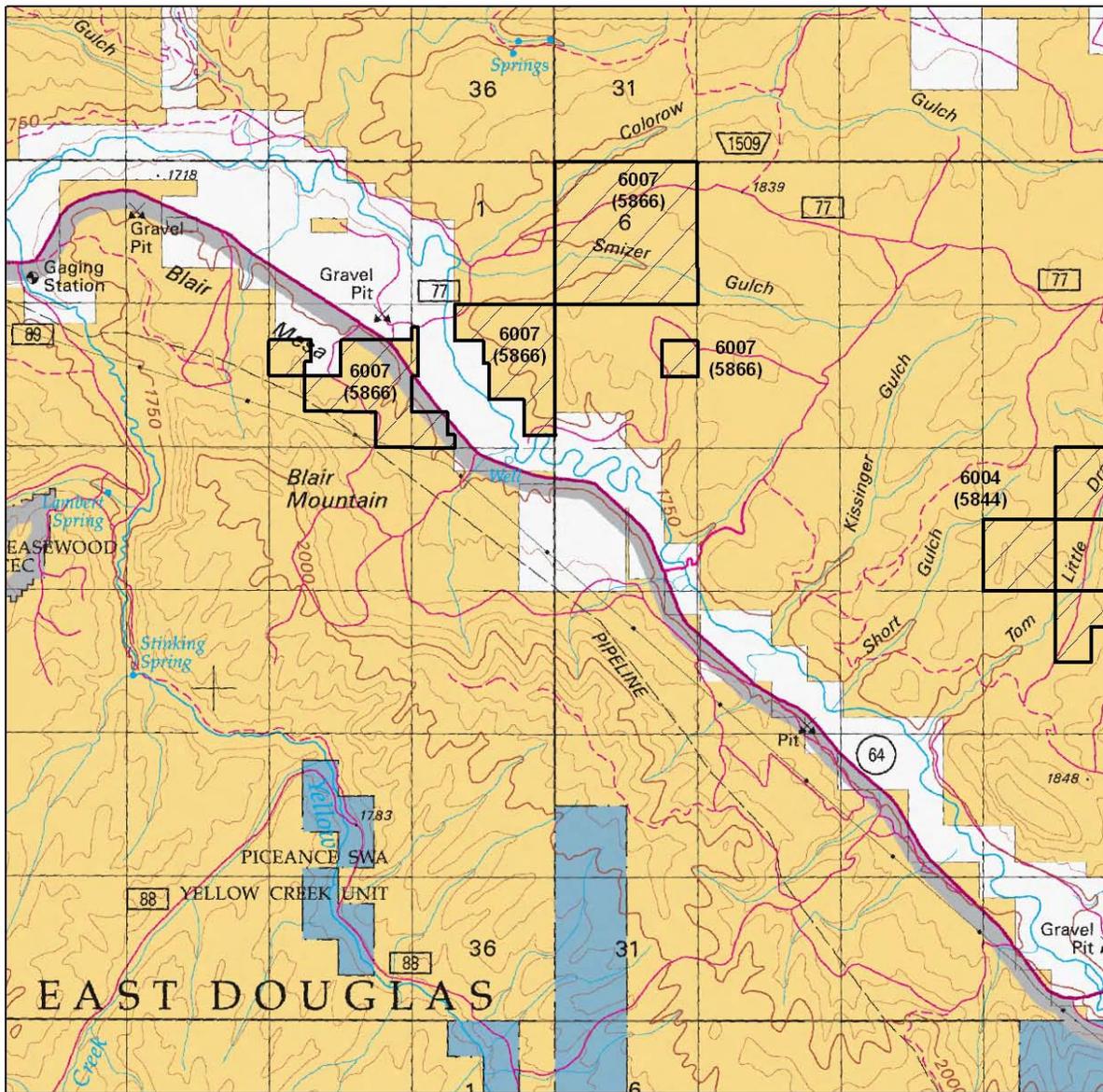
 August 2011 Oil & Gas Lease Sale Available

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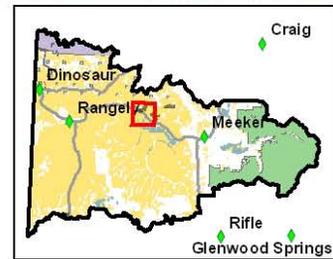
03/31/2011

Figure 6 – Parcels Offered 6004 and 6007 (Map 3 of 3)



 August 2011 Oil & Gas Lease Sale Available

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03/31/2011

Attachment F: Exhibits Description

EXHIBIT CO-34

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.

EXHIBIT CO-39

CONTROLLED SURFACE USE

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

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

EXHIBIT WR-CSU-01

CONTROLLED SURFACE USE STIPULATION

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

Surface disturbing activities will be allowed in these areas only after an engineered construction/reclamation plan is submitted by the operator and approved by the Area Manager. The following items must be addressed in the plan: 1) How soil productivity

will be restored; 2) How surface runoff will be treated to avoid accelerated erosion such as riling, gullyng, piping, and mass wasting.

For the purpose of: PROTECTING FRAGILE SOILS ON SLOPES GREATER THAN 35 PERCENT AND SALINE SOILS

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 Bureau of Land Management Manuals 1624 and 3101 or Forest Service Manuals 1950 and 2820.)

EXCEPTION:

An exception may be granted by the Area Manager if an environmental analysis of the proposed action identifies that the scale of the operation would not result in any long-term decrease in site productivity or increased erosion. An exception may also be granted by the Area Manager if a more detailed soil survey determines that soil properties associated with the disturbance do not meet fragile soil criteria.

MODIFICATION: None

WAIVER: None

**EXHIBIT WR-CSU-02
CONTROLLED SURFACE USE STIPULATION**

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

These Areas of Critical Environmental Concern (ACEC) are known to contain, or have potential to contain, threatened or endangered plants or plants that are candidates for listing as threatened or endangered, State of Colorado plant species of concern, Bureau of Land Management sensitive plants, remnant vegetation associations, and/or unique plant communities. A plant inventory will be conducted prior to approving any surface disturbing activities within the ACEC boundaries. Surface disturbance will not be allowed within mapped locations of these plants. The presence of the above listed plants would require relocating surface disturbance or facilities more than 200 meters. The timing required for conducting the plant inventories may require deferring activities longer than 60 days.

For the purpose of: PROTECTING ACECS

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 Bureau of Land Management Manuals 1624 and 3101 or Forest Service Manuals 1950 and 2820.)

EXCEPTION:

This stipulation may be excepted by the Area Manager if an environmental analysis of the proposed action indicates that the plants of concern would not be affected.

MODIFICATION: None

WAIVER: None

EXHIBIT WR-CSU-05
CONTROLLED SURFACE USE STIPULATION

Surface occupancy or use is subject to the following special operating constraints:
Prior to authorizing surface disturbance within this area, and pending conferral or consultation with the U.S. Fish & Wildlife Service as required by the Endangered Species Act, the Area Manager may require the proponent/applicant to submit a plan of development that would demonstrate that:

- 1) involvement of cottonwood stands or cottonwood regeneration areas have been avoided to the extent practicable;
- 2) special reclamation measures or design features are incorporated that would accelerate recovery and/or reestablishment of affected cottonwood communities;
- 3) the pre-development potential of affected floodplains to develop or support riverine cottonwood communities has not been diminished; and
- 4) the current/future utility of such cottonwood substrate for bald eagle use would not be impaired.

For the purpose of: PROTECTING BALD EAGLE NEST, ROOST, & PERCH SUBSTRATE

This is a controlled surface use area for maintaining the long term suitability, utility and development opportunities for specialized habitat features involving nest, roost, and perch substrate on Federal lands.

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 Bureau of Land Management Manuals 1624 and 3101 or Forest Service Manuals 1950 and 2820.)

EXCEPTION:

The Area Manager may grant an exception to this stipulation if an environmental analysis indicates that the proposed or conditioned activities would not affect the long term suitability or utility of habitat features or diminish opportunities for natural floodplain functions. Surface disturbance and occupation may also be authorized in the event that established impacts to habitat values would be compensated or offset to the satisfaction of the Bureau of Land Management in consultation with U.S. Fish & Wildlife Service and Colorado Division of Wildlife.

MODIFICATION: Integral with exception and stipulation.

WAIVER: None

EXHIBIT WR-CSU-06
CONTROLLED SURFACE USE STIPULATION

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

Prior to authorizing surface disturbance of occupied stream reaches or within watersheds contributing to occupied habitats, the Area Manager may require the proponent/applicant to submit a plan of development that would demonstrate that the proposed action would not:

- 1) increase stream gradient;
- 2) result in a net increase in sediment contribution;
- 3) decrease stream channel sinuosity;
- 4) increase the channel width to depth ratio;
- 5) increase water temperature;
- 6) decrease vegetation derived stream shading; and
- 7) degrade existing water quality parameters, including specific conductance, turbidity, organic/inorganic contaminant levels, and dissolved oxygen in occupied reaches or contributing perennial or intermittent tributaries.

If approvals are granted and development results in these standards being exceeded, additional measures would be required to correct the deficiencies. The proponent may be required to monitor stream/channel responses throughout the life of the project.

For the purpose of: PROTECTING COLORADO RIVER CUTTHROAT TROUT HABITAT

This is a controlled surface use area for protecting aquatic habitats occupied by populations of Colorado River cutthroat trout.

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 Bureau of Land Management Manuals 1624 and 3101 or Forest Service Manuals 1950 and 2820.)

EXCEPTION:

The Area Manager may authorize surface disturbance in these areas if an environmental analysis indicates that the project would have no adverse influence on identified stream characteristics.

MODIFICATION:

Short term transgressions of the stream characteristics listed above may be allowed if the Area Manager determines, through environmental analysis, that short term deviations will have no adverse consequences on affected channel reaches beyond the construction phase of the project.

WAIVER:

In the event the population status of Colorado River cutthroat trout warrants downgrading, this stipulation may be replaced by less stringent criteria.

EXHIBIT WR-LN-02
LEASE NOTICE

PALEONTOLOGICAL VALUES: This lease encompasses a Class I paleontological area and has the potential to contain important fossils. Prior to authorizing surface disturbing activities, the Bureau of Land Management will make a preliminary determination as to whether potential exists for the presence of fossil material. If potential exists for the presence of valuable fossils, the area will be required to have a Class I paleontological survey completed. Mapped fossil sites will be protected by applying the appropriate mitigation to the use authorization. Mitigation may involve the relocation of disturbance in excess of 200 meters, or excavation and recording of the fossil remains. Certain areas may require the presence of a qualified paleontologist to monitor operations during surface disturbing activities. Bureau of Land Management will determine the disposition of any fossils discovered and excavated.

EXHIBIT WR-LN-03
LEASE NOTICE

WILD HORSE HABITAT: This lease parcel encompasses a portion of a wild horse herd management area. In order to protect wild horses within this area, intensive development activities may be delayed for a specified 60-day period within the spring foaling period between March 1 and June 15.

The lessee may be required to perform special conservation measures within this area including:

1. Habitat improvement projects in adjacent areas if development displaces wild horses from critical habitat.
2. Disturbed watering areas would be replaced with an equal source of water, having equal utility.
3. Activity/improvements would provide for unrestricted movement of wild horses between summer and winter ranges.

EXHIBIT WR-NSO-01
NO SURFACE OCCUPANCY STIPULATION

For the purpose of: PROTECTING LANDSLIDE AREAS.

Identified soils are considered unstable and subject to slumping and mass movement. Surface occupancy will not be allowed in such areas delineated from U.S. Department of Agriculture Soil Conservation Service Order III Soil Surveys.

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 Bureau of Land Management Manuals 1624 and 3101 or Forest Service Manuals 1950 and 2820.)

EXCEPTION:

The Area Manager may authorize surface occupancy if an environmental analysis finds the nature of the proposed action could be conditioned so as not to impair the stability of the landslide areas. An exception may also be granted if a more detailed soil survey, that is, Order I, conducted by a qualified soil scientist, finds the soil properties associated with the proposed action are not susceptible to slumping and mass movement.

MODIFICATION:

Site specific modifications may be granted by the Area Manager pending determination that a portion of the soil units meet the following conditions:

1. Inclusions within the soil unit where slopes are less than 35 percent.
2. A more detailed survey identifies and delineates wet areas and sloping rock formations, and the proposed action is designed to avoid those areas.
3. The proposed action utilizes land treatments and soil stabilization practices that will demonstrate a high probability of reducing soil loss and preventing degradation of water quality.
4. The proposed action would not cause slumping or mass movement as demonstrated through engineering and design criteria.

WAIVER: None

**EXHIBIT WR-NSO-03
NO SURFACE OCCUPANCY STIPULATION**

For the purpose of: PROTECTING OTHER RAPTORS.

This area encompasses raptor nests of other than special status raptor species. Surface occupancy is not allowed within 1/8 mile of identified nests.

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 Bureau of Land Management Manuals 1624 and 3101 or Forest Service Manuals 1950 and 2820.)

EXCEPTION:

An exception may be granted by the Area Manager if authorization is obtained from the U.S. Fish & Wildlife Service (through applicable provisions of the Endangered Species Act, Eagle Protection Act, or Migratory Bird Treaty Act) , to interrupt active nesting attempts and/or cause short or long term adverse modification of suitable nest site characteristics. The Area Manager may also grant an exception if an environmental analysis finds that the nature or conduct of the action, as proposed or conditioned, would not impair the function or utility of the nest site for current or subsequent nest activities or occupancy.

MODIFICATION:

Site specific modifications to the no surface occupancy area may be granted by the Area Manager pending determination that a portion of the area is not essential to nest site functions or utility; or that the nature or conduct of the activity, as proposed or conditioned, would not impair

the function or utility of the nest site for current or subsequent nest activities or occupancy. The stipulation may also be modified if the proponent, Bureau of Land Management, and where necessary, other affected interests, negotiate compensation that satisfactorily offsets anticipated impacts to candidate raptor breeding activities and/or habitats. Modifications could also occur if sufficient information is provided that supports the contention that the action would not contribute to the suppression of breeding population densities or the population's production or recruitment regime from a Geographic Reference Area perspective.

WAIVER:

A waiver may be granted by the Area Manager if documentation shows the nest site has been abandoned for a minimum of three years; or that the site conditions, including surrounding nest habitat, have changed such that there is no reasonable likelihood of site occupation for a subsequent minimum period of 10 years.

**EXHIBIT WR-NSO-05
NO SURFACE OCCUPANCY STIPULATION**

For the purpose of: **PROTECTING BALD EAGLE ROOSTS.**

This area encompasses bald eagle nocturnal roosts and/or concentration areas. Surface occupancy is not allowed with 1/4 mile of designated features.

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 Bureau of Land Management Manuals 1624 and 3101 or Forest Service Manuals 1950 and 2820.)

EXCEPTIONS:

An exception may be granted by the Area Manager if authorization is obtained from the U.S. Fish & Wildlife Service (through applicable provisions of the Endangered Species Act, Eagle Protection Act, or Migratory Bird Treaty Act), to interrupt roosting activities and/or cause short or long-term adverse modification of suitable roost site characteristics. The Area Manager may also grant an exception if an environmental analysis indicates that the nature or conduct of the action, as proposed or conditioned, would not impair the function or utility of the site for current or subsequent roosting activities or occupancy.

MODIFICATIONS:

The no surface occupancy stipulation may be modified by the Area Manager if an environmental analysis indicates that a portion of the area is nonessential to roost site function or utility; or that the proposed action could be conditioned to not impair the function or utility of the site for current or subsequent roosting activities or occupancy. The stipulation may also be modified commensurate with changes in species status.

WAIVER:

The stipulation may be waived if the species becomes extinct or if the site has failed to support roosting activities over a minimum three-year period. A waiver may also apply if the area has

changed such that there is no reasonable likelihood of site occupation for a subsequent minimum period of 10 years.

EXHIBIT WR-NSO-08
NO SURFACE OCCUPANCY STIPULATION

For the purpose of: PROTECTING KNOWN & POTENTIAL HABITAT OF LISTED & CANDIDATE THREATENED OR ENDANGERED PLANT SPECIES.

This area contains threatened or endangered plants, candidate threatened or endangered plants, or potential habitat for these plants. No surface occupancy will be allowed on mapped populations of these plants.

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 Bureau of Land Management Manuals 1624 and 3101 or Forest Service Manuals 1950 and 2820.)

EXCEPTIONS:

The Area Manager may grant an exception if an inventory and subsequent environmental analysis indicates that the nature or conduct of the action, as proposed or conditioned, would not directly or indirectly affect plant populations.

MODIFICATION: None

WAIVER: None

EXHIBIT WR-NSO-09
NO SURFACE OCCUPANCY STIPULATION

For the purpose of: PROTECTING SENSITIVE PLANTS & REMNANT VEGETATION ASSOCIATIONS.

This area contains Bureau of Land Management sensitive plants and remnant vegetation associations. Surface occupation will not be allowed within known populations of these plants.

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 Bureau of Land Management Manuals 1624 and 3101 or Forest Service Manuals 1950 and 2820.)

EXCEPTIONS:

The Area Manager may grant an exception if an inventory and subsequent environmental analysis indicated that the nature or conduct of the action, proposed or conditioned, would not directly or indirectly affect plant populations. An exception may also be applied if the no surface occupancy stipulation would hinder or preclude the exercise of valid existing rights. Under that circumstance, protection of the plants would be afforded through Conditions of Approval, that would require reclamation of disturbed areas to include utilizing native seed mixes in remnant

vegetation association areas, and reproducing sensitive species via transplant or some other means in areas containing sensitive species.

MODIFICATION: None

WAIVER: None

EXHIBIT WR-TL-04 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.

No development activities are allowed within 1/4 mile of identified nests from February 1 through August 15, or until fledgling and dispersal of young. (Development will be allowed from August 16 through January 31)

For the purpose of: PROTECTING OTHER RAPTORS

This area encompasses the nests of raptors that are other than threatened, endangered, or candidate species.

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 Bureau of Land Management Manuals 1624 and 3101 or Forest Service Manuals 1950 and 2820.)

EXCEPTION:

An exception may be granted to these dates by the Area Manager, if authorization is obtained from the U.S. Fish & Wildlife Service (through applicable provisions of the Endangered Species Act, Eagle Protection Act, or Migratory Bird Treaty Act) to harass, harm, wound, or kill in the context of active nesting attempts. An exception can also be granted if an environmental analysis of the proposed action indicates that nature or conduct of the activity could be conditioned so as not to impair the utility of nest for current or subsequent nesting activity or occupancy. The Area Manager may also grant an exception if the nest is unattended or remains unoccupied by May 15 of the project year.

MODIFICATION:

The Area Manager may modify the size of the stipulation area if an environmental analysis indicates that a portion of the area is nonessential to nest utility or function, or that the proposed action could be conditioned so as not to impair the utility of the nest site for current or subsequent nest activities or occupation. The stipulation may also be modified if the proponent, Bureau of Land Management, and where necessary, other affected interests, negotiate compensation that satisfactorily offsets anticipated impacts to raptor breeding activities and/or habitats. Modifications could also occur if sufficient information is provided that supports the

contention that the action would not contribute to the suppression of breeding population densities or the population's production or recruitment regime from a Geographic Reference Area perspective.

WAIVER: A waiver may be granted if the nest has remained unoccupied for a minimum of three years or conditions have changed such that there is no reasonable likelihood of site occupation over a minimum 10-year period.

EXHIBIT WR-TL-05 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.

No development is allowed within 1/2 mile of identified sites from November 15 through April 15. (Development activities will be allowed from April 16 through November 14.)

On the lands described below:

For the purpose of (reasons): PROTECTING BALD EAGLE WINTER ROOSTS & CONCENTRATION AREAS.

This area encompasses bald eagle winter roosts and concentration areas.

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 Bureau of Land Management Manuals 1624 and 3101 or Forest Service Manuals 1950 and 2820.)

EXCEPTION:

An exception may be granted to these dates by the Area Manager, if authorization is obtained from the U.S. Fish & Wildlife Service (through applicable provisions of the Endangered Species Act, Eagle Protection Act, or Migratory Bird Treaty Act) to harass, harm, wound, or kill in the context of ongoing roosting activities and/or short or long term adverse modification of suitable roost site characteristics. An exception can also be granted if an environmental analysis of the proposed action indicates that nature or conduct of the activity (through Section 7 consultation) which fully offset losses associated with project implementation.

MODIFICATION:

The Area Manager may modify the size of the stipulation area or time frames if an environmental analysis indicates that a portion of the area is nonessential to roost site function and utility, or that the proposed action could be conditioned so as not to impair the utility of the roost site for current or subsequent roosting activities or occupancy.

WAIVER:

A waiver may be granted if the species becomes extinct, the site has failed to support roosting activities over a minimum three year period, or if the site conditions have changed such that there is no reasonable likelihood of site occupation over a minimum 10-year period.

EXHIBIT WR-TL-06
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.

This stipulation will not take effect until direct and indirect impacts to suitable nesting cover exceed 10 percent of the habitat available within 2 miles of identified leks. Further development, after this threshold has been exceeded, will not be allowed from April 15 through July 7. (Development can occur until 10 percent of the habitat associated with a lek is impacted, from then on, additional activity can occur from July 8 through April 14.)

For the purpose of: PROTECTING SAGE-GROUSE NESTING HABITAT.

This area encompasses suitable sage-grouse nesting habitat associated with individual leks. 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 Bureau of Land Management Manuals 1624 and 3101 or Forest Service Manuals 1950 and 2820.)

EXCEPTION:

The Area Manager may grant an exception if an environmental analysis and consultation with the Colorado Division of Wildlife indicate that the proposed action could be conditioned so as not to affect nest attendance, egg/chick survival, or nesting success. An exception could also be granted if the proponent, Bureau of Land Management, and Colorado Division of Wildlife negotiate compensation that would satisfactorily offset the anticipated losses of nesting habitat or nesting activities. Actions designed to enhance the long term utility or availability of suitable nest habitat may be excepted.

MODIFICATION:

The Area Manager may modify the size of the timing limitation area if an environmental analysis indicates that the proposed action could be conditioned so as not to affect nest attendance, egg/chick survival, or nesting success. Time frames may be modified if operations could be conditioned to allow a minimum of 70 percent of nesting attempts to progress through hatch.

WAIVER:

This stipulation may be waived if Colorado Division of Wildlife determines that the described lands are incapable of serving the long term requirements of sage grouse nesting habitat and that these ranges no longer warrant consideration as components of sage grouse nesting habitat.

EXHIBIT WR-TL-08
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.

No development activity is allowed from December 1 through April 30. (Development activities are allowed from May 1 through November 30.)
For the purpose of: PROTECTING BIG GAME SEVERE WINTER RANGE.

This area encompasses big game severe winter range.

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 Bureau of Land Management Manuals 1624 and 3101 or Forest Service Manuals 1950 and 2820.)

EXCEPTION:

The Area Manager may grant an exception in an environmental analysis indicates that the proposed action could be conditioned as not to interfere with habitat function or compromise animal condition within the project activity. An exception may also be granted if the proponent, Bureau of Land Management, and Colorado Division of Wildlife negotiate compensation that would satisfactorily offset anticipated impacts to big game winter activities or habitat condition. Under mild winter conditions, when prevailing habitat or weather conditions allow early dispersal of animals from all or portions of a project area, an exception may be granted to suspend the last 60 days of this seasonal limitation. Severity of winter will be determined on the basis of snow depth, snow crusting, daily mean temperatures, and whether animals were concentrated on the winter range during the winter months. Exceptions may also be granted for actions specifically intended to enhance the long term utility or availability of suitable habitat.

MODIFICATION:

The Area Manager may modify the size and time frames of this stipulation if Colorado Division of Wildlife monitoring information indicates that current animal use patterns are inconsistent with dates established for animal occupation. Modifications may also be authorized if the proposed action could be conditioned so as not to interfere with habitat function or compromise animal condition. In addition, if the proponent, Bureau of Land Management, and Colorado Division of Wildlife agree to habitat compensation that satisfactorily offsets detrimental impacts to activity or habitat condition.

WAIVER:

This stipulation may be waived if the Colorado Division of Wildlife determines that all or specific portions of the area no longer satisfy this functional capacity.

EXHIBIT WR-TL-09 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.

This stipulation will not take effect until direct and indirect impacts to suitable summer range habitats exceed 10 percent of that available within the individual Game Management Units (GMU). When this threshold has been reached, no further development activity will be allowed from May 15 through August 15. (Development is

allowed until 10 percent of individual GMU summer habitat has been affected, then additional development is allowed from August 16 through May 14.)
For the purpose of: PROTECTING DEER & ELK SUMMER RANGE.

This area is located within deer and elk summer ranges, which due to limited extent, are considered critical habitat within appropriate Colorado Division of Wildlife GMUs.

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 Bureau of Land Management Manuals 1624 and 3101 or Forest Service Manuals 1950 and 2820.)

EXCEPTION:

The Area Manager may grant an exception if an environmental analysis indicates that the proposed action could be conditioned to have no additional influence on the utility or suitability of summer range habitats. An exception may also be granted if the proponent, Bureau of Land Management, and Colorado Division of Wildlife negotiate compensation that would satisfactorily offset anticipated impacts to summer range function or habitat. Exceptions may also be granted for actions specifically intended to enhance the long term utility or availability of suitable habitat.

MODIFICATION:

The Area Manager may modify the size and time frames of this stipulation if Colorado Division of Wildlife monitoring information indicates that current animal use patterns are inconsistent with dates established for animal occupation. Modifications may also be authorized if the proposed action could be conditioned to have no additional influence on the utility or suitability of summer range habitats.

WAIVER:

This stipulation may be waived if the Colorado Division of Wildlife determines that all or specific portions of the area no longer satisfy this functional capacity or that these summer ranges no longer merit critical habitat status. Waivers will also be applied to delineated summer range occurring below 2,250 meters (7,350 feet) in elevation.

Attachment G – Response to Comments

Introduction

The public comment period for this Environmental Assessment was from February 22, 2011 to March 21, 2011. During the comment period BLM received a total of two comment letters from Trout Unlimited (TU) and Center for Native Ecosystems (CNE) via electronic mail. The comments from the CNE included information submitted on behalf of The Wilderness Society (TWS).

The comment letters were read and comments identified. The BLM assigned the appropriate Team Member to respond to comments relating to their specialty in order to develop a response. Below is general listing of comments, followed by BLM's response.

BLM did not address comments that were not relevant to the issues or were outside the scope of this environmental assessment (EA).

No.	Commenter	Comment	BLM's Response
1	TU & CNE/TWS	Adequacy of NEPA review based on outdated management plan and inadequate lease stipulations.	Attached lease stipulations and mitigation developed at the project level NEPA analysis ensures adequate resource protection. It is the BLM policy that the State Directors follow current land use allocation and existing land use plan decisions for Fluid Minerals and related energy actions when preparing land use amendments or revisions. CEQ or NEPA regulations do not require postponing or denying a proposed action covered by the EIS for the existing land use plan to preserve alternatives during the course of preparing a new land use plan and EIS. While BLM has discretion to temporarily defer leasing during land use planning revision, it need not do so merely because an RMP is in the process of being revised or amended.

2	TU	Lack of science-based reference support for fisheries analysis and discussion of BLM's support of the CRCT Strategy.	<p>Of the five parcels nominated for leasing, (6003, 6004, 6005, 6006, and 6007), all have part of their acreage deferred and parcel 6005 is deferred from leasing in its entirety. None of the offered parcels are near or contribute to occupied CRCT streams or those that have foreseeable potential to support CRCT. Additional language has been incorporated in the <i>Threatened, Endangered, and Sensitive Animal Species</i> and <i>Wetlands and Riparian Zones</i> sections to help clarify BLM's evaluation of anticipated management of, and residual effects on, riparian and aquatic habitats within the ACECs (especially with regard to parcel 6007).</p> <p>Although the BLM does not discuss our agency's operational involvement with the CRCT Agreement and Strategy, management expressed in planning and in practice is expected to be consistent with those objectives or measures. Since the 1997 RMP, WRFO management of CRCT in the East Douglas Creek ACEC in the context of oil and gas development complements Objectives 1 (characterizing and monitoring populations) and 4 (securing watershed conditions) of the 2006 Agreement and we are implementing actions consistent with Strategy 1 (characterizing and monitor populations), 7 (management consideration of entire watersheds), and 11 (evaluate land management actions).</p> <p>The following points are relevant to specific objections made by the commenter: --as explained in the text, Yellow Creek and the upper reaches of West Douglas Creek are incapable of supporting a CRCT fishery. --Parcel 6004 does not encompass a perennial system nor does it support robust riparian communities.</p>
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3	TU	Recommends BLM attach baseline water testing stipulation.	Oil and gas leasing does not specify the target formation, depth, or other information that would allow the identification of formations and aquifers that could be impacted by hydraulic fracturing practices. Therefore, developing groundwater monitoring on lease parcels at this stage would not be effective at collecting the type of baseline water samples relevant to hydraulic fracturing practices.
4	TU	Water quality issues need more review and discussion on potential groundwater impacts.	Oil and gas leasing does not specify the target formation, depth or other information that identifies aquifers that could be impacted by drilling practices. For example, oil and gas developments could be shallow coal formations for coal bed methane, isolated oil formations using horizontal drilling, shallow conventional natural gas or deep natural gas development. Each of these developments has different potential impacts on groundwater resources, but all of them would be mitigated by drilling practices that are authorized in the APD approval. For example, a current APD condition of approval requires that when drilling to set the surface casing, drilling fluid is composed only of fresh water, bentonite and/or a benign lost circulation material. Typical surface casing is cemented and completed in a formation deeper than the known fresh water aquifer zones. Additional information has also been added to the text

5	TU CNE/TWS	Areas of Critical Environmental Concern (ACEC) may be impacted by lease parcel sales.	With the exception of approximately 3 acres of the White River ACEC that overlaps the boundaries of parcel 6007, acreage overlapping the ACECs has been deferred from the sale. (See Attachment C.) Portions of parcel 6003 in the E2W2 Section 19, T5S, R101W are deferred pending further analysis of primitive recreation opportunities. For a discussion of the protection of the overlapping area, please see the Wetlands and Riparian Zones section. The East Douglas Creek and White River Riparian ACECs were never intended to remain inviolate to surface disturbing activities, as demonstrated by the provisions integral with CSUs 2, 5, and 6. In particular, the East Douglas ACEC boundaries were established across the entire watershed to account for those land uses that have potential to exert indirect influences on aquatic habitats well removed from waters that contribute to or are occupied by populations of the BLM-sensitive Colorado River cutthroat trout. Additional language has been incorporated in the <i>Threatened, Endangered, and Sensitive Animal Species</i> and <i>Wetlands and Riparian Zones</i> sections to help clarify BLM's evaluation of anticipated management of, and residual effects on, riparian and aquatic habitats within the ACECs. BLM has recommended deferral of portions of parcel 6007 in Section 11, T2N, R98W due to Greater Sage-grouse habitat and concerns about primitive recreation opportunities. (See Attachment B).
6	TU	A more in-depth discussion on the actual impacts associated with drilling activities should be included in the EA.	See the Soils - <i>Environmental Consequences</i> section for additional discussion of the topic.
7	TU	A discussion that includes watershed hydrology in this area should be included.	See Surface Water - <i>Environmental Consequences</i> for additional discussion of the topic.

8	TU	We request that different potential surface disturbance parameters be compared for different development scenarios based on acreage that could be subjected to surface disturbing activities.	Oil and gas leasing does not determine down-hole drainage spacing, drilling methods, or anticipate the success of exploration activities. Therefore, developing development scenarios for lease parcels at this stage would not be effective at anticipating or characterizing future exploration and development. Any parameters from development scenarios would be extremely speculative and would not likely yield meaningful analysis. This type of analysis is useful at the project planning stage.
9	TU	Mitigation measures should include drilling oil and gas related water wells to aquifers far below those providing residential water	Oil and gas leasing would not necessarily result in additional water supply wells being developed for oil and gas development activities; any proposed water wells would be analyzed based on their proximity to residential wells. Currently most of the water sources for oil and gas water uses come from surface sources and typically water wells are a minor water supply.
10	TU	No discussion on water required for drilling and consequential impacts to spring and residential water wells.	Water required for oil and gas development will depend on the intensity of development that might occur on these lease parcels which is not known at this time. Also see BLM's response to comment 9.
11	TU	Confusing mitigation actions with stipulations	Comment noted. Mitigation measures are developed and implemented at the APD stage based on the submitted Surface Use and Drilling Plans. Note that CSU 2, 5, and 6 provide specific resource management objectives that form the basis for developing site- and project-specific mitigation strategies designed to effectively resolve or avoid anticipated impacts.
12	TU	The EA fails to include a thorough analysis on the proposed transmission line projects.	Please see Realty Authorizations and Cumulative Impacts sections. Discussion of a pending transmission line proposal is beyond the scope of this document.
13	TU	Additional alternative should include withdrawal until OG RMP is complete.	See BLM's response to comment 1.
14	CNE/TWS	Failure to analyze a sufficient range of alternatives.	BLM has analyzed the proposed action and the no-action alternative as required by law. Furthermore, deferring all or part of a nominated parcel following analysis results in a substantive change to the proposed action.
15	CNE/TWS	BLM did not undertake any surveys nor conduct site visits.	Entire field office has been extensively surveyed, photographed, and mapped.

16	TU	<p>Increase of setbacks or buffers from streams should be included in this third alternative. The RMP has Controlled Surface use Language that discusses surface use in CRCT habitat but newer science and better protection standards are now available.</p>	<p>See BLM response to comment 3 and Attachment E (Exhibits Description.)</p> <p>BLM is unable to respond to the contention that the availability of “newer science and better protection standards” would subordinate the management objectives established in CSU-06 and 02, or BLM’s latitude or discretion to relocate surface disturbance by up to 200 meters (660 feet) as a means of avoiding direct and indirect influences on riparian or aquatic habitats. However, as applied to terrain associated with much of this Field Office, universally prescribed setbacks are not an appropriate or effective management strategy. Uniform imposition of 500-foot setbacks would necessarily increase the involvement of steep adjacent hillslopes that not only increases the risk of chronic erosion and sediment transport, but drastically limits the extent and effectiveness of long-term surface stability derived through reclamation.</p> <p>There is also no information provided that supports the contention that the current RMP is flawed in its quality or outdated in its management philosophies as applied to pertinent aquatic and terrestrial systems. The management presented in the RMP met with the approval of the CDOW and USFWS at the time and the BLM has remained responsive to philosophical and technological shifts since that time.</p>
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17		Protecting big game habitat and migration routes should also be considered as an important responsible energy development strategy and TU feels the EA takes protection measure very lightly. TU suggests the BLM employ strict NSO stipulations in severe big game winter.	BLM has addressed these issues and, in coordination with the CDOW, have identified important big game summer and winter ranges where timing limitations are imposed. Please see text WILDLIFE, TERRESTRIAL <i>Environmental Consequences and Attachment E</i> . The application of strict NSOs to extensive big game severe winter ranges is neither practical in a multiple-use context nor necessary to maintain viable populations of deer and elk. As presented in the text, BLM and CDOW biologists agreed that timing limitations were not necessary to support dispersed big game movement patterns in the WRFO. Reference to the Pinedale “pinch-points” are situations involving constricting geography that is not relevant to this Field Office.
18	TU CNE/TWS	Air quality issues need further analysis	Please see Air Quality section. Environmental analysis of the site specific impacts are addressed when information is available during the APD stage. Prior to the permitting stage, the information with which to perform the analysis is speculative.
19	TU	Poor quality maps	Maps have been revised. Also Attachments A- C contain the legal descriptions of the parcels.
20	TU	A more thorough cumulative impacts summary is needed. Because the EA references the 1997 RMP for its cumulative impact analysis, TU feels this analysis is inadequate and does not reflect the changes over time that have occurred within this resource area.	The 1997 White River Resource Area RMP/EIS analyzed 1,154 well pads and an associated surface disturbance of 11,540 acres. As of August 2010, there were 717 well pads with an estimated associated surface disturbance of 6,661 acres. Thus current conditions are in line with cumulative impacts that were analyzed previously. A cumulative impacts summary was included in this EA that broaches the collective effects of incremental reductions in forage and cover, population viability, and landscape patterns, including fragmentation, on local wildlife populations.
21	TU &	Impacts on recreational users	Recreation section has been updated. See also Visual Resources.
22	CNE/TWS	BLM should implement measures to protect Debeque Milkvetch and Large Flower Globemallow in Parcel 6003	Parcel 6003 does not contain occupied habitat or potential habitat for any BLM status species. See also response to Item 5.

23	CNE/TWS	Failure to evaluate the effects of oil & gas infrastructure (connected actions)	The cumulative impact of the leasing decision was evaluated during the leasing analysis in the Resource Management plan. This EA does not evaluate the decision to lease, just the decision to implement the sale of the lease. See also Item 5.
24	CNE/TWS	Failure to analyze the effectiveness of mitigation measures	At the leasing stage the stipulations are applied to the leased parcels to provide resource protection. Mitigation measures are addressed in the site-specific analysis.
25	CNE/TWS	Ensure that EA does not foreclose consideration of alternatives in the White River RMP Amendment. Interim action prejudices the ultimate decision on the program when it tends to determine subsequent development or limit alternatives.	When deemed necessary during a site-specific analysis, management alternatives that are yet to be approved within the White River RMP Amendment will then be implemented through the application of Conditions of Approval with each new proposed action received on existing leases.
26	CNE/TWS	Parcel 6005 should not be leased because it surrounds Piceance Creek State Wildlife Area.	Parcel 6005 is deferred due to the requirement for further analysis of primitive recreation opportunities. See Attachment B.